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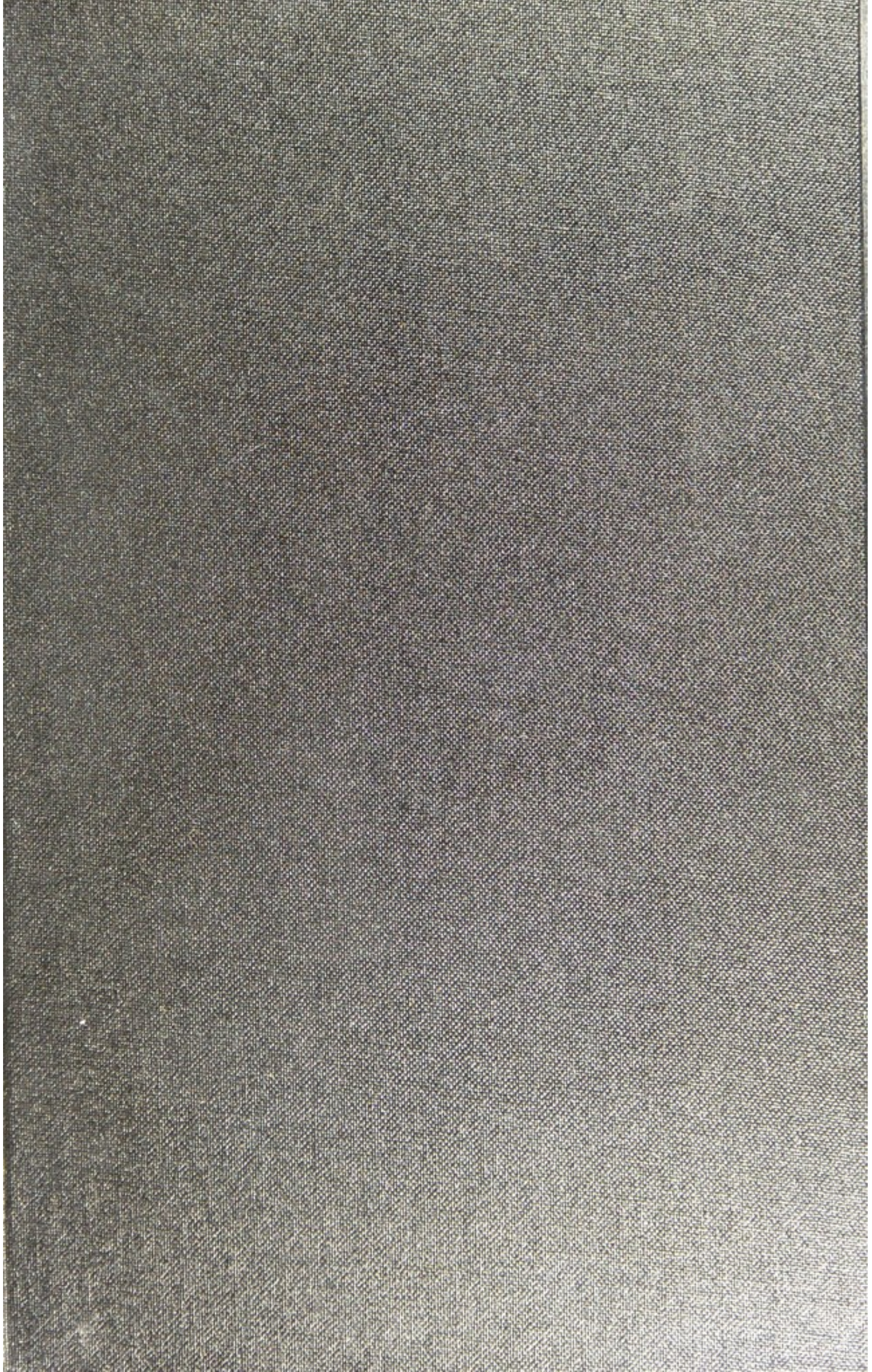

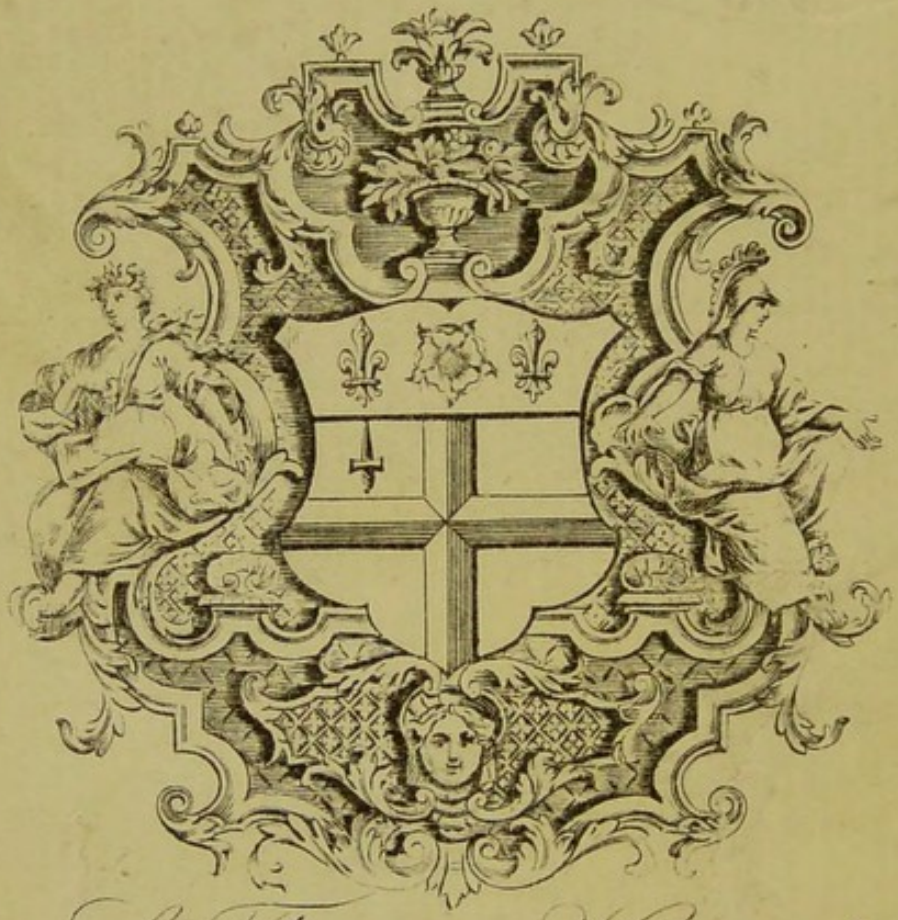

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H. CULBERTSON, M.D.,

PROFESSOR OF OPHTHALMOLOGY IN THE COLUMBUS MEDICAL COLLEGE; ASSISTANT SURGEON UNITED STATES ARMY, RETIRED; LATE SURGEON OF UNITED STATES VOLUNTEERS; MEMBER OF THE OHIO STATE MEDICAL SOCIETY, AND OF THE AMERICAN MEDICAL ASSOCIATION.

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TO

LEWIS ROGERS, M.D.,

PROFESSOR OF MATERIA MEDICA AND EMERITUS PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF LOUISVILLE,

This Essay

IS DEDICATED,

BY HIS PERSONAL FRIEND AND PATIENT,

IN PROFOUND ADMIRATION OF HIS PROFESSIONAL ACQUIREMENTS

AND ACUMEN,

AND IN GRATEFUL ACKNOWLEDGMENT OF MANY

ACTS OF KINDNESS RENDERED

THE WRITER.

PREFACE.

THE arrangement of the several "Tabular Statements," which compose this article, is chronological (according to the date the *operations* were *performed*), as far as the authorities available would permit.

In general each number of the several tables corresponds to a single case, but in some instances *statistical cases* are introduced, which include more than one excision.

The authorities are stated in brief in the second column, but the title of the works quoted is expressed in full in the list of authorities appended.

The name and address of every operator are given in full in one case of each table and reference made to this number in the subsequent operations of the same surgeon. The title of the operators is not always expressed. This omission is regretted, and arises from a desire to be as brief as possible.

The "name and address" of patients is expressed when possible, in order that (as also in the case of the operators) parties desiring to hear from *them* may verify the correctness of the report. In this column, also, is expressed the "Physical state of the patient." This condition is divided into two classes: 1st, "Vigorous," which implies that the patient may or may not have been powerful in physique, and that the state of his general system was at least so far healthy as not to forbid the performance of the excision. Here it should be explained, that generally in cases of gunshot wounds and injuries, those suffering primary excisions are considered as "vigorous" unless it is otherwise stated. 2d, "Exhausted." By this expression is understood, not really an *exhausted* state uni-

formly, but often an *enfeebled* condition of the body from any cause. As the former term includes the latter, we wish to embrace all grades of want of constitutional power under this class. It should be stated here, that because an operation is *secondary*, it is not decided that the patient was or was not *exhausted* at the time the operation was executed, and, hence, in these instances the report of the case furnishes the data on this point.

Generally the column "Where performed" refers to *where the patient was treated.* Exceptions are found to this, however; for instance, a primary excision may be done upon the field of battle and be treated subsequently in hospital.

The column "Date incurred" indicates the date injuries were received, or the duration of the affection in cases of disease, previous to the date of the operation. Where several operations have been performed in the same case, the earliest executed gives the case its place on the record, and excisions subsequently performed, are considered as forming the operative history of the case.

A "primary" operation is generally regarded as executed within twenty four hours after the injury was received; an "intermediate" as done during the inflammatory period, and the "secondary" after the last-named period has passed. But when operators have reported cases as primary, secondary, or intermediate, their statement has generally governed in this respect.

By the expression Ch. Arthritis (chronic arthritis) is understood a general inflammation of the affected joint, either superficial only of the synovial membrane, the cartilage; or deep seated, of the ligaments, the epiphyses, the bones, or of the structures about the joint. It includes an operation done for the *inflammation*, or for its *results*, and the term is frequently used as synonymous with the expressions, "Morbus Coxarius," "Coxitis," and "White Swelling," in the class of excisions done for disease. Occasionally the original cause of the disease was rheumatism. But in such cases the rheumatic character has been merged into the features of the general joint disease when these patients reach the operative period. Cases of excision for "Deformity" are limited to examples of

anchylosis and distortion of members, *in which all active disease has ceased in the articulation.* Thus considered, the number of this class of operations has been reduced, at least in the "*knee table.*"

Although excisions for "*gunshot wounds*" properly belong to excisions for "*injury,*" these have been considered as a distinct class, as *this form of injury* has many peculiar features. The excisions done for lacerated, punctured, or incised wounds, and for fractures involving joints as well as for luxations, have been classed under the head of "injuries." Under the class of excisions for "*disease,*" are included all operations performed for disease of the joint affected, even though the morbid process may have arisen from a contusion or sprain, patent or obscure, or from an idiopathic affection of the articulation.

The amount of bone removed has generally been viewed as an index of the extent of the injury or disease. In instances, perhaps not infrequently, this will not express fully the lesions present in individual cases, but in the main the operation is in direct proportion to the pathological state of the joint. In gunshot wounds and *injuries* profound lesions of the great nerves or arteries would dictate amputation of the limb rather than excision of the joint involved, and hence the propriety of the foregoing conclusion.

In the column of "Result" is included the subject of "life and death." When the "*recovery-period*" is stated, it is understood to extend from the day of the operation to the time when the medical treatment was no longer necessary in the case. When the date of death is given, it indicates the duration of the case from the date of the operation to the day the patient died. The classification of the causes of death, are: 1st. Those resulting from *the disease or injury.* Unless it is otherwise stated, in *primary* excisions for *gunshot wounds* and *injuries,* if the death of the patient occurs after the first or second day, and within eight or ten days after the operation, the cause has generally been attributed to the injury; 2d. Those arising from "*the operation.*" If the cause of death is not stated in secondary excisions for *gunshot wounds and injuries,* and the patients died within several days after the operation, the death

has been classed as due to the operation, if the data would permit the conclusion; 3d. Those arising from "other diseases." Here the record alone has been the index of the cause of death.

The subject of "Usefulness of member" comprises three divisions: 1st. "Perfect," by which is understood the restoration of a limb as completely in its functions as the removal of the particular joint would admit; 2d. "Simply useful," in which the patients have regained, either at the joint involved or elsewhere of the member, a more or less practical use of the limb; 3d. "Worthless," in which the limb is of no utility whatever.

The column "Last heard from," expresses the period from the date of the operation to the date when the patient was last heard from or seen, and is an index of the permanency of the results of the excisions.

These several tables have been compiled by myself; but in the process of drawing conclusions we have been assisted by several gentlemen of this city, viz., Doctors E. D. Safford, A. E. Bell, J. S. Halderman, C. H. Evans, and J. T. Davis, in the following manner. We found, to obtain truthful conclusions from the tables, it was necessary to construct *keys* which would indicate definitely the information sought. These blank "keys" were filled up, from the tables, by the physicians named, and thanks are here expressed for their kindness in performing this labor. But, it is due the subject, that it should be stated, that the work of my friends has been reviewed and found to be as we would have rendered it ourselves. It would be useful if these keys could be published with the tables.

In tabulating we have adhered closely to the text in reporting cases, and generally in drawing conclusions, and it is sincerely hoped but few errors are recorded in these tables.

The points discussed in this article are comparatively few in number, but the data in the tables are sufficiently ample to enable one to investigate many other questions in connection with the subject of excision of these joints. The great value of such synop-

tical records, is to enable the investigator to obtain information upon any question which may be under consideration.

In all the sub-tables, in drawing conclusions, the mortality is estimated only upon those recovering and dying, the cases "uncertain as to life" not being included in the calculation. Reference to page 154, "Remark," will serve to illustrate our meaning more fully.

We have added illustrations of the surgical anatomy of the several joints under consideration, and a description of the operation of a *total* excision of each articulation relating to our subject. To this is appended a short reference to the treatment after the operation, brief, because authorities must be consulted as to the after-management of these cases.

It is earnestly hoped that the publication of these pages may be practically useful to the profession. That it may be is the sincere desire of the

WRITER.

Zanesville, Ohio, March 26, 1875.

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EMENDATIONS.

Orthographical errors in the names of operators are corrected in the "Index."

Page 57, Case 37, "Remarks," *read* "Dr. A. Ball."
" 208, " 141, under "Performed for," *read* "acute symptoms *with* deformity."
" 266, " 624, under "Performed for," *read* "Gelatinoid Arthritis."
" 355, 13th line from bottom, *read* "Sequestrum" *for* "Sequester."
" 395, Case 46, "Remarks" first line, strike out "of."
" 443, " 431, "Remarks," first line, strike out "of."
" 473, 13th line from bottom, *for* "incision," *read* "excision."
" 493, 17th line from bottom, *for* "disease," *read* "diseases;" and 16th line from bottom, *for* "is," *read* "are"
" 539, Case 231, "Remarks," *for* "sequestrium," *read* "sequestrum."
" 614. To the heading "Excisions of, for Gunshot Wounds," *add* "Disease and Injuries."
" 645, Case 6, 'Remarks," *for* "by," *read* "in."

INTRODUCTION.

In the fall of 1871 we began to write this article. Initiated in a desire to investigate the subject personally, and to determine the value of such conservative measures, the effort was furthered by addressing about 3000 circulars to numerous surgeons and physicians throughout the United States, asking for a report of their excisions. Four hundred and sixty-seven cases appear in the tables as the result of this correspondence. To the cases thus reported those collected by other writers, those from surgical works, and those from all the medical journals at our command, have been added. Our object has been to report the data of the cases as fully and accurately as possible.

We are indebted to the following gentlemen for the information contained in their valuable tables: To Prof. R. M. Hodges, M.D.,[1] of Boston; to Charles K. Winne, Asst.-Surgeon U. S. Army;[2] to Irving W. Lyon, M.D., of Hartford, Conn.;[3] to Prof. Stephen Rogers, M.D., of New York;[4] to John Ashhurst, Jr., M.D., of Philadelphia;[5] to Prof. Lewis A. Sayre, M.D., New York;[6] to Prof. Henry F. Leyster, M.D., Detroit, Michigan, and to Dr. Good;[7] to Dr. Liesrink;[8] to B. Von Langenbeck, Berlin;[9] to L. Pénières, France;[10] to O. Heyfelder;[11] to George A. Otis, Asst.-Surgeon U. S. Army;[12] to R. G. Butcher, Dublin.[13]

[1] See Hodges' Excision of Joints.
[2] See vol. xlii. N. S., p. 31, Am. Journ. Med. Sci.
[3] See vol. xlix. N. S., p. 49, ibid.
[4] See vol. lvi. N. S., p. 359, ibid.
[5] See Trans. Penna. Hos. Reports, vol. ii., 1869, p. 159.
[6] See Trans. Am. Med. Assoc., vol. xiii., 1860.
[7] See Trans. of the State Medical Society of Michigan.
[8] Translation of his table by John Ashhurst, Jr., M.D.
[9] See Arch. f. Klin. Chirg. 16.2, translated by C. Dieterly, Zanesville, Ohio.
[10] See Rés. des Genou, translated by myself.
[11] See Traité des Résections, translated by myself.
[12] See Circular No. 6, 1865, and Circular No. 2, 1869, Surgeon-General's Office.
[13] See Operative and Conservative Surgery.

We are further indebted to Dr. J. Ashhurst, Jr., for the use of books, for personal favors, information, and advice; also to Prof. P. S. Connor, M.D., and T. C. Minor, M.D., and Prof. W. W. Dawson, M.D., of Cincinnati, for the perusal of valuable medical English and French works, and to the two first-named gentlemen for tabulating a number of cases of excision; also to Walter Stallo, Esq., of the same city, for similar service.

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GENERAL HISTORY OF EXCISIONS.

THE history of excision of joints illustrates necessity and design. The resection of a projecting bone from near a joint would naturally be suggested when it could not be reduced. But the formal removal of diseased bones "*in toto*" from an articulation was a measure of mature consideration, and required centuries for its perfect execution.

It is true that HALY ABBAS, AVICENNA, RHASES, ALBUCASIS, and HIPPOCRATES approved "of making incisions and extracting pieces of bones which may happen to be irritating the pleura, in fracture of the ribs,"[1] *but this practice did not constitute a joint excision.* Galen[2] taught that in fractures of the os humeri "the spiculæ and scales of bone should in general be allowed to *exfoliate of themselves*, and not be forcibly removed by the surgeon."

HIPPOCRATES,[3] in "*fractures of the thigh and arm,*" dissuades from attempting at once to reduce the protruding bone, and later, if the effort fail, says, "we must cut off the projections by counter perforators (chisels), or saw them off in the manner described when treating of fistulæ."

CELSUS[4] states that fractures complicated with wounds of the skin are dangerous, especially when it is the humerus or femur. In the latter case he directs to saw off the ends of the bone, and says, "the danger is greatly increased when the fracture is near a joint;" and further adds, if the projecting fragment is sharp, that it be sawed off.

ALBUCASIS[5] states "that when the ends of the fracture are sharp, and cannot be replaced, they are to be cut off or sawed." But none of these references illustrate an "excision of a joint" for disease. Paulus Ægineta,[6] however, more nearly approaches the subject of "*partial excision of joints,*" when he says, "In like manner, the

[1] Seven Books of Paulus Ægineta, vol. ii. p. 454, Syd. Trans., by Adams.
[2] Ibid., p. 461. [3] Ibid., p. 473. [4] Ibid., p. 475.
[5] Ibid., p. 475. [6] Ibid., p. 397.

extremity of a bone near a joint, if diseased, is to be sawn off, and often, if the whole of a bone, such as the radius, ulna, tibia, or the like, be diseased, it is to be taken out entire. But if the '*head of the thigh bone*' * * * * be diseased, we must not attempt to operate upon them" (it) "for fear of the adjoining arteries." But it is not distinctly stated that this writer did the operation he advised. If, however, he executed such a measure, and we agree with Francis Adams[1] as to the time it was done, about the end of the sixth or the beginning of the seventh century, we can then say that the excision of diseased bone (from injury) involving joints was at least recommended by this surgeon. But, so far as we are aware, no ancient authority makes any mention of the formal removal of an entire joint of the upper or lower extremity for disease, with the avowed purpose of either preventing the amputation of a member or the restoration of a useful joint. "*To simply remove a dead bone as a measure to establish the health of the individual,*" is a very different object than to "*extirpate a joint* with the distinct purpose of *preserving a useful member,*" *and perhaps articulation;* such excisions as those cited by PAULUS ÆGINETA were really "*resections of bone,*" "*but not of joints.*" The operative procedure extended from the *shaft toward the epiphysis*, and it was evidently considered unfortunate when *the* "*joint-end*" of the *bone* "*must of necessity be removed.*" Thus considered, "*the excision of joints*" for disease is a *modern operation.*

In tracing the more recent history of excision of joints, we find that even here the operation was progressively developed. Thus FABRICIUS HILDANUS removed in 1670 the entire astragalus for a compound luxation of that bone; John Daniel Schlichling, of Germany, in 1730; Vogel, of Germany, in 1771; Kirtland, of England, in 1780; Hoffmann, of Germany, in 1782; Kluge, of Germany, in 1816; and H. T. Schmaltz, of Pirna, in 1817—all approached excision of joints more closely in removing the separated head of the femur. Again, COOPER, of Bungay, England, did, in 1750, a partial excision of the wrist for disease; WAINMAN, of Schripton, England, did, in 1758, a partial excision of the elbow for disease, and BAGIEU, of France, in 1762, a partial excision of the wrist. In the same year FILKIN, of Northwich, England, and HENRY PARK, of Liverpool, in 1781, and P. F. MOREAU, of Bar-sur-ornain, France, in 1792, performed complete excisions of the knee.

[1] See Seven Books, loc. cit., editor's preface, p. xv., and also see History of Medicine, by R. Dunglison, M.D.

In 1768, CHARLES WHITE, of Manchester, England, removed the head of the humerus for disease, and D. J. LARREY the same for gunshot injury. In 1781, John Ulrich Bilguer reports a partial excision of the elbow for gunshot injury. In 1822, ANTHONY WHITE, of London, removed the head, neck, and to below the trocanter minor of the femur for anchylosis of the hip-joint.

From the last date until the year 1845, excision of joints was occasionally performed. In this year, WM. FERGUSSON, M.D. (now Sir), revived these conservative measures, and in conjunction with such authorities as G. M. JONES, of Jersey Island, Mr. MACKENZIE, and Dr. KEITH, of Scotland, Mr. BUTCHER, of Dublin, Messrs. STATHAM and HEATH, of London, and other equally skilful surgeons, caused these operations to be recognized as standard procedures.

EXCISION OF THE HIP-JOINT FOR GUNSHOT WOUNDS.

The first operation of this character for gunshot wound was performed May 5, 1829, upon a Russian chasseur, during the Russian-Turkish war, by S. Oppenheim, of Hamburg, Germany. The second, by Baron Seutin, of Belgium, in 1832, at the siege of Antwerp, in the case of private Lissieux.

In 1847, K. Textor, of Würzburg, Germany, did the operation, and Harold Schwartz, of Denmark, next executed it May 13, 1849.

In England, George E. Blenkins, Surgeon of the Grenadier Guards (English), first did the operation during the Crimean war in June, 1855.

In the United States, E. Sterling, M.D., of Cleveland, Ohio, was the first to perform this operation, August 20, 1861, and his patient lived many years after, with a useful limb.

In Austria, J. Neudoerfer of the 8th Austrian army corps, introduced the operation in 1864, during the second war of the Danish Duchies. The nationalities of the operators, as expressed in this Table, are as follows:—

	No. of Cases.
German	35
Belgian	1
Danish	2
English	6
American	69
Austrian	6
Russian	2
	121

So far as is indicated by this table, German and American surgeons have mainly executed this operation.

Of the 121 cases of excision of this joint for gunshot wounds, appearing in this table, the following represents the nationalities of those subjected to operation, and the number of deaths:—

Russian,	1 case,	Died,	1	per 100	
Belgian,	1 "	"	1	"	100
German,	31 cases	Died,	26	"	83.87
		Recovered,	4	"	12.90
		Uncertain,	1	"	3.22
Danish,	2 "	Died,	2	"	100
English,	6 "	Died,	5	"	83.33
		Recovered,	1	"	16.66
French,	7 "	Died,	7	"	100
Austrian,	4 "	Died,	3	"	75
		Recovered,	1	"	25
American,	69 "	Recovered,	7	"	10.15
		Died,	61	"	88.40
		Uncertain,	1	"	1.45
Total,	121 "		121		

It would seem from these data that the mortality of this operation, for gunshot wounds, is least among the Austrians; next, about equal in the English and German cases, and somewhat greater in the American soldiers; and constantly fatal in the French, Russian, Belgian, and Danish cases. It is probable, however, that other causes than that of race will render this mortality more uniform among different people, and that a larger number of cases would modify this result.

The mortality considered in relation to age, for gunshot excisions of hip-joint:—

Age—from 13 to 22,	Primary,	4 cases Died.	
	Intermediate,	7 " "	
	Secondary,	5 " "	
	Total,	16 " "	Per 100.
Age—23,	Primary,	1 case Died.	
	Intermediate,	3 cases "	
	Secondary,	1 case "	
	"	1 " Recovered.	
	Total,	6	Per 83.33
Age—24,	Primary,	1 case Recovered.	
		3 cases Died.	
	Intermediate,	1 case Recovered.	
	Secondary,	1 " Died.	
	Not stated,	1 " Recovered.	
	Total,	7	Per 57.14

Age—28,	Intermediate,	2 cases	Recovered.	Per 100.
Age—38,	Secondary,	1 case	Recovered.	
	Intermediate,	1 "	Died.	
	"	1 "	Recovered.	
	Total,	3		Per 33.33
Age—not stated,	Primary,	1 case	Recovered.	
	"	19 cases	Died.	
	Secondary,	3 "	Recovered.	
	"	6 "	Died.	
	Intermediate,	21 "	"	
	Unknown,	6 "	"	
	"	1 "	Unknown.	
	Total,	57		Per 90.70
Age—26, 27, 30, 31, 32, 33, 34, 35, 39, 40, 43, 60, Young, adult, and middle aged,	Primary,	13 cases	Died.	
	"	1 "	not stated.	
	Intermediate,	10 "	Died.	
	Secondary,	2 "	"	
	Total,	26		Per 100.
Age—25,	Primary,	1 case	Recovered.	
	Intermediate,	1 "	Died.	
	Secondary,	2 "	"	
	Total,	4		Per 75.

Recapitulation.

Different ages,	No. of cases,	106	Died . .	Per 87.60
	"	13	Recovered .	" 10.73
	"	1	not stated } .	" 1.65
	"	1	Unknown }	
	Total,	121		

Basing conclusions upon these data, we find the youngest patient subjected to this operation to have been 13, and the oldest 60 years of age. It is further shown that those operated upon, aged from 13 to 22 inclusive, and those aged 26, 27, 30, 31, 32, 33, 34, 35, 39, 40, 43, 60, the "young," the "adult," and the "middle-aged," all died. The most favorable result is shown in the two who were 28 years of age, both recovering.

The age presenting the next grade of mortality is that of "38;" two recoveries in 3 cases, a mortality of 33.33 per cent.

The age next in the scale of mortality is 24; 7 cases, and 4 deaths, equal to a mortality of 57.14 per cent.

The next relative age in this connection is "25." In 4 cases, 3 deaths; a mortality of 75 per cent.

The age associated with the greatest mortality seems to have been "23;" in 6 cases, 5 died; a mortality of 83.33 per cent.

According to this estimate, we may conclude that those who have reached adult life, and their systems become perfectly developed, endure this formidable operation better than those passing from youth to manhood, and from manhood to adult life, and that the aged do not bear the operation well.

It is evident that conclusions cannot be drawn in this connection from those in which the age is not stated, and that other causes operated conjointly with the influence of age to modify the deductions under this head.

The mortality of this excision for gunshot wounds, considered in relation to the month in which the operation was performed, is as follows:—

	Cases.	Died.	Recovered.	Not stated.	Unknown.	Per cent.
January	2	2	...	...	...	100
February	2	2	...	...	...	100
March	5	4	1	...	...	80
April	6	6	...	...	...	100
May	16	14	2	...	...	87.50
June	7	7	...	...	...	100
July	9	8	...	1	...	89
August	23	19	4	...	...	82.60
September	14	14	...	...	...	100
October	7	6	1	...	...	85.71
November	3	1	2	...	...	33.33
December	4	4	...	...	...	100
Year only stated	22	18	3	...	1	
Month not "	1	1	...	...	...	
Total	121	106	13	1	1	

From these data it may be seen that, in the months of January, February, April, June, July, September, and December, the mortality was 100 per cent.; and, although the seasons vary to the widest limit, the mortality remains uniformly fatal. This leads to the conviction that other causes co-operated in producing the mortality in these several months.

Again in March the mortality was 80 per cent.; in May, 87.50 per cent.; and in August, 82.60 per cent.

In these several months the seasons are unlike, and yet the fatality incident to the operation is approximately uniform; so much so, indeed, as to force the conviction that the month during which the operation was done had but little influence upon the result. Perhaps, however, a greater number of cases may lead to a different conclusion on this point.

During the month of November but 33.33 per cent. of the cases died.

If we rely upon these figures, *this* would be the most favorable month for the performance of the operation. Still, although the difference in the mortality is marked when compared with that of several other months named, further and more complete estimates are needed to determine the influence of season upon the mortality of this operation for gunshot wounds.

The influence of the form of incisions employed in this excision upon the rate of mortality.—The form of incisions is not stated in 35 cases, and no conclusions are drawn from these. (This includes 2 recoveries.)

	Cases.	Died.	Recovered.	Remarks.
"Ball orifice enlarged" . .	2	2		
/ incision	2	2		
+ "	3	3		
) "	7	7		
) "	1	1		
⌣ "	3	3		
⌣ "	1	1		
T "	3	3		
Enlarged opening of abscess .	1	1		
Posterior incision through glutei	1	1		
Curved incision . . .	1	1		
V incision	1	1		
J "	1	1		
("	2	2		
⌒ "	1	1		
I (longitudinal) incision . .	45	45		
Indefinite as to " . .	11	...	11	No conclusions drawn.
	35	...	.....	" " "
Total	121			

This question cannot be determined by the above mode of examination. True, there is an approximation to uniformity in the number of deaths in the cases in several of the different forms of incision, but there is a wide diversity in the others, which cannot be accounted for through the influence of incisions.

One case should be mentioned in which the duration was 151 days, and in which the opening of an abscess only was enlarged on the 149th day, and yet the patient died 2 days afterwards; certainly not from the form of incision, but probably from the shock of the operation. (See Case No. 31.)

It will be seen that most of the operators prefer the longitudinal-vertical incision in this excision, which clearly renders the opera-

tion more difficult to execute, for lack of room, but it probably does less injury to the soft parts than any other mode of division.

Of the Mortality.

	Cases.	Died.	Recovered.	Remarks.
Primary	1	1	...	Plague.
Primary	1	1	...	Gangrene limb.
Primary	5	5	...	Pyæmia.
Secondary	2	2	...	Pyæmia.
Intermediary	16	16	...	Pyæmia.
Secondary	2	2	...	Exhaustion and hemorrhage.
Primary	1	1	...	Exhaustion and shock.
Intermediary	1	1	...	Exhaustion and shock.
Secondary	1	1	...	Exhaustion and shock.
Intermediary	1	1	...	Exhaustion and peritoneal injury.
Primary	1	1	...	Exhaustion, shock, and hemorrhage.
Intermediary	3	3	...	Exhaustion and diarrhœa.
Primary	1	1	...	Exhaustion and hemorrhage.
Intermediary	2	2	...	Exhaustion and hemorrhage.
Secondary	1	1	...	Exhaustion and hemorrhage.
Primary	1	1	...	Traumatic fever.
Secondary	1	1	...	Malaria.
Primary	5	5	...	Exhaustion.
Intermediary	11	11	...	Exhaustion.
Secondary	4	4	...	Exhaustion.
Primary	7	7	...	Shock, injury, and operation.
Primary	3	3	...	Shock, injury, and operation.
Intermediary	2	2	...	Shock, injury, and operation.
Primary	1	1	...	Injury and transportation.
Primary	1	1	...	Constitutional irritation and fever.
Intermediary	1	1	...	Cholera.
Primary	1	1	...	Chloroform.
Secondary	1	1	...	Pneumonia.
Intermediary	1	1	...	Peritonitis.
Unknown	1	1	...	Perforation pelvis.
Unknown	2	2	...	Causes connected with decubitus.
Primary	12	12	...	Cause not stated.
Intermediary	4	4	...	Cause not stated.
Secondary	4	4	...	Cause not stated.
Not stated	4	4	...	Cause not stated.
Total	106	106		Per cent. 89.17.
Recovered	13		13	Per cent. 10.91.
Primary	1			Result unknown.
	1			Result unknown.
Total	121			

On looking at the above table it may be fairly inferred that the causes of death are as often, if not more frequently, to be referred to the injury, the surrounding agencies to which the patient was subjected, and his state at the time the operation was performed, rather than to the influence of the operation. It is believed that a close analysis of the cases would support this view.

In 79 of the 106 cases herein tabulated, and which died, and in which the period of operation is stated—

29	are primary,	or	36.70	per cent.
38	" intermediate,	"	48.10	" "
12	" secondary,	"	15.20	" "
79	total cases,		100	" "

The mortality was therefore about 11 per cent. greater in the intermediary cases than in the primary; but the latter class exhibits a mortality greater by 21 per cent. than that shown in the secondary excisions. The contrast in the death-rate is still greater when we institute the comparison between the secondary and intermediary operations, in which a difference in the results is evident in favor of the secondary excisions of nearly 33 per cent.

This table, therefore, seems to indicate the propriety of performing secondary excisions of this joint for gunshot wounds. But what are the risks in this course? It is certain that a large number of cases subjected to this course will pass through numerous dangers before the secondary period is reached, and during this time these patients are under the influence of the conservative treatment. What then is the effect of this period upon the progress of the cases? B. von Langenbeck,[1] in his Tables No. 1 and 2, considers this subject.

He here cites 88 cases of gunshot wounds of the hip-joint treated by the conservative method during the late Franco-Prussian war. Of these, 25 recovered and 63 died, a mortality of 71.59 per cent. This compares favorably with the mortality shown by this table of 106 cases with 13 recoveries; equal to 87.60 per cent. That is, the conservative plan of treatment gives better results by about 16 per cent. This is a large difference in a question involving an operation of such magnitude as excision at the hip-joint.

It is possible that in some of the cases treated conservatively by Prof. Langenbeck, and other eminent surgeons, during the late foreign war, it may ultimately be found that the cavity of this joint was not opened in instances in which it was supposed to have been, and hence the results of this treatment in such cases cannot appropriately be compared with the effects of excisions of this articulation.[2]

[1] Arch. für Klin. Chirg., B. 16, H. 2, § 309, *et seq.*

[2] In thirteen (13) of the cases in Prof. Langenbeck's table No. 1 (viz. numbers 4, 5, 6, 8, 9, 11, 15, 16, 18, 21, 22, 23, and 25), which were treated conservatively, there would seem to be doubts that the joint was directly involved, and if *it* was *not* in these instances, the value of the conclusions in this series of examples thus treated conservatively is greatly impaired.

In a most rigid analysis of 274 cases of gunshot wounds alleged to have involved the hip-joint, and which were treated conservatively, Assistant Surgeon G. A. Otis, U. S. Army, concludes,[1] "that in the great majority of the instances of recovery, the evidence of direct injury to the hip-joint is altogether inadequate."

The favorable results of conservative treatment of gunshot wounds of this joint must, therefore, be considered as not wholly reliable. It may require years to determine positively how many of these cases treated conservatively suffered from direct injury of the joint; until then it seems scarcely possible to settle this point satisfactorily.

Still keeping in view the complications during the conservative period of secondary operations, it may be asked what is the mortality attending this course of treatment? Some light may be cast upon this question by a comparison of the length of time intervening between the date the wound was received and the date of death from the same diseases in the cases subjected to conservative treatment and to excision of this joint. By reference to Prof. Langenbeck's tables, we find of those treated conservatively, 32 died of septicæmia in an average period of 22½ days; of those treated by excision 20 died of septicæmia in an average period of 27¾ days.

Thus it will be seen that these 32 cases were subjected to all the dangers of pyæmia, and that the average date of death is earlier than in the cases of secondary excision. The patient, then, who is to be secondarily operated upon in this excision, is subjected to all the risks of the conservative treatment.

It is not possible to apply this test to the several diseases of which the patients died under the conservative treatment in the table of Prof. Langenbeck, cited, and under excision, as appears in *this* table, because the number of the diseases mentioned is so limited.

Mortality of this excision compared with ex-articulation at the hip-joint.—This may be learned by reference to the report of George A. Otis, Assistant Surgeon U. S. Army.[2] Thus it is seen that—

In 180 amputations, 162 died and 18 recovered, or 90 per cent.
" 119 excisions, 106 " " 13 " or 89.07 "

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[1] Circular No. 2, p. 106, 1869, Surgeon-General's Office.

[2] Circular No. 2, 1869, Surgeon-General's Office, Washington, D. C.

Thus it would appear that there is no material difference in the mortality of these operations. This fact is referred to by Prof. Langenbeck in his archives heretofore mentioned.

Mortality of excision at this joint considered in relation to the extent of the bone, injury of pelvis and the femur, and the length of the period from date of operation to date of death.

This may be expressed as in the following tables. So far as the femur is concerned, the extent of bone removed is the standard in these tables.

	Trochanter major, neck femur, head femur, acetabulum fractured.	Trochanter major, trochanter minor, neck, head, and shaft femur.	Head and neck femur.	Trochanter major, neck and head femur.	Trochanter major, neck femur, head femur, shaft femur.	Trochanter major, trochanter minor, head and neck femur.	Neck and head femur and fractured pelvis.	Trochanter major, trochanter minor, head femur, neck and shaft femur, and acetabulum perforated.	Head and neck femur, acetabulum perforated.	Head and neck femur, trochanter minor.	Head, acetabulum perforated.	Trochanter major and minor, head, neck, shaft femur, acetabulum fractured.	Head and neck femur, trochanter major, acetabulum perforated.	Head femur.	Head femur, trochanter major.
No. of cases . . .	1	26	15	16	2	11	4	1	1	1	2	2	2	8	1
No. of days	18	204	221	287	20	55	10	1	1	20	14	20	22	179	9
Average cases to days	18	$7\frac{11}{13}$	$14\frac{11}{15}$	$17\frac{15}{16}$	10	5	$2\frac{1}{2}$	1	1	20	7	10	11	$29\frac{1}{8}$	9
Average primary .	18	$7\frac{2}{5}$	$40\frac{2}{3}$	$7\frac{1}{6}$	10	3	$1\frac{1}{4}$	1	1	..	..	16	..	$28\frac{3}{5}$	..
Average secondary .	..	6	$12\frac{1}{2}$	1	..	$3\frac{1}{2}$	4	..	..	..	8	..	11	17	..
Average intermediary	..	$8\frac{7}{10}$	$9\frac{8}{9}$	$14\frac{5}{6}$	..	9	..	..	..	20	6	4	..	..	9

Number of complete cases in this table	93
Unknown result as to life	2
Incomplete cases as to this table	13
Number of recoveries	13
	121

Average number of days.	Trochanter major removed.	Trochanter minor removed.	Head femur removed.	Neck femur removed.	Shaft femur removed.	Pelvis fractured.	Pelvis perforated.
$29\frac{1}{8}$ . . .	...	...	Yes.				
20 (not average)	...	Yes.	Yes.	Yes.			
18 " "	Yes.	...	Yes.	Yes.	...	Yes.	
$17\frac{15}{16}$ . . .	Yes.	...	Yes.	Yes.			
$14\frac{11}{15}$ . . .	...	...	Yes.	Yes.			
11 . . .	Yes.	...	Yes.	Yes.	...	...	Yes.
10 . . .	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.	
9 (not average)	Yes.	...	...	Yes.			
10 . . .	Yes.	...	Yes.	Yes.	Yes.		
$7\frac{11}{13}$ . . .	Yes.	Yes.	Yes.	Yes.	Yes.		
7 . . .	...	...	Yes.	...	...	...	Yes.
5 . . .	Yes.	Yes.	Yes.	Yes.			
$2\frac{1}{2}$ . . .	...	...	Yes.	Yes.	...	Yes.	
1 (not average)	Yes.	Yes.	Yes.	Yes.	Yes.	...	Yes.
1 " "	...	...	Yes.	Yes.	...	...	Yes.

These tables lead to the following reflections: that death took place in an average period of 29 days, when only the head of the femur was removed, is reasonable.

Considering the comparative smallness of the extent of bone removed, the case of 20 days may be proportional, as the trochanter minor, head and neck of femur, were removed; but certainly the proportion ceases for the case of 18 days, where the trochanter major, head and neck of femur, were removed, and the lesion was extended by a fracture of the pelvis. Again keeping in view this last case, and that the patient died of plague, and that the upper rim of the acetabulum only was carried away, the proportion seems better, and closely approximates the average of $17\frac{15}{16}$ days, in which the trochanter major, head and neck of femur, were removed. But a greater amount of bone was removed in the last-named class of averages, which destroys the relevancy between class "$17\frac{15}{16}$" and "18" days. But the relation between all the classes of cases named is again destroyed in the average "$14\frac{11}{15}$" days, in which only the head and neck of the femur were removed. Again, between the average "11" days, in which the head, neck, and trochanter major were removed and the pelvis perforated, and average "7," in which the head alone was removed and the acetabulum perforated, there seems to be no just proportion, for the average "7" days should be greater, as there was less bone removed in this series of operations than in those of the average "11" days. Again, in the last two days (see table), "1," "1," both pelves were perforated; but in one the trochanter major and minor, the head, neck, and shaft of femur, were removed, and in

the other only the head and neck were excised; while, therefore, the lesions were much more extensive in one than the other, both patients died within twenty-four hours.

It is scarcely necessary to dwell further on this point, for it is not probable that any just ascertainable proportion can be established between the amount of bone removed and injured and the proximal period of death. The cases differ so widely that it is scarcely possible to draw reliable conclusions on this point in this manner. That the dangers, however, increase, as the pelvis is more or less injured, would seem reasonable. But even this view is diminished in importance when it is known that, in the average "11" days, two secondary cases are embraced, in one of which the hip was nearly healed and a fistula only remaining, and the patient was going about, when inflammation of the joint came up (before the operation), and the patient died the eighth day after the excision, demonstrating that even a perforating pelvic wound of this joint may nearly heal under favorable circumstances.

In the other example of Series "11" (see Case 39), the patient was wounded March 22, and the operation was done in July following, and he died of exhaustion from profuse suppuration.

Here the lesions of the pelvis are extensive, and the head, neck, trochanter major, and fragments of the ilium were removed, and yet the patient lived over three months, and died of exhaustion fourteen days after the operation, demonstrating that a most extensive injury of the pelvis may not induce death for months. Prof. Langenbeck gives similar cases in his table No. 1, cited.

Again, Case 40 was an example of slight perforation of the acetabulum, with injury of the head; the date wounded Jan. 30, operation Aug. 12, and death occurred 14 days after excision of head and removal of ball. There was much less injury of the bone in this case, yet the patient did not live so long as did the one just mentioned.

Further, in Case 20, there was a perforation of the pelvis, with intra-pelvic bleeding, and the femur was removed (the same day wounded) to two inches below the trochanter minor, and the man died in a few hours of shock and hemorrhage. In the remaining case (21) of perforation of the pelvis, the operation was done on the day wounded. The head and neck only were removed, and the case terminated fatally in 18 hours, probably of shock of injury and operation. These died the day operated upon; both

pelves perforated, and yet the lesions were more extensive in one than the other.

From this review, while it is evident that all the cases of perforation of the pelvis died, it is equally clear that the mere extent of bone injured or removed does not serve as an index to the rate of mortality in excisions of this joint for gunshot wounds, considered in relation to the date of death of the patients after the operation. A glance at the mortality table (see page 10) will satisfy one that the causes of death were numerous and differed widely in nature, and that they were not directly connected with the extent of bone removed or injured.

As to Recovery.

Of the 119 completed cases of this table, 13 recovered, or 10.92 per cent.

Of the 13 who recovered—

3 were primary,	recovered in average days	280	after operation.		
3 " secondary,	" " "	181⅔	"	"	
3 " intermediate,	" " "	311⅔	"	"	
9 cases. Total number of days 1230, average		257⅐	"	"	

This gives an average period of recovery of about eight and one-half months. The remaining four cases not included in this statement recovered, but the time necessary to complete the convalescence is not stated, and hence these have not been included in computing the average duration of treatment.

Under this head it should be remarked, that the only lesion of the bone present in case 102 was a fracture of the rim of the acetabulum, with caries and general inflammation of the joint.

Usefulness of Members.

In Case No. 10 there was limited rotation and antero-posterior motion of the member, the former with pain. The knee was stiff, the patient could bear some weight upon the limb; the shortening was two and a half inches; the wound was healed, and he was last heard from eight months after operation. An imperfect result.

In Case No. 13 there was antero-posterior motion of the joints; the patient could walk with a cane, and "mount stairs with ease;" the wound healed; the health was robust, and the patient died at 120 months, of typhoid fever. A good result.

In Case 32 the shortening was three inches; the patient could walk with the aid of a cane; the joint was healed, and his health robust, and he was last heard from at 127 months after operation. A good result.

In Case No. 42 the shortening was five inches; the patient could walk with a cane, and bear some weight on the limb, with the aid of a high-heeled boot, and was last heard from at 10 months after operation. An imperfect result.

In Case 46 the shortening was two inches; the patient walked with crutches; the wound was healed, the health robust, the limb useless for locomotion; the patient was last heard from at 18½ months from operation, and he was able to work as a shoemaker. A useless result so far as the member is concerned.

In Case 55 the patient had all the motions of the joint; the knee was stiff; he walked without any support; the shortening was five inches; the wound was healed, his health was robust, and he was able to do the work of a woodchopper; he was last heard from at 54 months after operation. A good result.

In Case 71 the knee was stiff; the shortening three and three-eight inches; the patient walked with crutches, and his health was feeble; the joint was healed, the limb very weak, and the case was last heard from at 48 months. An imperfect result.

In Case 88 the shortening was three and a half inches, and the patient walked very well without support, and was last heard from at 9 months. A good result.

In Case 90 there was motion at the knee, and a shortening of one and three-quarter inch, and the patient walked with crutches. An imperfect result.

In Case 102 there was some motion at the joint; the joint was healed, the health robust, and the last report of the patient was six months after operation. An indefinite result.

In Case 111 it is simply stated that the patient recovered. An indefinite result.

In Case 112 there was limited active and passive motion of the joint, a shortening of 2¾ inches, and the joint was healed. An indefinite result.

In Case 115 there was only passive motion of the joint, a shortening of four inches; the joint was healed, there was no firmness of the joint, and the limb was wasted. An imperfect result.

From these data, it will be seen that so far as usefulness of the

member is concerned, the success of excision of this joint, in cases of gunshot wounds, is as follows:—

3 indefinite results.	
1 useless	"
5 imperfect	"
4 good	"
Total, 13 cases.	

So that in the 10 cases in which the result is known, 40 per cent. recovered more or less useful limbs; 50 in the 100 gained only more or less imperfect limbs, and in 10 per cent. of the cases the member was worthless for locomotion.

In the Table No. 1, of Von Langenbeck,[1] which includes only gunshot wounds of this joint, treated conservatively, the results in 11 cases are doubtful as to usefulness of member; in 6 the limb was worthless for purposes of locomotion, and 7 gained more or less useful limbs.

But if this point is considered in connection with the twelve (12) cases of Von Langenbeck's Table No. 1, in which the joint seems to us *clearly* to have been *directly* injured, it will be found that the result as to usefulness of member was doubtful, or the limb was worthless for locomotion, in eight instances, and that the extremity was more or less useful in four cases, or in 33.33 per 100 cases.

Thus, we may conclude from this table, that in 119 cases in which the results of this examination are shown, 4 more or less useful limbs were gained, or 3.98 per 100; that 5 imperfectly useful limbs were obtained, or 4.20 per 100; and that 1 useless member followed the operation, or .84 per cent.

If these data are truthful, this excision cannot be strongly advocated with a view of obtaining useful limbs, but simply as a surgical resource to save life.

It should be remarked, however, that the usefulness of the member after excision of this joint may, as demonstrated by Prof. Langenbeck in other joints, which have been excised, be greatly improved by active and passive motion of the articulation and limb, persistently carried out (even though it give rise to some pain), and in conjunction with the employment of the induced current of electricity. It may be more than surmised that those patients who have suffered this excision for gunshot injury may rely *too much* and *too long* upon the crutch or cane. Some form

[1] Arch. f. Klin. Chirg., B. 16, H. 2.

of mechanical appliance, such as Prof. Sayre's, which would enable the patient to be placed upon his feet and give motion to the limb and joint, as early in the case as possible, would not only favor the general health of the patient, but the growth of the member and the reformation of a new articulation. In this excision, unlike that of the knee, motion is needed as soon as the condition of the joint will permit.

Finally, it should be mentioned that Cases 93 and 94 of this table, though presenting many points in common, are not duplicates. They differ materially in the extent of bone removed and in the period at which death took place.

EXCISION OF THE HIP-JOINT FOR DISEASE.

History.—Although this operation had been previously performed for deformity, Hewson, of Dublin, Ireland, seems to have been the first to formally excise the hip-joint for disease in progress, which he did in 1829, in the person of a male adult. He was followed by R. Textor and M. Jaeger, in Germany, who seem to have excised this joint, conjointly, for chronic disease, in a male child 7½ years of age.

In England, Sir Benj. Brodie performed the operation in 1836, in the case of an adult male for coxitis. But Sir Wm. Fergusson, Profs. John Simon, Haynes Walton, Henry Smith of London, and Mr. G. M. Jones of Jersey Island, contributed greatly to establish the operation in England as a proper surgical resource.

Ph. J. Roux seems to have been the first to perform this operation in France, in February, 1847, in the case of a male aged 15 years.

Prof. Buchanan, of Glasgow, Scotland, made this excision for caries of the joint, December 23, 1850.

In the United States, Dr. Oliver C. Wilcox, of Easton, Pa., first executed this conservative measure (for caries), in June, 1849, in a male patient aged 35 years; and Prof. Henry J. Bigelow, M.D., of Boston, performed it February 21, 1852, upon a boy aged 11 years. Dr. F. F. Maury, of Philadelphia, Pa., has performed successfully the first excision of the hip (Dec. 10, 1870; see Case 408), and of the elbow (Oct. 11, 1871) in the same subject; and Dr. John Ashhurst, Jr., of the same city, executed, with a favorable result, the first double excision of the hips in the same subject; see Cases 417 and 456. But Prof. L. A. Sayre, of New York, has perhaps

popularized this operation in the United States to a greater extent than any other surgeon of our country. In the hip table will be found forty-seven of this gentleman's hip-excisions.

But very many American surgeons have strongly advocated and frequently executed this operation, among whom may be mentioned Profs. S. D. Gross, Joseph Pancoast, A. C. Post, L. Bauer, Dr. A. G. Walter, and others equally prominent.

In this connection we may appropriately notice the nativity of the operators.

	No. cases.
Of Ireland	1
" England	135
" Scotland	11
" Germany	89
" France	15
" United States	176
" Switzerland	1
" Mexico	1
" Austria	19
" Russia	1
" Denmark	8
Not stated	15
Total	472

As these 472 cases do not represent all the operations of this character which have been performed for disease, it is not possible to establish a percentage upon the above statement. But it may be gathered from the exhibit that *this* excision has mainly been performed by German, English, and American surgeons.

Partial Excisions for Disease (Chronic Arthritis).

This subdivision of the general table embraces 241 cases. These will be considered under the following heads:—

1st. *As to the state of the general system at the time of the operation.*

	Recovered.	Died.	Uncertain.		
Vigorous	9	3	...	= 25 per 100 deaths.	
Exhausted	53	43	6	= 44	" "
Not stated	62	51	14		
Total	124	97	20	= 241	" "

Conclusion.—That an exhausted state of the general system increases the mortality of this operation.

2d. *Question of age.*

	Recovered.	Died.	Uncertain.		
1 to 5 years	14	7	2	=	33.33 deaths per 100.
5 " 10 "	50	24	11	=	32.43 " "
10 " 15 "	28	19	4	=	40.42 " "
15 " 20 "	15	14	...	=	48.27 " "
20 " 25 "	7	11	...	=	61.11 " "
25 " 30 "	3	4	...	=	57.14 " "
30 " 40 "	3	6	...	=	66.66 " "
40 " 50 "	2	1	...	=	33.33 " "
50 " 60 "	...	2	...	=	100.00 " "
60 " 70 "	1	...	...		No mortality.
"Adult"	...	1	...		
"Young"	...	1	...		
"Child"	1	...	...		
Not stated	...	7	3		
Total	124	97	20	=	241

Conclusion.—The most favorable age for this operation is from 5 to 10 years; next from 1 to 5 years, and from 40 to 50 years; next from 10 to 15 years; next from 15 to 20 years; next from 25 to 30 years; and least favorable from 30 to 40 years. There were no deaths in those aged from 60 to 70 years, and we do not depend on this, nor estimate the last three cases in this table.

3d. *Question of sex.*

	Recovered.	Died.	Uncertain.		
No. males	82	69	9	=	45.68 deaths per 100.
No. females	33	21	6	=	40.74 " "
Sex not stated	9	7	5		
Total	124	97	20	=	241

Conclusion.—That the chances of recovery from this operation are slightly in favor of females.

4th. *Duration of disease before operation.*

	Recovered.	Died.	Uncertain.		
From 1 to 3 mos.	...	2	2	=	100 deaths per 100.
" 3 " 6	6	6	1	=	50 " "
" 6 " 9	3	2	...	=	40 " "
" 9 " 12	11	6	1	=	35.29 " "
" 12 " 15	8	...	...	=	No deaths.
" 15 " 18	1	1	...	=	50 deaths per 100.
Over 18	55	25	3	=	31.25 " "
Not stated	40	55	13	=	
	124	97	20	=	241

Conclusion.—That the duration of the disease before the operation is most unfavorable, as to recovery, when the period is from 1 to 3 months, next unfavorable when the period is from 3 to 6 months, next from 6 to 9 months, next 9 to 12 months, next over 18 months. From this table it would appear that the most favorable time to operate would be when the disease has existed from 12 to 15 months. It would thus seem that as the standing of the disease increased before an operation is performed, the mortality diminishes until the period of time reaches 12 to 15 months.

If we divide this table into two periods, of operations done before eighteen months and those after eighteen months, we find the mortality equals 36.95 per 100 in the former class, and 31.25 per 100 in the latter. This would indicate that the least mortality occurs when the duration of the disease has been near eighteen months, and that there is a slight difference in favor of operations performed after the disease has lasted over eighteen months.

5th. *The most favorable month for the performance of this operation.*

	Recovered.	Died.	Uncertain.		
No. operations in January	10	6	...	= 37.5	deaths per 100
" " February	14	4	2	= 22.22	" "
" " March	6	3	1	= 33.33	" "
" " April	8	2	2	= 20	" "
" " May	8	2	...	= 20	" "
" " June	8	2	...	= 20	" "
" " July	5	2	1	= 28.57	" "
" " August	4	...	1	= No	" "
" " September	4	1	...	= 20	" "
" " October	4	5	2	= 55.55	" "
" " November	3	3	2	= 50	" "
" " December	4	3	...	= 42.85	" "
" " mo. not stated	46	64	9		
Total . . .	124	97	20	= 241.	" "

Conclusion.—That the months of April, May, June, and September are the most favorable months in which to perform this operation, excepting the month of August, in which there were no deaths; next in order February, then July, then March, then January, then December, and least favorable, the month of October. If the mortality be considered in relation to the seasons, that of the summer presents the least, and next in order that of spring, next that of winter, and lastly, that of the fall develops the greatest mortality.

6th. *What diseases these operations were performed for.*

Under this head are included all forms of chronic arthritis, whether the so-called morbus coxarius or rheumatic arthritis. Herein are embraced the effects of inflammation of this joint in all its parts, whether involving the synovial membrane, the cartilage, ligaments, or the bone which forms a part of this articulation. It should, however, be stated that nearly all these cases are examples of "hip-joint disease."

7th. *Nature of the exciting cause of the disease.*

	Recovered.	Died.	Uncertain.		
No. cases traumatic	27	7	3	20.58	deaths per 100
" non-traumatic	7	1	...	12.5	" "
Not stated as to cause	90	89	17		
Total . .	124	97	20 = 241		

Conclusion.—That, according to this table, the mortality from this operation is greatest in the examples styled traumatic. But this conclusion is scarcely correct, because the number of cases classed as "non-traumatic" is so small. It is probable, that, could it be known how many are "non-traumatic in the cases "not stated," the low rate of mortality of the "non-traumatic" class would be greatly increased.

8th. *What influence does the form of incision have upon the mortality?*

		Recovered.	Died.	Uncertain.		
Irregular	incisions	2	2	2 = 50	deaths per 100	
Curved	"	33	8	2 = 19.51	"	"
Linear	"	21	16	1 = 43.05	"	"
Quadrilateral	"	...	1	... = 100	"	"
V-shaped	"	10	6	2 = 37.5	"	"
+ "	"	1	2	1 = 66.66	"	"
T "	"	5	2	3 = 28.57	"	"
Single transverse	"	4	3	... = 42.85	"	"
L-shaped	"	3	...	... = No	"	"
Not stated	"	45	57	9		
Total . . .		124	97	20 = 241.		

Conclusion.—According to this exhibit the L-shaped incisions were not attended with any mortality, and in the case in which the quadrilateral incision was employed, the patient died. As these cases are so limited in number, no conclusions can safely be drawn from them. The curved incisions exhibit the most favorable results, next the T-shaped, next the V-shaped, next the "single

transverse" and the "linear," which are about on a par with each other, next the "irregular," and the most unfavorable is the +-shaped incision. But this estimate of the mortality as referable to the incision cannot be depended upon; for instance, the mortality associated with the T incision and the + (which are much alike in form) differs widely, so much as to indicate that no conclusion can be safely drawn as to these modes of division of the soft parts; nor is it believed any more certainty can be attained here in regard to the other forms of incision.

It may be mentioned, however, that the majority of operators seem to prefer the "linear," "curved," or the "V-shaped" incisions.

9th. *Extent of bone removed.*

	Recovered.	Died.	Uncertain.			
Head femur, cases	27	36	5	=	57.14 deaths per 100.	
Head and neck, cases	21	14	1	=	40	" "
Head, neck, and trochanter major, cases	36	21	5	=	36.84	" "
Head, neck, and trochanters	17	9	1	=	34.61	" "
Head, neck, trochanters, and shaft, cases	12	7	2	=	36.84	" "
Neck femur, cases	1	1	1	=	50	" "
Portion acetabulum, cases	1	...	1	=	No	" "
Head and part trochanter major	4	2	1	=	33.33	" "
Trochanter major	1	...	...	=	No	" "
Part head and shaft	1	1	...	=	50	" "
Extent not stated	3	6	3			
Total	124	97	20	=	241	

Conclusion.—That the greatest mortality is shown in cases in which the head of the femur alone was removed; next where it was necessary to excise the head and neck; next in those instances in which the head, neck, and trochanter were extracted, and in the examples of removal of the head, neck, trochanters, and portions of the shaft of the femur; next when the head, neck, and trochanters (not shaft) were removed; and finally and least when the head and part of the trochanter were removed. The other elements of this table we do not consider, as the number of the cases thereunder are too few. That the dangers of this operation should be greatest when the head of the bone alone is removed is not unreasonable; but this subject must be deferred for consideration under complete excisions of the hip. If these statistics are reliable, it indicates that the bone should be freely removed in this operation. But this will be considered again.

10th. *Deaths.*

From the disease—	No. cases.		
Of uræmic convulsions	1	=	1.03 per 100.
" exhaustion	30	=	30.92 "
" pelvic abscess	5	=	5.15 "
" secondary hemorrhage	1	=	1.03 "
" cough and diarrhœa	1	=	1.03 "
" pyæmia	1	=	1.03 "
" disease not stated	1	=	1.03 "
Total	40		41.23 "

The average period of death after operation in 36 cases is $129\frac{29}{36}$ days.

Died from the operation—	No. cases.		
Secondary hemorrhage	2	=	2.06 per 100.
Septicæmia or pyæmia	14	=	14.43 "
Tetanus	1	=	1.03 "
Acute necrosis femur	1	=	1.03 "
Not stated (disease)	1	=	1.03 "
Total	19	=	19.58 "

Average period of death in 17 cases in which time is stated, $24\frac{13}{17}$ days after operation.

Died from other causes—	No. cases.		
Bedsores	2	=	2.06 per 100.
Erysipelas	2	=	2.06 "
Phthisis	4	=	4.02 "
Diarrhœa	2	=	2.06 "
Amyloid disease	4	=	4.02 "
Diphtheria	1	=	1.03 "
Exhaustion	2	=	2.06 "
Bright's disease or albuminuria	3	=	1.09 "
Cystic disease ovary	1	=	1.03 "
Sunstroke	1	=	1.03 "
Dysentery	1	=	1.03 "
Dropsy	1	=	1.03 "
Traumatic peritonitis	1	=	1.03 "
Tubercular meningitis	1	=	1.03 "
Anasarca and thrombus	1	=	1.03 "
Total	27	=	27.83 "

Average period of death in 24 cases in which time is stated is $274\frac{12}{24}$ days.

	Cases.		
Died, the disease not stated	11	=	11.32 per 100.

Of these, 8 cases died in average No. days $105\frac{1}{4}$.

Summary of this Table.

Deaths from the disease . . .	40	= per 100	41.23
" " operation . .	19	= "	19.58
" from other causes . .	27	= "	27.83
" cause not stated . . .	11	= "	11.32
Total	97	= "	
Recoveries . . . . "	124		
Uncertain . . . . "	20		
Total	241		

The deaths are equal to a mortality-rate of 43.84 in 100 cases.

The average number of days during which death occurred, in 85 of the 97 cases, in which the period of death is stated, is $147\frac{46}{85}$.

Conclusion.—That the mortality strictly due to this operation is but 19.58 per 100 cases; that the inefficacy of the operation is shown in those who died of "the disease," notwithstanding the excision was performed; that the deaths from "other causes," 27.83 per 100 cannot be attributed to the operation; that the general mortality of 43.84, as shown by this table, is not equal to that developed by the statistics of the late Prof. Blackman for amputation at the hip-joint performed for disease. That gentleman collected 142 cases, of which 45 were successful and 97 fatal, a mortality-rate equal to 68.30 per 100 cases.

11th. *As to recoveries.*

No. of cases	124
No. of deaths	97
No. of cases uncertain	20
Total	241

The average period in 74 cases in which the time is stated as to recovery is $224\frac{5}{74}$ days, estimated from the date of the operation to the day when the patients began to have use of the limb, or while under treatment subsequent to the operation.

Conclusion.—The shortest period of treatment is 35 days, the longest 730 days; that the nature of the disease as well as the character of the operation gives rise to the protracted recoveries in these excisions; that although the recoveries are thus prolonged to a more extended period than that following amputations at the hip-joint, the excision of this joint is indicated, from the greater mortality which attends amputation at this articulation, and because exarticulation may be performed here successfully after excision has been done, as see Case No. 78.

12th. *Usefulness of member.*

	No. cases.		
Perfect (*i. e.*, without any artificial support)	38	=	35.84 per 100
"Useful" (with or without apparatus)	60	=	56.60 "
Worthless	7	=	7.54 "
Amputated	1		
	106		
Usefulness not stated	18	=	
Total	124		

Conclusion.—That but 7.54 per 100 failed to receive benefit from this excision; that 35.84 per 100 gained perfect limbs; that 56.60 per 100 recovered useful members; that 92.44 gained more or less advantage from the operation; and that the preponderance in favor of the operation is as 98 (favor) to 8 (unfavorable), or as $12\frac{1}{4}$ to 1. These conclusions are based on the 106 definite results as to usefulness.

13th. *As to shortening of member.*

Perfectly useful, shortening stated,	19	cases;	average shortening,	1.31	inches
Simply "useful," " "	23	"	" "	2	"
Total	42	"	" "	1.92	"

The shortening ($4\frac{1}{2}$ inches) is only given in one of the cases classed as "worthless." This is not equal to a shortening of five inches observed among those cases classed as gaining useful members from the operation. As this is but one case, and as a greater shortening is shown in one of the "useful" cases, no conclusion is here drawn as to the cases classed as "worthless" in the preceding table.

Conclusion.—That as the shortening is less in those cases reported as "perfect" in usefulness, and greater in those classed as "useful," it is probable that shortening exercises an influence upon the practical utility of the member; that an average shortening in 42 cases of 1.92 inches did not prevent the limbs from being available for practical purposes; and lastly that the least shortening observed was one-half inch (in several cases) and the greatest five inches.

14th. *Permanency of the cure.*

Average of months last heard from in	"perfect" cases,	33	= 26 months
" " " "	useful "	49	= $15\frac{37}{49}$ "
" " " "	worthless cases (not considered).		
" " " "	uncertain as to usefulness (not considered).		

Total average of months last heard from in cases 82, $19\frac{6}{41}$ months.

Conclusion.—That the average period of $19\frac{6}{41}$ months is a sufficiently long period to determine the permanency of an excision of this character, and that it is extremely probable these excisions once cured remain so permanently.

15th. *Remarks.*

The remarks cited here will be found in the column "Remarks," and at the numbers expressed of the general table.

Post-mortem Examinations.

Case 127. Autopsy showed fracture of the os innominatum, and femur rounded off and attached to acetabulum by fibrous tissue, and also abscess of ilium.

Case 199. Autopsy showed perforation of acetabulum, abscess within pelvis, and embolic clots in popliteal, femoral, and tibial veins.

Case 200. Autopsy showed an embolic clot in femoral vein.

Case 223. Autopsy showed purulent matter in pelvis.

Case 242. Autopsy revealed tubercles in lungs and intestines.

Case 268. Autopsy revealed caries shaft femur, acetabulum perforated, and tubercles in base of lungs.

Case 440. Autopsy revealed cartilage of acetabulum destroyed.

Case 416. Autopsy revealed end femur rounded off, fitting into acetabulum, which was covered with fibro-cartilage, the femur and ilium held together by ligamentous bands, nearly three inches of femur below incision necrosed in two-thirds of the circumference of the bone, which disease kept up the discharge during life.

Remarks in General.

Case 138. Prof. L. A. Sayre believes in the local and traumatic origin of hip-joint disease

Case 391. Patient had coxitis of the opposite hip, with angular contraction of that side, the latter not operated upon; the shortening of the two limbs about equal.

Case 408. Dr. Maury's case of hip and elbow excision in the same subject. Operations not performed simultaneously.

Case 417. Dr. John Ashhurst's case, in which both hips were excised but not simultaneously. See Case 456 for 2d operation.

Case 424. Dr. Croft's sub-periosteal excision.

Case 425. Dr. John Wood states that in this operation he preserves all the periosteum and perichondrium, and removes the bone piecemeal with the gouge.

Case 429. Prof. Langenbeck's case, in which he treated the patient lying on the belly, on account of bed-sores.

Case 439. Sir Wm. Fergusson's case of double hip-joint disease, the left side only excised; the other hip improving.

Case 441. Ollier's views of the growth of bone presented.

Case 463. Dr. Bellamy's sub-periosteal excision.

COMPLETE EXCISION FOR DISEASE (Chronic Arthritis).

This subdivision embraces 177 cases, and will be considered under the following heads:—

16th. *As to the state of the general system at time of operation.*

	Recovered.	Died.	Uncertain.			
"Vigorous"	4	1	...	=	20	deaths per 100
"Exhausted"	49	42	6	=	85.71	" "
Not stated	37	34	4			
Total	90	77	10	=	177.	

Conclusion.—That an "exhausted" state of the system increases the mortality from this operation performed for complete excisions to a greater extent than when performed for *partial* excisions, in the proportion of about 47 (partial) to 85 (complete). That the diminished mortality (20 per cent.) shown in the complete excisions in those classed as "vigorous," as compared with the mortality of the "vigorous" who suffered only *partial excision* (*i.e.*, 25 per cent.), is accidental, and cannot be accounted for through the influence of the state of the constitution.

17th. *Question of age.*

	Recovered.	Died.	Uncertain.			
1 to 5 years	15	11	...	=	42.30	deaths per 100
5 " 10 "	52	24	3	=	31.57	" "
10 " 15 "	12	16	3	=	57.14	" "
15 " 20 "	7	12	...	=	63.15	" "
20 " 25 "	1	...	1			
25 " 30 "	...	7	2	=	100	" "
30 " 40 "	2	2	1	=	50	" "
40 " 50 "	1	2	...	=	66.66	" "
50 " 60 "	...	1	...	=	100	" "
Age not stated	1	2	...			" "
Total	90	77	10	=	177.	" "

Conclusion.—The most favorable age for the complete excision of this joint, as in the partial excisions, is from 5 to 10 years, but the rate of mortality is greater in the former by about 6 per cent.; the next most favorable age, as in the *partial* excisions of this joint, is from 1 to 5 years, but the complete excisions at this age-period are attended with about 9 per cent. greater mortality than are the *partial* excisions for the same age; the next most favorable period is in those aged from 30 to 40; then those from 10 to 15 (greater than in the corresponding period for partial excisions);

then those from 15 to 20 (greater than in the partial excisions for the same period); still less favorable from 40 to 50 (which we consider due to accidental causes); and lastly, the mortality is greatest in those aged from 25 to 30 and from 50 to 60, being equal to 100 per cent. in each of these periods.

18th. *Question of sex.*

	Recovered.	Died.	Uncertain.		
Males . . .	56	55	...	=	49.54 deaths per 100.
Females . . .	34	20	...	=	37.03 " "
Not stated . .	...	...	12		
Total . . .	90	75	12	=	177

Conclusion.—That the chances of recovery from complete excisions are in favor of females by 12.51 per cent.; that the mortality in males, for the *complete*, is greater for that sex than in the *partial* excisions; and that the lesser mortality in females in *complete* than in *partial* excisions of this joint cannot be attributed to the influence of sex.

19th. *Duration of disease before operation.*

	Recovered.	Died.	Uncertain.		
From 1 to 3 months .	...	1	...	=	100 deaths per 100.
" 3 " 6 " .	3	4	...	=	57.14 " "
" 6 " 9 " .	2	2	...	=	50 " "
" 9 " 12 " .	8	3	1	=	27.27 " "
" 12 " 15 " .	2	...	...		
" 15 " 18 " .	8	3	...	=	27.27 " "
Over 18 " .	43	31	6	=	41.89 " "
Not stated . . .	24	33	3		
Total . . .	90	77	10		177

Conclusion.—That when the disease has existed from 1–3 months before the operation, we observe the fewest recoveries (as in partial excisions); next in order, when the period is from 3–6 months (as in the partial operations); next from 6–9 months (as in the partial examples); next where the standing was over 18 months (this differs from the mortality shown in the partial excision, " over 18 months," because the lesions of the pelvis produce greater inroads upon the health of these patients than those simply of the femur, and these morbid states would naturally develop late in the case. While, however, the mortality after 18 months in the *partial* excisions is but 31 per cent. in the *complete*, after 18 months it is 41 per cent., or 10 per cent. greater); next where the duration was from 9–12, and from 15–18 months; and lastly no mortality is observed

when the disease had existed from 12–15 months, as is observed in the same period in the partial excisions of this joint. Thus we observe again that the most favorable period for operating is where the disease has lasted 12 to 15 months before the operation.

If we divide this table into two classes comprising operations performed before and after 18 months, we find the mortality in the first to be equal to 36.11 per cent., and in the last to 41.89 per cent. It is, therefore, evident that these excisions should be made no later than a year or fifteen months, and before the pelvis becomes greatly involved.

20th. *The most favorable month for the performance of this excision.*

	Recovered.	Died.	Uncertain.		
No. operations in January	3	4	2	=	57.14 deaths per 100.
" " " February	7	3	...	=	30 " "
" " " March	4	8	1	=	66.66 " "
" " " April	6	3	1	=	33.33 " "
" " " May	14	5	...	=	26.31 " "
" " " June	5	6	1	=	54.84 " "
" " " July	6	5	...	=	45.45 " "
" " " August	2	...	1	=	No " "
" " " September	6	2	...	=	25 " "
" " " October	10	3	3	=	30 " "
" " " November	3	2	...	=	40 " "
" " " December	5	2	...	=	28.57 " "
Months not stated . .	19	34	1		
Total	90	77	10	=	177

Conclusion.—That the most favorable month for the complete excision seems to be September, save the month of August, in which there were no deaths (as in the partial excisions); next the month of May; then December; then February and October; then November; then July; then June; then January, and most unfavorable, March. These results do not seem to harmonize with those obtained from partial excisions, excepting as to the fact that there were no deaths in August. If the mortality be estimated by seasons, *it* is greater in summer, next in spring, next in winter, and least in fall. These data do not agree with those obtained from partial excisions. This subject may be again considered by uniting the results in both of our tables on this point. Thus it will be seen that in summer, winter, and spring the mortality reaches 33 per cent., and in spring 46 per cent.

21st. *For what diseases were these operations performed?*

For this answer, see question 6th, partial excisions hip.

22d. *Nature of the exciting cause of the disease.*

	Recovered.	Died.	Uncertain.		Deaths per 100.
Traumatic	33	19	1	=	36.53
Non-traumatic . . .	9	3	...	=	25
Not stated	48	55	9	=	
Total	90	77	10	=	177

Conclusion.—According to this table, the mortality is greatest in the traumatic class of cases (as in partial excisions), and the mortality is about double that of the "non-traumatic" cases in the same class in the partial excisions. The sum of the mortality in the traumatic cases in the partial and complete excisions equals a mortality rate of 30.23 per 100, and in the non-traumatic the death rate equals 20 per 100 cases.

23d. *What influence does the form of incision have upon the mortality?*

	Recovered.	Died.	Uncertain.		Deaths per 100.
Irregular incisions . . .	3	2	1	=	40
Curved	27	13	...	=	32.5
Linear	17	15	1	=	46.87
V-shaped	1	2	1	=	66.66
+ "	2	1	...	=	33.33
T "	13	3	1	=	18.75
L "	1	...	...		No
Not stated	26	41	6	=	
Total	90	77	10		

Conclusion.—Here, again, as in the partial excisions, no mortality is shown when the L-shaped incision is employed. The lowest mortality observed is in the T incisions; next in the "curved;" next in the +; next in the "irregular;" next in the linear; and greatest in the V-shaped incision. These results do not correspond with those presented in this table for partial excisions. Uniting this and the corresponding table under *partial* excisions, the following is the order of mortality: L-shaped none; then the T; the curved; the +; the linear, V, and transverse (equal); the "irregular;" and the quadrilateral incisions.

If we omit the inference to be drawn from the L-shaped incisions, no conclusion can be instituted as to the influence of incisions here upon the mortality of this operation. From the last showing, that when incisions differ in form, as do the "linear," the V, and transverse, and present an equal mortality, it is evident that no conclu-

sions can be drawn as to the influence of the division of the soft parts upon the fatality of the result. The majority of operators prefer the curved and linear incisions.

24th. *Extent of bone removed.*

	Recovered.	Died.	Uncertain.		Deaths per 100.
Head femur, and limited portion pelvis removed	11	16	1	=	59.75
Head femur, and extensive portion pelvis removed	...	1	...	=	100.
Head and neck femur, and limited portion pelvis removed	15	11	1	=	42.30
Head and neck femur, and extensive portion pelvis removed	2	2	...	=	50
Head, neck, trochanter major, and limited portion pelvis removed	33	24	2	=	42.10
Head, neck, trochanter major, and extensive portion pelvis removed	2	3	...	=	60
Head, neck, and trochanters, and limited portion pelvis removed	16	9	2	=	30
Head, neck, and trochanters, and extensive portion pelvis removed	3	3	2	=	50
Head, neck, trochanters and shaft, and limited portion pelvis removed	5	4	1	=	44.44
Head, neck, trochanters and shaft, and extensive portions pelvis removed	2	...	...	=	None
Limited portion pelvis alone	...	1	...	=	100
Not stated as to extent, but complete excision	1	3	1	=	
Total	90	77	10	=	177

When the acetabulum was cauterized with the hot iron, five out of six cases died. In Case 213 the entire femur was removed down to the lower epiphysis, and in Case 420 the upper two-thirds of the same bone was excised.

Conclusion.—That the mortality is greater in the complete than in the partial excisions; that it increases as the amount of pelvic bone is removed; and that there is but little difference in the mortality when the "head and neck," or the "head, neck, and trochanter major," or the "head, trochanters, and shaft" were removed, provided the amount of pelvic bone excised was limited; but if the pelvic bones are removed extensively in the same classes, the mortality is increased. The last three classes of this table we do not consider. The danger, then, of these excisions increases as the pelvis is more involved in disease. One might say that the mortality-centre is at the head of the femur, the rate diminishing as the bone is removed outwards along the femur, but increasing as it advances inwards upon the pelvis.

25th. *Deaths.*

Died from the disease—

	Cases.	
Pelvic abscess and phlebitis	2	
Exhaustion	24	
Pyæmia	2	
	—	28

Average period of death in 27 cases, $103\frac{20}{27}$ days after operation.

From the operation—

Pyæmia or septicæmia	7	
Hemorrhage	1	
Shock operation	2	
	—	10

Average period of death in 10 cases, $11\frac{2}{5}$ days after operation.

Died from other causes or diseases—

Exhaustion and diarrhœa	3	
Caries spine	2	
Dysentery	4	
Convulsions	1	
Phthisis	10	
Diphtheria	1	
Heart disease	1	
Erysipelas	1	
Tubercular meningitis	3	
Amyloid disease	1	
Fatty degeneration liver or kidneys	3	
Pneumonia	2	
Marasmus	2	
Albuminuria or Bright's disease	2	
Not stated, but general disease	2	
	—	38
Not stated as to disease		1
Total		77

Average period of death in 35 cases, $154\frac{2}{5}$ days after operation.

Deaths	77
Recoveries	90
Uncertain	10
Total	177

The deaths are equal to a mortality-rate of 46.10 per 100 cases.

Summary of this Table.

Deaths from the disease	28	= 36.30	per 100
" " operation	10	= 13	"
" from other causes	38	= 49.22	"
Death, cause not stated	1	= 1.29	"
Total	77		

The average period in which death occurred in 72 cases, in which the time is stated, is $114\frac{11}{72}$ days, a shorter period than in partial excisions.

Conclusion.—That the mortality strictly due to this operation is but 13 per 100 cases, and is less than is observed in the same class for *partial* excisions; that the "deaths from the disease" are less than in the same class for the *partial* excisions; that the deaths from "other causes" are greater than in the same class for *partial* excisions, which accounts for the diminished mortality, shown in this table, from the progress of the disease, and recalls the important influence the pelvic disease has in inducing disease of the general system, and the relation that systemic affections have to the disease of the pelvis; that the deaths from "other causes," as well as those from the disease, cannot be charged to the operation; that the general mortality-rate is greater than in the partial excisions, and is not equal to that shown by Prof. Blackman for amputation at the hip-joint, as performed for other causes than gunshot wounds.

26th. *Recoveries.*

No. of cases, 90.

The average period in which recovery took place in 86 cases is $205\frac{9}{86}$ days, which is a shorter time than from the partial excisions.

The average period of recovery for complete and partial excisions of this joint, "for disease," in 160 cases, is $190\frac{142}{160}$ days.

Conclusion.—The shortest period of treatment among these patients is 63 days, and the longest 1380 days; that the nature of the disease and the character of the operation give rise to the protracted recovery in these cases; and that, although recovery is thus prolonged to a greater extent than when amputation has been performed at the hip-joint, excision is indicated from the greater mortality which attends the former, and because amputation may be performed after excision has failed. Case 78 is an example of successful, and Case 16 of unsuccessful, amputation performed after excision.

27th. *Usefulness of member.*

	Cases.		
Perfect (*i. e.*, without artificial support) . .	33	=	45.83 per 100
Useful (*i. e.*, with or without apparatus) . .	35	=	48.61 "
Worthless	3	=	5.55 "
" amputated	1		
	72		
Not stated	18		
Total	90		

Conclusion.—That but 5.55 of the operated failed to receive benefit from this excision (a better result than in the partial excisions); that 45.83 per 100 gained perfect limbs (more successful than the partial excisions); that 48.61 per 100 recovered useful members (less fortunate than the partial excisions); that 94.44 gained more or less useful limbs; and that the preponderance in favor of the operation (based on usefulness) is as 72 to 4 or 18 to 1. The sum of usefulness in the partial and complete excisions is equivalent to 93.82 per cent. It may be that the greater usefulness in those who survived complete excisions arises from the lesser shortening observed in the complete than in the partial excisions.

28th. *As to shortening of member.*

Perfectly useful, shortening stated in	25	cases.	Average shortening 1.32 inches.
Simply " " "	21	"	" " " 2 "
Total	46	"	" " " 1.63 "

Conclusion.—As the shortening is only stated in one case, classed as "worthless," *it* is not considered; that the least shortening observed is $\frac{1}{8}$ inch (less than in the partial excisions), and the greatest $6\frac{1}{2}$ inches (greater than in the partial); that the shortening is less (as in the "*partial*") in those gaining "perfect" limbs than it is in those merely regaining useful members; that it is probable that shortening exercises an influence upon the practical utility of the limbs; that an average shortening in 46 cases of 1.63 inches did not prevent the members from being available for practical purposes; and that the average shortening in the complete and partial excisions in 88 cases is 1.80 inches.

29th. *Permanency of the cure.*

	Cases.		Months.
Average No. of months last heard from in "perfect" cases	32	=	$45\frac{3}{16}$
" " " " " " in "useful" "	26	=	$26\frac{9}{26}$
Total average " " " " in cases	58	=	$35\frac{1}{58}$
Total average months last heard from in partial and complete excisions	140	=	$26\frac{111}{140}$

Conclusion.—That the perfect cases were heard from after the operation, during a longer average period after the complete excisions than after the partial, as these cases were probably longer under treatment than were the latter class; and the same may be said of the cases classed as "useful." That considering partial and

complete excisions together under this head, the average of $26\frac{1}{140}$ months is a sufficiently long period to determine the permanency of these excisions, and that it is extremely probable the results of these operations were permanent.

30th. *Remarks.*

These will be found in the column of remarks in the general table.

Post-mortem Examinations.

Case 30. Autopsy revealed pus in the pelvic cavity.

Case 120. Autopsy revealed os innominatum carious; acetabulum perforated, and broken in three pieces (probably fractured at time of fall in cistern); femur rounded off by effort of nature, and attached to healthy portion of acetabulum by fibrous tissue; abscess on inner surface of ilium connecting with fissures in acetabulum.

Case 128. Autopsy revealed a fissure of acetabulum; pelvic abscess extending to sacro-iliac junction, the bones about which were carious.

Case 390. Autopsy showed perforation of acetabulum; pelvic abscess and miliary tubercles in lungs.

Case 466. Autopsy revealed end femur rounded off and enlarged, fitting into acetabulum, which was covered with cartilage, and the femur and ilium were held together with firm ligamentous bands. Nearly three inches of the femur below the incision was necrosed in two-thirds of the circumference of the bone which kept up the discharge.

General Remarks.

Case 8. Died 2 years after the operation, of some form of disease of the liver.

Case 48 states that H. Hancock claims to have first shown that the acetabulum is generally diseased in "hip-joint" disease, against the views of Colson and Henry Smith of England, who believed such disease of the acetabulum was a bar to this operation.

Case 58. The neck of femur broken in disarticulating. Prof. Sayre recommends, to prevent this fracture, to divide the neck with chain saw, and remove the bone with gouge and forceps, *i. e.*, in cases where there is much bony deposit.

Case 66. Patient had also disease of heart.

Case 81. Prof. Erichsen makes three forms of coxitis: 1st, the arthritic, in which the ligaments, cartilage, and synovial membrane alone are affected. Abscess often attends this form, which may end spontaneously, and sometimes in adhesions of the joint surfaces; 2d, the femoral which begins in the cancellated structure of the upper epiphysis of the femur. This is insidious and occurs mostly in young children; yellow tubercular matter is deposited in the cancelli, and always leads to abscess; 3d, where the disease originates in the acetabulum and spreads outward. (See Braithwaite, *Retrospect*, part 42, p. 140.)

Case 90. Operation simply to relieve suffering.

Case 111. Operation simply to relieve suffering.

Case 120. Phthisical three months after operation.

Case 159. In this case the lower epiphysis of the femur was separated in endeavoring to luxate the head of that bone from the firm consolidation about the hip. Prof. Sayre advises to act as stated in "remarks," Case 58.

Case 208. Ultimately died of pneumonia.

Case 209. The femur in this case also fractured at the lower epiphysis.

Case 215. Died of phthisis in 1868.

Case 216. The rigid muscles were divided subcutaneously.

Case 252. The joint had been excised three years before by Athol Johnston for coxitis.

Case 283. Richard Barwell states that coxitis always begins in the synovial membrane (including the sub-synovial tissue), and never in the cartilage, the round ligament, or the acetabular fat. (See Braith. *Retrospect*, part 47, p. 106.)

Case 335. Great deformity in this case. Patient died in 1869 of phthisis.

Case 416. The Bright's disease came up after the operation.

Case 420. Upper two-thirds femur removed.

Case 424. A sub-periosteal excision by John Croft, England.

Case 468. This is Prof. Sayre's 48th case, and his 47th case appearing in this report.

Excisions for Disease—The Extent of Bone Removed not Stated.

State.	Recovered.	Died.	Uncertain.		
Constitution vigorous	1	...	...		deaths no per cent.
" exhausted	1	1	...		" 50 "
" not stated	18	17	14		
Total	20	18	14	=	52

Sex.	Recovered.	Died.	Uncertain.		
Male	14	5	7	=	26.31 deaths per 100
Female	...	4	4	=	100 " "
Not stated	6	9	3		
Total	20	18	14	=	52 " "

Age.	Recovered.	Died.	Uncertain.		
1 to 5	3	1	...	=	25 deaths per 100
5 " 10	3	1	5	=	25 " "
10 " 15	4	3	...	=	42.85 " "
15 " 20	2	2	...	=	50 " "
20 " 25	1	1	1	=	50 " "
25 " 30	...	1	...	=	100 " "
30 " 40	1	...	1	=	No " "
Not stated	6	9	7		
Total	20	18	14	=	52

Duration of Disease before Operation.

	Recovered.	Died.	Uncertain.		
From 6 to 9 months	...	1	...	=	100 deaths per 100
" 15 " 18 "	1	1	...	=	50 " "
Over 18 "	1	1	...	=	50 " "
Not stated	18	15	14		
Total	20	18	14	=	52 " "

MORTALITY AS TO MONTHS.

	Recovered.	Died.	Uncertain.				
April	1	...	...	=	No deaths per 100		
May	...	1	...	=	100	"	"
August	...	1	...	=	100	"	"
October	...	1	...	=	100	"	"
Months not stated	19	15	14				
Total	20	18	14				

MORTALITY AS TO INCISIONS.

	Recovered.	Died.	Uncertain.				
Linear incision	1	1	...	=	50	deaths per 100	
Curved "	2	1	...	=	33.33	"	"
T "	1	...	...	=	No	"	"
Transverse "	1	1	...	=	50	"	"
Not stated "	15	15	14				
Total	20	18	14				

CAUSES OF DEATH.

From *the* disease	3 cases	=	16.66	deaths per 100
" other causes	5 "	=	27.77	" "
" operation	5 "	=	27.77	" "
Cause not stated	5 "	=		
Total	18			

In 7 cases average period death, 125 days.

USEFULNESS OF MEMBERS.

"Perfect" in cases	1	=	7.61 per 100
Useful	11	=	84.61 "
Worthless	1	=	7.61 "
Not stated	7		
Total	20		

Based on 13 cases result stated.

In this class nothing is stated as to shortening or the number of days in which patients were recovering, or as to the nature of the cause of the disease. As this class does not conform to that of "complete" or "partial excisions," no conclusions will be drawn from it in detail, but the results will be included in the synoptic table of this joint.

EXCISIONS OF THE HIP FOR INJURY.

In this class of excisions we have embraced but two cases, Nos. 193 and 266; both were males, one 25, the other 15 years of age; both were partial excisions; both died, one in nine and the other in three days; the first of the disease the last from the operation.

It is not proposed to draw conclusions from these cases, the number being too limited. Other writers have classified some of the cases we have reported, as made for disease, as performed for injury. But on a close inspection, the cases thus classified by others have more resemblance to examples of disease than of injury. Often, too, we have placed what might be regarded as an excision for injury under the denomination as done for disease, because the operators themselves have reported the cases as excisions for disease. We are also impressed with the view that where excision becomes necessary at this joint, the barriers of dissimilarity have been broken down by the effects of inflammation, so that we do not find that difference between excisions for disease and for injury, that would be discovered, were we called upon to operate early after an injury. For these reasons this class embraces so few cases.

EXCISIONS OF THE HIP FOR DEFORMITY.

We have included but three cases of this description in this class. The first was the well-known case of Anthony White, of London, performed in April, 1822. This is the first excision formally performed upon this joint. The case has been often classed as an operation for disease, but a reference to the case will show that the disease had run its course, and although there was some pain on motion of the limb, the excision was for deformity.

The second case was clearly for deformity, as was the third. We have included so few cases in this class, from the fact that most generally where there is deformity in cases requiring this excision, the disease which produced it was still in progress, and, hence, although *deformity* may have been more or less present in such cases, it formed but one feature, and that subordinate to the unarrested disease. Besides, the character of the operation has led me to place many cases classed as made for "deformity" under the head of "performed for disease;" the operation which has generally been executed for deformity resembling that done for disease in nearly every instance appearing in our tables. Maisonneuve's case resembles much Barton's operation of division of the femur, but we believe that in the efforts with the gouge and chisel some portions of the upper part of the femur must have been removed.

All the patients in this class recovered, but the examples are too few in number to draw conclusions from.

EXTRACTION OF BONE FROM HIP-JOINT.

This class really does not belong to that of excision. It is, however, added in the synoptic table of this joint, but is not included as a part of the general table of excision of this articulation. These extractions are cited because writers have regarded them as true excisions, and further as they form the history of cases closely allied to excisions. These examples are twenty-four in number: The first was performed by John D. Schlichting, of Germany, in 1730, and consisted in the removal of the separated head of the femur. Vogel, Kirtland, Hoffman, and others followed in similar operations. The case of J. F. Miner, M.D., of Buffalo, New York, is important. A Mr. Cash suffered a fracture of the neck of the femur; the head and neck of the bone were dislocated forwards, and were removed from behind the femoral artery high up in Scarpa's space by a single incision. Mr. Cash was seventy-six years of age, and is the oldest patient presented in this table. Dr. Miner cites this case as indicating a future line of practice in cases of injury where the head is dislocated and separated from its joint-attachments, and the head or neck of the femur fractured—of removing the fractured portion *at once*, and thus freeing the patient from the dangers arising from the presence of such a foreign body in or about the hip-joint. For the particulars of this class we refer to the synoptic table.

Synoptic Table of Hip-Joint.

Excision performed for	Male.	Female.	Sex not stated.	Age 1 to 5.	Age 5 to 10.	Age 10 to 15.	Age 15 to 20.	Age 20 to 25.	Age 25 to 30.	Age 30 to 40.	Age 40 to 50.	Age 50 to 60.	Age 60 to 70.	Age 70 to 80.	Age not stated.	Recovered.	Died.	Not stated as to recovery.	Deaths per 100.	Remarks.
Gunshot wounds...	121	...	..	..	...	1	9	23	13	12	2	..	..	..	61	13	106	2	89.07	
For disease—																				
Partial.....	160	60	21	21	74	47	29	18	7	9	3	2	1	..	30	124	97	20	43.84	45.07 for the class.
Complete.....	111	54	12	26	79	31	19	1	9	5	3	1	..	..	3	90	77	10	46.10	
Extent not stated	26	8	18	4	9	7	4	3	1	2	..	..	..	..	22	20	18	14	47.36	
For injury	2	...	..	..	...	..	1	..	1	..	..	..	..	..	...	...	2	..	100	
For deformity.....	2	1	..	1	...	.	2	..	..	..	..	..	..	..	...	3	...	..	None	
Total	422	123	51	52	162	86	64	45	31	28	8	3	1	..	116	250	300	46	54.54	Based on recoveries and deaths.
Grand total....	596			596												596				
Extraction from hip	9	2	13	1	2	4	..	..	..	..	..	..	..	1	16	18	6	..	25	
Total	24			24												24				

For the entire table (not including extractions) in 260 cases the average number of days in which death took place is $87\frac{95}{260}$.

For the entire table (exclusive of extractions) in 172 cases, the average period of recovery was $210\frac{155}{172}$ days.

ANATOMY.

Plates I. and II. will serve to illustrate the anatomy, and Plate III. the operation of excision of the hip-joint.

OF THE OPERATION OF EXCISION OF THE HIP-JOINT.

The patient having been placed upon the sound side and anæsthetized, an incision is made two inches above the apex of the great trochanter and in the line of the fibres of the gluteus maximus; running obliquely downwards and reaching the apex of the trochanter major, it is continued parallel to the longitudinal axis of the femur and a little in front of the posterior border of that bone. The extent of this cut will vary in length from three to five inches. At Plate III. Fig. 2, is represented the line of incision of O. Heyfelder. That which we have described differs but little from this. The first cut should divide the skin, and the second the fascia lata. The fibres of the gluteus maximus should be separated at the superior part of the incision, and below this that muscle should be divided near its tendinous insertion to the extent of the external incision. (See Plate III. Fig. 1.) Then, keeping the knife close to the femur, the gluteus medius and minimus, the obturator internus and gemelli, the obturator externus and pyriformis are divided at their insertions. If the capsular ligament is intact, it is divided, the soft parts are held aside by the assistants, the chain saw is passed about the neck of the femur, the operator previously sweeping his finger around the cervix, that important vessels or nerves may not be divided by the saw.

The bone divided, the upper end of the femur is turned forward, the cervix seized with strong forceps, and the remaining attachments of the head separated with the knife.

If it is found that the head of the femur is dislocated, then, when separated by the division of the tendons above mentioned, *it* is turned out through the external wound and the neck divided with the saw. The divided extremity of the femur is then carefully inspected, and if diseased, a further portion is excised, or, if this is not deemed necessary, the diseased joints should be gouged out until sound bone is reached. Attention then should be directed to the cotyloid cavity; if this is diseased, the bone should be gouged or scraped to the extent needed, it being remembered that

EXPLANATION OF PLATE I.

GLUTEAL REGION.

A. Section of the skin bounding the region.

B. Section of the subcutaneous fatty cellular tissue.

C. Section of the superficial aponeurosis of the glutæus maximus.

D. Muscular fibres of the glutæus maximus divided to show the deep organs of the region beneath.

D′. Aponeurosis or fibrous membrane of insertion of the muscular fibres of the glutæus maximus.

D″. Aponeurosis or membrane of insertion of the anterior fibres of the glutæus maximus.

E. Glutæus medius with its aponeurotic covering.

E′. Deep fibres of the glutæus maximus covering the fibres of the glutæus medius.

F. Tendon of insertion of the glutæus minimus.

G. Quadratus femoris muscle.

H. Pyriformis muscle.

I. Great trochanter.

J. Osseous margin of the great sacro-sciatic notch.

K. Great sacro-sciatic ligament.

L. Crest of the ilium.

1. Gluteal artery and its ramifications.

2. Ischiatic artery and its ramifications.

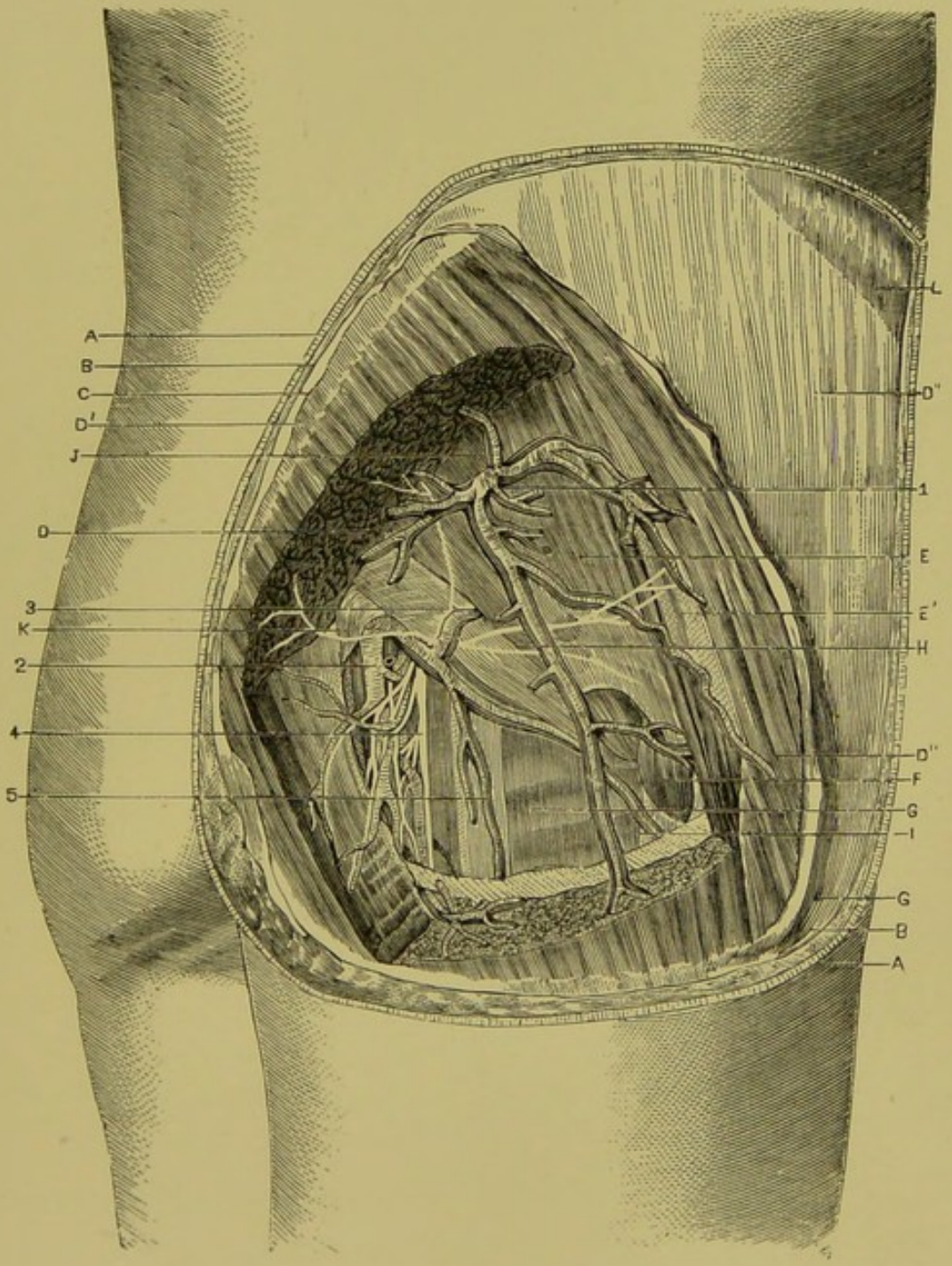
3. Vessels and nerves of the glutæus maximus.

4. Small sciatic nerve.

5. Great sciatic nerve.

PLATE I.

From Béraud, Anat. Chirurg.



EXPLANATION OF PLATE II.

INGUINAL AND GLUTEAL REGIONS.

Transverse section of the two regions.

A. Section of the skin bounding the region.
B. Section of the subcutaneous fatty tissue.
C. Section of the superficial aponeurosis or envelope.
D. Section of the glutæus maximus muscle.
E. Section of the glutæus medius muscle.
F. Section of the glutæus minimus muscle.
G. Section of the sartorius muscle.
H. Section of the gracilis muscle.
I. Section of the adductor brevis femoris muscle.
J. Section of the semi-tendinosus muscle.
K. Section of the adductor longus femoris muscle.
L. Section of the psoas and iliacus muscles.
M. Section of the tendon of the rectus femoris muscle.
N. Section of the pyramidalis muscle.
O. Section of the gemellus superior and inferior muscles.
O′. Section of the tendon of the obturator internus muscle.
P. Section of the long portion of the biceps muscle.
Q. Section of the semi-membranosus muscle.
R. Section of the obturator externus muscle.
S. Section of the adductor magnus muscle.
T. Section of the quadratus femoris muscle.
U. Cotyloid cavity.
V. Base of cotyloid cavity with its adipose tissue.
X. Section of the capsule of the hip-joint.
Z. Margin of the cotyloid cavity.
1. Section of the femoral artery.
2. Section of the profunda femoris artery.
3. Section of the sciatic artery.
4. Section of the arteries and veins which go to the glutæus maximus muscle.
5. Section of the vessels which are distributed to the adductor muscles.
6. Section of the arteries, veins, and nerves of the glutæus maximus muscle.
7. Section of the vessels and nerves which are distributed to the upper part of the glutæus maximus muscle.
8. Vessels and nerves distributed to the glutæus medius and minimus muscles.
9. Section of the femoral vein.
10. Section of the internal saphena vein.
11. Section of the crural nerve.
12. Section of the sciatic nerve.
13. Section of the small sciatic nerve.

PLATE II.

From Béraud, Anat. Chirurg.

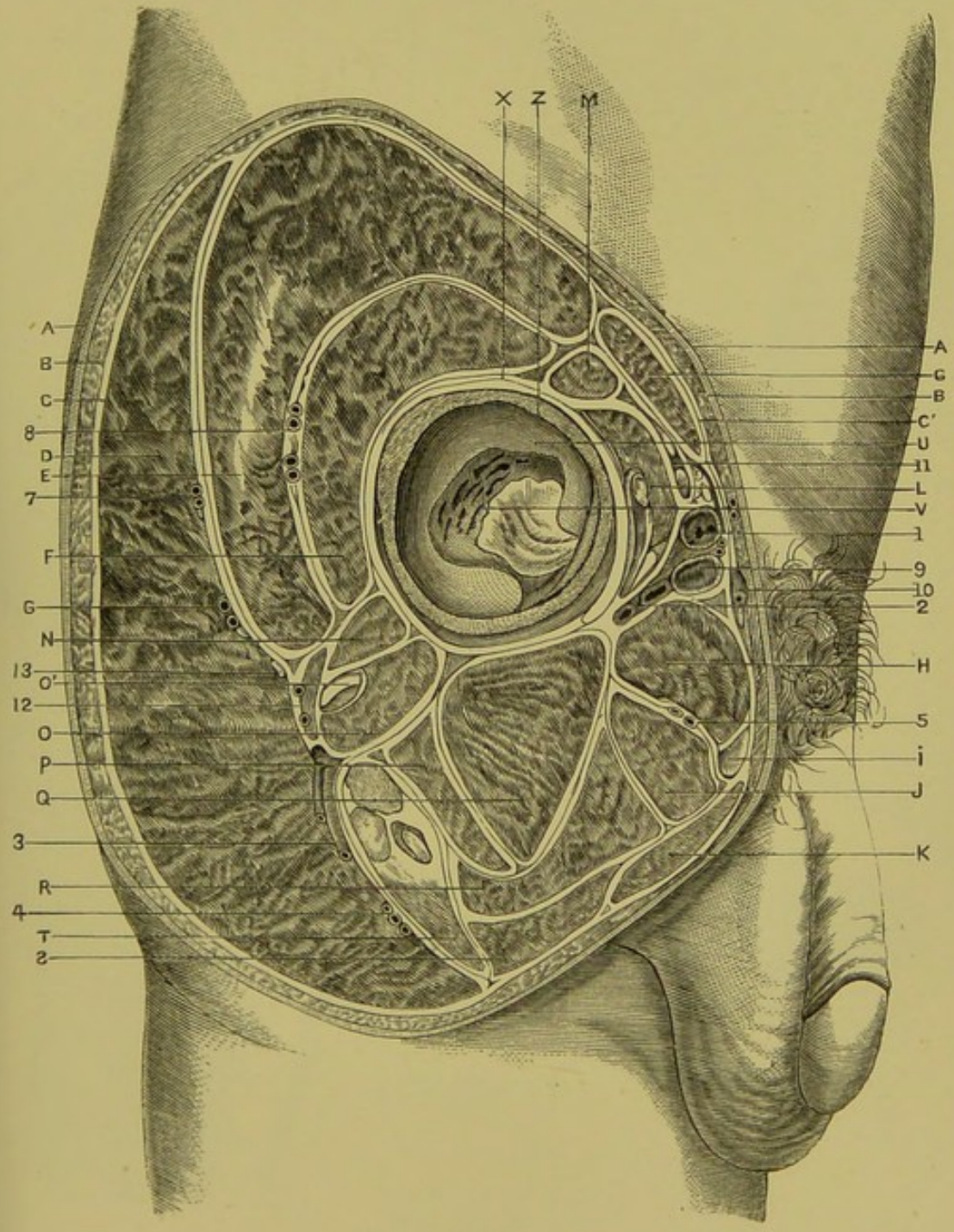


PLATE III.

FIG. 1.

EPRESENTS THE GLUTEAL REGION.

(*From Gray's Anat.*)

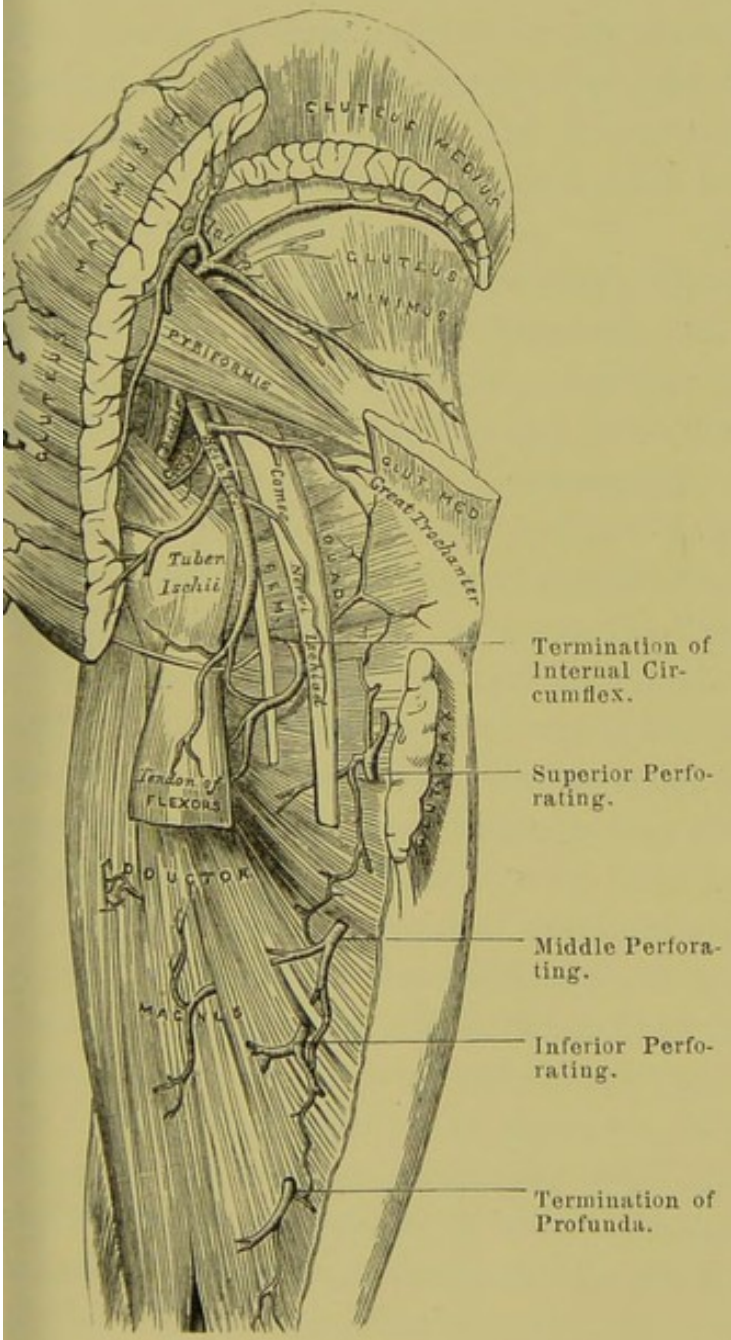
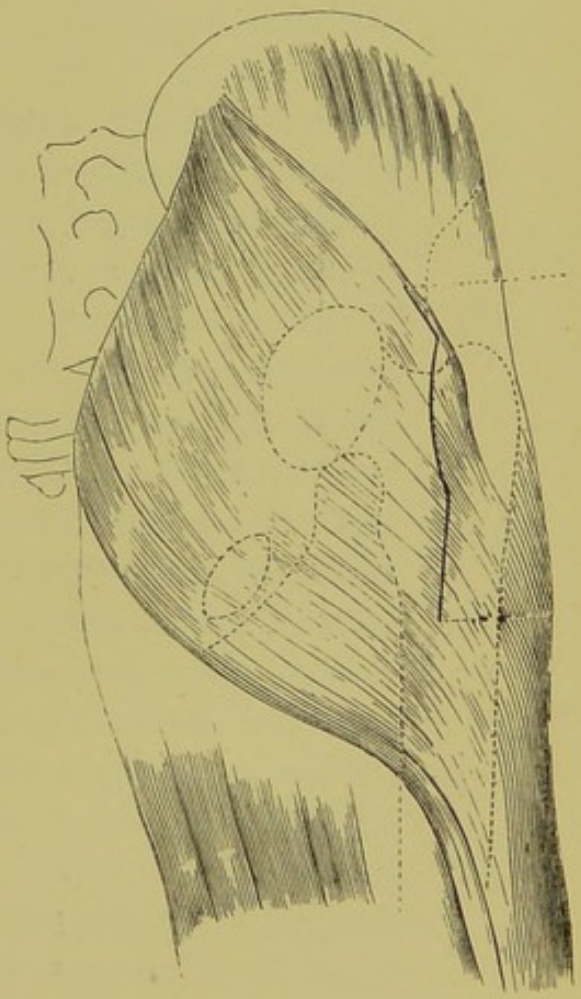


FIG. 2.

REPRESENTS O. HEYFELDER'S INCISION.

(*From Heyfelder, Trait. des Rés.*)



superficial affections of this cavity often heal without interference on the part of the operator. This done, the condition of the bone of the ossa innominata should be inspected and all diseased points removed. In resecting the femur, the periosteum should be preserved as far as possible, and this is especially important when it is necessary to excise the trochanter major. If there are deposits of bone about the articulation, these should be so far removed that they will not interfere with the development of the new joint in the future. Several authorities recommend in separating the periosteum to leave the insertions of the muscles attached to this membrane, as this favors the future usefulness of the member. The external incision will often need to be prolonged when the shaft is extensively diseased.

In the execution of this operation, Chassaignac advises a curved incision with its concavity forwards, and embracing the posterior part of the trochanter major. Sédillot recommends a semilunar incision having its convexity and surrounding the trochanter above, while Prof. Gross prefers the semilunar flap with the concavity below. Velpeau made his incision from the anterior superior spinous process of the ilium to the tuberosity of the ischium, which formed a large flap with its convexity downwards. Textor made an oval incision extending two inches above the trochanter major and as low on either side of the femur as a level with the lesser trochanter. Jaeger preferred a flap made by a longitudinal incision beginning two and a half inches above the trochanter and another descending downward and backwards from the upper extremity of the first cut. Fergusson employs a short superior curved incision arching over the trochanter, from the middle of which descends a longitudinal cut in the axis of the femur. Erichsen and Henry Smith make a short straight cut over the trochanter and the longitudinal incision in the axis of the femur. Prof. Sayre employs an incision beginning half way between the anterior superior spinous process of the ilium and the trochanter major, which is carried downwards and passes a little back of the middle of the trochanter, and terminates with a curve forwards at a point corresponding to the base and anterior margin of the trochanter major. White and Langenbeck preferred the longitudinal incision; Roser, Maisonneuve, and Esmarch a single transverse incision. J. F. Heyfelder and Gant prefer the T incision; Jones a flap with a base downwards, and Roux and Percy a square flap with the base upwards.

TREATMENT.—The upper portion of the incision may be closed with sutures. The early after-treatment as advised by various authorities consists in slight extension and retentive apparatus, thorough drainage, and carbolic acid dressings. At the close of the operation we would fill the wound with a long strip of lint which has been saturated with a dilute solution of carbolic acid. The wound should be frequently washed out with the same solution. As soon as the lint is loosened it should be removed and a drainage tube introduced. The extension should be by means of adhesive straps, and should only be sufficient to remove undue pressure of the upper end of the femur against the region of the acetabulum. The counter-extension may be secured by elevating the foot of the bed, or by means of appliances upon the sound thigh, such as Fergusson's plan; or by Hagedorn's splint, as modified by Gibson; or by the wire-breeches, or the splint of Davis, as modified by Prof. Sayre; or simple sand-bags may suffice to maintain the member in a comfortable position. The most scrupulous cleanliness of the wound and the person of the patient should be maintained, and the room thoroughly disinfected. Local inflammation of the joint may be modified by ice in bladders, or by irrigation either with cold or hot water, aided by other general and local remedial measures.

After the inflammatory period has been passed, and the tenderness of the joint is relieved, authorities advise that an extending splint be applied, and the patient be allowed to go about on crutches. Passive motion should be early resorted to, and several surgeons advise the employment of electricity, to give tone and strength, and improve the nutrition of the limb as well as that of the general system. Later, the apparatus of Prof. Sayre will enable the patient to go about, and secure the advantages of motion to the joint forming, without the injurious pressure upon the delicate and newly organized structures in the region of this articulation.

We do not propose a detailed description of the treatment, but refer those interested, to standard works for the details, and also to the "remarks" under the head of treatment for excision of this joint.

The following works have been consulted as to the operation and treatment of excision of this joint.

Authorities.—Béraud, Bernard and Huette, Bellamy, Gray's Anatomy, Smith's Hand-Book, Chelius by South, Gross' Surgery, Erichsen's Surgery, Gant's Surgery, Velpeau's Operative Surgery,

Hamilton's Surgery, Transactions American Medical Association, 1860, Heyfelder's Trait. des Rès., Ashhurst's Surgery, Smith's Minor Surgery, Fergusson's Surgery, Nouv. Dict. de Méd. et de Chirurg. Pratique, Boston City Hospital Reports, Holmes' Surgical Treatment of Children's Diseases, Bryant's Surgery, Holmes' System of Surgery, and other authorities and medical journals.

TABULAR STATEMENT

OF

EXCISION OF HIP-JOINT

FOR

GUNSHOT WOUNDS.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P.* S. or Int.	Performed for
1	Gaz. Médicale, 1835; Am. Jour. Med. Sci. N. S. ix. 487; Cir. No. 2, Surg. Gen. off. 1869, p. 10; Hodge's Exc. p. 93; Heyfeld. ta. 4.	Oppenheim, S., Hamburg, Germany.	Near battlefield of Eski-arnautlar, Russian-Turkish war, 1829.	"A Russian Chasseur." Nothing as to physical state.	M. ?	May 5, 1829.	May 5, 1829.	P.	Comminuted fracture of head, neck, and trochanter major, with fracture of the upper rim of the acetabulum (carried away) from musket ball; large nerves and vessels intact. Ball imbedded in trochanter major, left side.
2	Gaz. Méd. 1835; Am. Jour. Med. Sci. N.S. ix. 487; Cir. No. 2, Surg. Gen. Off. 1869, p. 11; Heyfeld. ta. 5; Macleod's Notes, p. 309.	Seutin, Baron, Chief Belgian Surgeons, Belgium.	Siege of Antwerp.	Pr. Lisieux, 25th Infantry.	M. ?	Dec. 1832. 36 hours before operat'n.	Dec. 1832.	P.	Comminuted fracture of head, neck, trochanters, and portion shaft femur by ball from wall gun; laceration soft parts.
3	Cir. No. 2, 1869, Surg. Gen. Off. p. 11, Heyfeld. ta. 18.	Textor, K., Würzburg, Germany.	?	?	M. 40	2 y'rs before.	1847.	S.	Caries from gunshot wound involving hip-joint.
4	Esmarch, Res. Gunshot Injuries, p. 103, Heyfeld. ta. 79.	Schwartz, Harald, Denmark.	Schleswig-Holstein War, Kolding, Denmark.	Danish Private O., Denmark.	M. ?	April 23, 1849.	May 13, 1849.	Int.	Comminuted fracture of great trochanter, and fracture obliquely through the trochanters. Fissure along neck extending into joint; profuse suppuration. Ischium fractured (from a bullet).
5	Esmarch, Res. etc. p. 104; Cir. 2, 1869, Surg. Gen. Off. p. 13.	Ross.	Received Fredericia, Holstein, Denmark, and done at Altona, Denmark.	"A sharpshooter;" much exhausted; had fatty degeneration kidneys, liver, and calculi bladder and kidney.	M. 23	May 8, 1848.	June 10, 1850.	S.	Fistulæ, abscesses, dislocation, caries head, neck femur, the result of fracture from a wound by bullet; osteophytes about acetabulum; great trochanter eburnated. Ball extracted early in case.
6	Cir. 2, 1869, Surg. Gen. Off. p. 13; Heyfeld. ta. 35.	Baum, Prof. Goettingen, Germany.	On parade ground, Nordheim Germany.	"A line officer," Nordham, Ger. "General state, before operation, much depressed."	M. 30	7 h'rs before operat'n.	1854.	P.	Perforation of the great trochanter, with comminution of the neck of the femur and fissuring of the trochanter, and injury of the joint from a bullet wound.
7	Macleod's Notes p. 304; Cir. 2, 1869, Surg. Gen. Off. p. 15; Heyfelder's ta. 38; Hodge's ta. p. 93.	Blenkins, George E., Surg. Grenadier Guards, 9 Warwick Square, S. W. London.	Before Sevastopol, Crimea,	Monsterey, Charles, Pr. 3d Battalion Grenadier Guards.	M. 24	½ hour before operat'n.	June 1855.	P.	Comminuted and extensive fracture of the neck and trochanters (14 pieces), muscles and capsule joint extensively lacerated from shell (fragment) right side.
8	Macleod's Notes p. 302; Heyfeld. ta. 37; Cir. 2, 1869, Surg. Gen. Off. p. 14.	Macleod, G. H: B., St. Vincent St. Glasgow, Scotland.	Sevastopol, Crimea.	Pr. Couch, a rifleman of "Rifle Brigade;" "crude tubercles in both lungs; old ulcerations in intestines; great pain of hip and elbow; hectic, delicate looking."	M. 23	June 18, 1855.	July 6, 1855.	Int.	Comminuted fracture of trochanter and neck (split) with necrosis of same. Ragged wound; free suppuration; no shortening limb. Fissure bone running into capsule, from bullet wound; ball not in wound at date of operation (left side).

* P., primary; S., secondary; Int., intermediate.

of Hip-joint for Gunshot Wounds.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	Orifice of inlet enlarged freely.	Fragment of acetabulum and splinters shaft just above lesser trochanter. The trochanter major, neck, and shattered head.	Died 18th day, with active fever from plague.	.....	The swelling of limb had diminished, and wound was doing well at the 17th day, when after hearing that a case of plague had appeared in the ward, the swelling of his limb increased, the fever became intense, and discharge sanious, and he was delirious at night, and died next day.	.....	Hodges from Gaz. Méd. 1835, says: "Died from true typhus." Also Heyfelder same.
2	I	(Six inches) upper third femur, which was broken into 16 pieces.	Died 9th day, from gangrene limb from the injury.	.....	.....	.....	M. H. Baron Larry, in his report to the Société de Chirurgie, upon the Mémoire of M. Legouest, quotes that this patient died the fourth day. See Mémoires de la Société de Chirurgie de Paris, t. v. p. 391.
3	?	Head and neck femur.	Died 10th day.				
4	Dilated opening of inlet vertically.	Many small fragments, and head, neck, and 2 inches below lesser trochanter.	Died, pyæmia, 7th day.	.....	.....	.....	[Left side.]
5	I	The diseased epiphysis.	Died 3d day, from exhaustion from hemorrhage.	.....	.....	.....	[Left side.]
6	H	"The upper and lower fragments, head, neck, and to below trochanter major."	Died, 22 hours, from shock, operation, and injury.	.....	.....	.....	Was much depressed after operation, and died without any signs of reaction.
7	I	All above to "shaft at junction upper 5th with rest of the femur;" fragments head removed.	Died 5th week, of exhaustion and empyema knee.				
8	+	Fragments of and detached trochanter and head and neck.	Died 7th day, cholera.	.....	"Was improving generally; wound suppurating, when taken with cholera."	.....	This patient also had a fracture of left ulna from same ball.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
9	Guthrie's Com. p. 565; Heyfeld. ta. 39; Macleod, p. 305.	Crerar, J., Surgeon 68th Regiment.	Hospital in front of Sevastopol.	Smith, Wm., Pr. 1st Batt. 1st Royals. "Badly fed and nourished."	M. 26	Aug. 6, 1855.	Aug. 6, 1855.	P.	Comminuted fracture trochanter extending obliquely 1½ inch into shaft from portion of shell (left side).
10	Guthrie's Com. p. 564; Cir. 2, 1869, Surg. Gen. Off. p. 15; Macleod, p. 306; Traité de Chir. d'Armée, par L. Legoust, p. 753.	O'Leary, Thomas C., Surgeon 68th British Light Infantry.	Regimental Hosp. 68 Light Infantry, Sevastopol, Crimea.	McEvenna, Thomas, Pr. 68th Light Infantry.	M. 25	Aug. 19, 1855.	Aug. 20, 1855.	P.	An oblique fracture betw'n the trochanters extending nearly to the head, from fragment of shell, which struck trochanter (left side).
11	Guthrie's Com. p. 570; Cir. 2, 1869, Surg. Gen. Off. p. 16; Hayfeld. ta. 40.	Hyde, Geo., Staff Surg., England.	Hospital Royal Sappers and Miners, Sevastopol, Crimea.	Shehan, Benj. Corpl. 41st Regiment, English.	M. 27	Sept. 8, 1855.	Sept. 9, 1855.	P.	Comminuted fracture neck, fracture femur, lower portion protruded through the orifice of entrance, from a grape shot.
12	Macleod, p. 306; Heyfeld. ta. 41.	Combe, Dr., Royal Art'y. England.	Sevastopol, Crimea.	?	M. 25	?	1855.	Int.	Gunshot wound neck of femur, the head bone not implicated.
13	Letters, 1872, from operator.	Sterling, E., Cleveland, Ohio.	At patient's home, Cleveland, Ohio.	Tilliston, G. W., Pr. Co. B, Ohio Vol. Artillery. (Address of widow, 18 River St., care J. McKenney, Cleveland, O.) "Much prostrated."	M. 38	About July 20, 1861.	Aug. 20, 1861.	Int.	Gunshot wound upper extremity femur.
14	Cir. No. 2, 1869, Surg. Gen. Off. p. 20.	Blackman, G. C., Cincinnati, Ohio.	St. John's Hospital, Cincinnati, O.	McCulloch, J. "a private." "Greatly depressed from loss blood."	M. 35	Aug. 30, 1861.	Aug. 30, 1861.	P.	Comminuted fracture of upper part femur with extensive laceration of soft parts from musket ball, accidental, received at Camp Dennison, Ohio.
15	Cir. No. 2, 1869, Surg. Gen. Off. p. 20.	Gouley, J. W. S., 56 W. 38th St. New York.	E Street Infirmary Washington, D. C.	Greely, Thos. Pr. C, 5th Excelsior (74th N. Y. Vols.). "Not much depressed; was healthy."	M. 20	Oct. 5, 1861.	Oct. 6, 1861.	P.	Comminuted fracture of neck femur from wound musket ball, accidental (left side).
16	Cir. No. 2, 1869, p. 34; Letter, A. G. O. Wisconsin, 1873.	Thurston, A. H., Surgeon U. S. V.	College Hospital, Nashville Tenn.	Probably Smith, H. F., Corpl. B, 1st Wis. Vols. "Much prostrated by shock from the injury and of the operation."	M. ab't 39	Prob. Mar. 8, 1862.	Prob. Mar. 10, 1862.	Int.	Comminuted fracture neck and trochanters from conoidal musket ball, received on picket skirmish near Nashville, Tenn.
17	Cir. No. 2, 1869, p. 34.	Blackman, Geo. C., Surg. U. S. V., Cincinnati, Ohio.	Hospital Steamer "Lancaster."	Noe, D. M., Pr. C, 46 O. Vols.	M. 22	April 6, 1862.	April 16, 1862.	Int.	Comminuted fracture neck femur from conoidal musket ball, received at Shiloh.
18	Cir. No. 2, 1869, p. 35; Cir. 6, 1865, S. G. O. p. 63.	Billings, J. S., Asst. Surgeon U. S. A., Washington, D. C.	Cliffburne Hospital, Washington, D. C.	Christopher, T. C. D., 18th South Carolina Reg't. "A robust muscular man; was very despondent; pulse weak and 100."	M. 21	May 5, 1862.	May 20, 1862.	Int.	Comminuted fracture of the neck, transverse in direction, with caries. Shortening and eversion of limb, from conoidal musket ball, received at Williamsburg, Va. (left side).

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
9	⊢	The detached trochanter, head and neck, and 1½ inch shaft femur.	Died 15th day, exhaustion.	.....	"Nature had not made the slightest effort at repair after the operation."		
10	I	Head, neck, and trochanters to ½ inch below lesser trochanter (5 inches).	Recovered, 8 months.	2½	"Can't bend knee; able to bear some weight on limb; can swing and advance it; rotation limited and with pain. Wound soundly healed."	About 8	
11	I	Head and neck of femur, trochanter, and 1 inch shaft and fragments.	Died 5th day; cause not stated.				
12	?	Not stated.	Died 14th day, exhaustion from suppuration.				
13	I	Femur divided at the lesser trochanter.	Recovered.	.....	Walks well with a cane; has one-third flexion joint; mounts a pair of stairs with ease."	120	This man died Sept. 6th, 1871, of typhoid fever.
14	I	Head, neck, and trochanters.	Died 4 hours after operation, from shock and exhaustion.				
15	I	Head, fragments neck, and through trochanter major (base of).	Died 6th day, pyæmia.				
16	I	Head and splintered upper end femur.	Died, exhaustion, "one week after operation—gradually sank."	.....	.....	.....	Surgical fever and suppuration set in; previously did well for several days. Patient was 39 years of age when he enlisted.
17	I	Head, neck, trochanters, and 3 in. shaft femur.	Died, pyæmia, 8th day.				
18	)	Head and fragments of the inner extremity of neck.	Died 4th day, of exhaustion.	.....	.....	.....	Bullet removed from among muscles. Autopsy revealed a clot of blood between peritoneum and iliacus internus.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
19	Cir. No. 2, 1869, p. 49.	Bartholow, Roberts, late Asst. Surgeon U. S. Army, Cincinnati, O.	National Hospital, Baltimore, Md.	Nelling, J.W. Pr. K, 1st Mass. Vols. "Anæmic and feeble, very depressed condition." Had been a prisoner three weeks at Richmond.	M. 25	June 30, 1862.	Aug. 21, 1862.	S.	Comminuted fracture neck femur from musket ball, received at White Oak Swamp. Copious suppuration, large openings, entrance and exit; head separated from neck and in acetabulum (right side).
20	Cir. No. 2, 1869, p. 21.	Pineo, Peter, Surgeon U. S. V.	Probably at Division Hospital.	Private, Gen. Rufus King's Division 1st Army Corps. "Shock very grave; prognosis very unfavorable."	M. ?	Aug. 28, 1862.	Aug. 28, 1862.	P.	Comminuted fracture of the neck and trochanters, extending into the shaft two inches below lesser trochanter, with lodgment of the missile in the pelvis, and fracture (penetrating) of the os innominatum from conoidal musket ball (left side), intra-pelvic bleeding.
21	Cir. No. 2, 1869, p. 22.	McNulty, J., Surgeon U. S. V.	Hospital Gen. King's Division.	A private in 1st Army Corps. "Great prostration from shock."	M. ?	Aug. 30, 1862.	Aug. 30, 1862.	P.	Comminuted fracture at junction neck and head left femur, with perforation of acetabulum, from conoidal musket ball, received at Bull Run. Ball penetrated pelvic cavity.
22	Cir. No. 2, 1869, p. 36.	Billings, J. S. Asst. Surg. U. S. Army, Washington, D. C.	Cliffburne Hospital, Washington, D. C.	A private of Gen. Pope's Army of Va. "Prostrated by diarrhœa and malarial complications."	M. ?	Aug. 29, 1862.	Sept. 4, 1862.	Int.	Comminuted fracture of the neck and trochanter major left femur, from conoidal musket ball, rec'd at Bull Run. Wound discharging healthy pus.
23	Cir. No. 2, 1869, p. 22.	McNulty, J., Surgeon U. S. V.	Near Antietam.	A Frenchman of the 1st Army Corps. "Suffering greatly."	M. ?	Sept. 17, 1862.	Sept. 17, 1862.	P.	Comminution of upper end left femur, the lesions extending into the pelvis, from a portion of shell, received at Antietam.
24	Cir. No. 2, 1869, p. 22.	Storrs, Malancthon, Surgeon 8th Connecticut Vols.	Field Hospital, 3d Div. 9th Army Corps.	Barber, F. M., Capt. Co. H, 16th Conn. Vols. "General health good, and there was but little shock."	M. 32	Sept. 17, 1862.	Sept. 18, 1862.	P.	Comminuted fracture of trochanters and neck right femur, from musket ball, received at Antietam.
25	Cir. No. 2, 1869, p. 37.	Storrs, Malancthon, Surgeon 8th Connecticut Vols.	Warehouse Hospital, Georgetown, D. C.	Machlin, F., Pr. 11th Pa. Vols. "A robust man; general condition most unfavorable for operation."	M. ?	Aug. 30, 1862.	Sept. 20, 1862.	Int.	Comminuted fracture neck right femur, from musket ball, received at second Bull Run.
26	Cir. No. 2, 1869, p. 36.	Clements, B. A., Asst. Surgeon U. S. Army.	College Hospital, Georgetown, D. C.	Marston, Chas. E., Pr. Co. F, 1st Mass. "Pale and delicate boy; general condition bad."	M. 19	Aug. 30, 1862.	Sept. 27, 1862.	Int.	Comminuted fracture neck (40 pieces) and head right femur, from conoidal bullet, received at second Bull Run. Limb largely swollen; fracture of the ischium, lower half acetabulum broken in several fragments.
27	Cir. No. 2, 1869, p. 37.	Bill, J. H., Asst. Surgeon U. S. Army.	Hospital No. 3, at Frederick Md.	Callaghan, Cornelius, Pr. G, 2d Delaware Vols. "General state comparatively favorable."	M. ?	Sept. 17, 1862.	Sept. 29, 1862.	Int.	Comminuted fracture of left trochanter, with fissures of the neck extending within capsular ligament; great trochanter entirely detached and drawn back by gluteus; from fragment shell, received at Antietam.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
19	I	Fragments of neck, jagged end neck smoothed, and head	Died 4th day, hemorrhage.	.....	.....	.....	The bleeding seems to have been from the femoral vein near the track of the wound, and was the result of a broken-down state of its structure.
20	I	Femur to two inches below lesser trochanter.	Died (probably) in a few hours, from shock and hemorrhage	.....	.....	.....	"Troops moved, and patient fell into hands of the enemy."
21	I	"Fragments of shattered neck, head, and femur at junction of shaft and neck."	Died 18 hours after operation, of shock from injury and operation.				
22	I	Head and fragments and shaft at level of trochanter minor.	Died 20th day, of exhaustion from diarrhœa.				
23	I	Head and neck of femur.	Died, 10 hours, from shock, probably of injury and operation.	.....	.....	.....	Operation relieved the pain.
24	I	Fragments of neck and trochanters, head, and fractured upper end of shaft femur.	Died on 2d day after operation, from constitutional irritation of surgical fever.				
25	I	Fragments of neck, irregular broken end shaft at its junction with the neck, and tip of trochanter and head.	Died in 36 hours, from shock of operation and exhaustion.				
26	)	Fragments neck and head, roughened neck at base of trochanter (and bullet).	Died 3d day ("gradually sank") from exhaustion and operation.				
27	\	All above just below the trochanter minor.	Died 5th day, from pyæmia.	.....	.....	.....	After operat'n had diarrhœa, vomiting, hiccough, profuse sweats, and thigh was swollen and painful. The day after operation, quite comfortable. October 1st, still cheerful.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
28	Cir. No. 2, 1869, p. 23.	McGuire, Hunter, Richmond, Va.	Field Infirmary near Fredericksburg, Va.	A Confederate private soldier. "Prostrated from shock of injury."	M. ?	Dec. 13, 1862.	Dec. 13, 1862.	P.	Fracture of neck and trochanter right femur, with great laceration of soft parts, from portion shell, received at Fredericksburg, Va.
29	Cir. No. 2, 1869, p. 23.	Carey, Milton T., Surgeon 48th Ohio Vols.	Hospital Steamer D. A. January.	Coon, John, Pr. C, 60 Ind. Vols. "Prostrated from loss of blood and exposure to inclement weather."	M. 20	Jan. 11, 1863.	Jan. 11, 1863.	P.	Comminuted fracture of the neck and upper part shaft of bone, from a conoidal musket ball, received at Arkansas Post (right side)
30	Letter J. L. Weaver, 1872; Letters from Edward Sinnet, Surgeon 94th Ohio Vols. Nov. 24, 28, and Dec. 8, 1873; Cir. 2, 1869, S. G. O. p. 38.	Sinnet, Ed., Surgeon 94th Ohio Vols. and in charge Hospital, now Granville, Ohio.	General Hospital, 21, Nashville Tenn.	Probably Hade, Dallas W., Sergt. H, 101 O. Vols. "Was a fine healthy man, cheerful and quite strong, considering it was ten days since wounded."	M. 30	about Dec. 31, 1862.	Jan. 21, 1863.	Int.	Shattered fracture of neck and trochanters of femur, from musket ball, which passed directly through the neck; abscesses; profuse suppuration; caries head; received at Stone River.
31	Cir. No. 2, 1869, S. G. O. p. 49.	Dubois, H. A., Asst. Surgeon U. S. A.	Hospital No. 5, Frederick Md.	Hunt, Ed., Pr. D, 71 Pa. Vols. "Became more emaciated; had night sweats, but strength good. Had recovered from recent attack of (slight) erysipelas."	M. 24	Sept. 17, 1862.	Feb. 23, 1863.	S.	Caries of the neck, trochanters, and right femur, and also of acetabulum, from gunshot wound neck femur by conoidal musket ball, received at Antietam. Abscess front and inner side thigh (open).
32	Cir. No. 2, 1869, loc. cit. p. 50; Letter from patient Nov. 24, 1873.	Smith, D. P., Surg. U.S.V., U. S.	Fairfax Seminary Hospital, near Alexandria, Va.	Brown, Jos., Pr. Co. I, 3d Mich. Vols. Coopersville, Michigan.	M. 38	Aug. 29, 1862.	Mar. 21, 1863.	S.	Disease of the neck and upper extremity of the shaft from fracture of the femur just below trochanter minor, from musket ball, received at Bull Run (left side); profuse suppuration, burrowing pus in thigh among muscles.
33	Cir. No. 2, 1869, p. 24.	James, Surgeon 16th S. Carolina Regiment.	Not stated.	A Confederate soldier of Kershaw's S. Carolina Brigade. "Prostrated from shock."	M. ?	May 3, 1863.	May 4, 1863.	P.	Comminuted fracture of neck femur; injury mainly limited to neck femur; by musket ball, received at battle Chancellorsville.
34	Cir. No. 2, 1869, p. 24.	Hewit, Henry S., Surgeon U. S. Vols.	Near Jackson, Miss. Afterwards removed to Hospital in Jackson, Miss.	Tolman, Jas. M., Sergt. H, 18th Wis. Vols. "Cachectic, and debilitated by malarial disorders."	M. 30	May 14, 1863,	May 15, 1863.	P.	Comminuted fracture of the head and neck left femur from conoidal musket ball which lodged in neck fissure extending 2 inches below lesser trochanter received Jackson, Miss.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
28	?	Head, neck, and trochanters, and shaft to just below trochanter minor.	Died of shock, injury, 2 or 3 days after operation.				
29	⌣	The head, neck, trochanters, and shaft below trochanter minor.	Died, 10 days, uncertain from what.	.....	.....	.....	Rallied from the operation in a few hours. Necessity compelled his removal after the operation.
30	T	Four inches, including the head and shattered neck and trochanters.	Died, 10 days, exhaustion.	.....	.....	.....	Patient brought by rail to Nashville, a distance of 30 miles, soon after wounded. J. L. Weaver, Surg. 7th Kansas Cavalry, assisted in this operation, and from his report it is evident that no previous operation was done in the case, which is also the statement of the operator. The latter also states that Dr. Weaver took the specimen, and that Dr. Hooton was not present at the operation.
31	Enlarged opening of abscess on inner side thigh.	Head and neck femur.	Died, 2 days, from shock operation.	.....	.....	.....	Rallied partially from operation. Recovered from effects of chloroform.
32	I	Head, neck, trochanters, and mass of callus adhering to the latter.	Recovered, 155 days.	3	Has walked with aid of cane for 2 years. Hip healed sound. Health robust.	127	
33	?	Not stated; probably head and shattered neck.	Died 2d day, from shock, injury, and operation.				
34	)	Splintered head and neck, and fissured upper end shaft to 2½ inches below lesser trochanter; great trochanter, also.	Died 4th day, exhaustion.	.....	.....	.....	Wound exhaled cadaveric odor from 3d day, when he began to sink. "Operation well borne."

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
35	Letter, 1872, and Dec. 1873, operator.	Cochran, M. B., Med. Director Gen. Herron's Div. Army of Vicksburg, Davenport, Iowa.	Field Hospital near Vicksburg, Miss.	Name forgotten. "Greatly prostrated from the shock of the wound, and loss of great quantity of blood."	M. 30	About Jan. 20, 1863.	Jan. 20, 1863.	P.	Shell wound 4 or 5 inches in extent on outer face of upper third left thigh; soft parts and portion femur shot away; above, the bone was splintered to the anatomical neck, through the trochanter; fragments not detached; from fragment shell, received at Vicksburg, Miss.
36	Cir. No. 2, 1869, p. 25.	McNulty, J., Surgeon U. S. V.	12th Corps Hospital.	Robeson, Thomas R., Capt. 2d Mass. Vols. "Suffered intensely; an athletic man; urgently asked for something to be done; discouraging."	M. 24	July 3, 1863.	July 3, 1863.	P.	Comminuted fracture of superior extremity of femur, from rifled musket ball, received at Gettysburg; pelvis penetrated (right side).
37	Cir. No. 2, 1869, S. G. O. p. 55. Letter, 1872.	Brock, J. W., Surgeon 66th Ohio Vols., Leavenworth Kansas.	(Near) Gettysburg, Pa.	Ewell, Thos.	M. 26	.....	July 3, 1863.	P.	Gunshot wound joint; ball entered near trochanter right side and passed out on inner side of thigh, fracturing and injuring the trochanter, neck and head of femur.
38	Cir. No. 2, 1869, S. G. O. p. 38.	Avery, Geo. W., Asst. Surgeon 9th Conn. Vols.	St. Louis Hospital, New Orleans, La.	Miller, John, Pr. E, 162d N. Y. Vols. "A robust man, in good health; constitutional condition as good as might be."	M. 38	June 14, 1863.	July 8, 1863.	Int.	Transverse and longitudinal fracture of neck left femur; from conoidal musket ball, received at Fort Hudson. Pelvis uninjured.
39	Cir. No. 2, 1869, S. G. O. p. 59.	Langenbeck, Von B., Berlin.	Not stated.	Kurcharsky, Sigismund Von. "Great exhaustion."	M. 18	Mar. 22, 1863.	July 1863.	S.	Fracture of the ilium; acetabulum perforated and denuded of cartilage, and fractured; ball lodged, free suppuration; rec'd at Olschowa, Poland (left side). Fracture also trochanter major.
40	Cir. No. 2, 1869, S. G. O. p. 51. Eve's ta. 2.	Read, James B., Surgeon P. A. C. S., Savannah, Ga.	Hosp. No. 4, Richmond, Va.	Toney, Alfred, Pr. A, 16th N. Carolina Regiment; "general condition very feeble, great pain knee and ankle."	M. 43	June 30, 1863.	Aug. 12, 1863.	S.	Slight fracture of head femur, its cartilage denuded; acetabulum broken across; its cartilage separated, and ball in cotyloid cavity; foot œdematous; from conoidal musket ball (left side).
41	Cir. No. 2, 1869, S. G. O. p. 39.	Gross, F. H., Surgeon U. S. V.	General Field Hospital 14th Army Corps.	Welsh, Michael, Pr. H, 10th Ky. Vols.; enfeebled from exposure, want of food and blankets, and from bronchitis.	M. 40	Sept. 20, 1863.	Oct. 1, 1863.	Int.	Fracture of neck of femur (left), from conoidal ball received at Chickamauga.
42	Cir. No. 2, 1869, S. G. O. p. 40. Eve's ta. No. 1.	Read, James B., P. A. C. S., Savannah, Ga.	Hosp. No. 4, Richmond, Va.	Jarret, Jas. M., Lt. C, 15th N. Carolina Conf. Regt. "Exhausted; hectic; night sweats; great pain; dry tongue."	M. 28	Oct. 14, 1863.	Nov. 9, 1863.	Int.	Fracture of the upper extremity of the left femur extending into, and with partial comminution of the trochanter, received at Bristow Station, Va., from conoidal musket ball.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
35	I	Including what was shot away, 6 inches upper end femur.	Died, 1 hour, of shock, injury, and operation.	.....	.....	.....	Reported to Off. Surg. Gen. in Hosp. Reports of Gen. Herron's Div., June, 1863.
36	I	Shattered upper extremity femur just below trochanters; the fragments, head, and neck.	Died in 14 hours, "unconscious" from shock, injury.	.....	.....	.....	Was unconscious after operation. Bleeding during operation, which could not be called profuse. Probably died, "shock," from operation, and chloroform.
37	⌣	Head, neck, and shaft close to trochanter major.	Not stated.	.....	Not stated.	.....	Dr. A. Bull, Surgeon 5th O. Vols., saw this operation casually.
38	I	Head, neck, and great trochanter.	Died 75th day, from exhaustion.	.....	Wound and patient did well until early in September. Hopes of recovery. Wound nearly healed. In September weather became oppressively hot, wound assumed a bad appearance, discharged freely, and patient sank.		
39	)	Fragments of ilium, head, and femur to below trochanter major.	Died 14th day, exhaustion.	.....	Profuse suppuration continued, and the patient sank.	.....	Ball removed.
40	I	Head femur (and ball).	Died 8th day, exhausted.	.....	.....	.....	Wound probably rec'd near Richmond, Va. "Died exhausted by hectic fever." Swelling subsided; no account of pyæmia.
41	(	Remains of neck close to inter-trochanteric lines and head of femur and fragments of neck.	Died, pyæmia, 24th day.	.....	.....	.....	Ball removed before from neck.
42	I	Head, neck, trochanters, and to two inches below sharp end femur, fragments.	Recovered, 10 months.	5	Able to walk about with a high-heeled boot with aid of a cane; had discarded his crutch; able to bear considerable weight on limb.	10	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
43	Cir. No. 2, 1869, S. G. O. p. 25. Eve's ta. 7.	Cullen, J. S. D., Surgeon, P. A. C. S.	Not stated.	Probably, Melcar, Isaac, Pr. A, 8th Mich. Vols. "In robust health."	M. 18	Nov. 16, 1863.	Nov. 16, 1863.	P.	Comminuted fracture head and upper part neck femur from Minié-ball, rec'd at Knoxville, Tenn.
44	Chicago Med. Examiner, Oct. 1864, p. 612. Cir. No. 2, 1869, S. G. O. p. 133 and 25.	Abbott, N. W., Surgeon 86th Illinois Vols.	Private house near Big Spring, Ga.	Dempsey, Bartholomew Pr. I, 4th U. S. Art'y.	M. ad't	Feb. 25, 1864.	Feb. 25, 1864.	P.	Comminuted fracture trochanter and neck, with fissures extending into head right femur, from fragment of shell, rec'd at Buzzard's Roost, Ga.
45	Cir. No. 2, 1869, S. G. O. p. 26.	McGuire, Hunter, Richmond, Va.	Field Hospital.	Private, Ewell's Corps.	M. ?	May 5, 1864.	May 5, 1864.	P.	Comminuted fracture neck left femur, from conoidal musket ball which lodged at junction head and neck, rec'd Battle Wilderness.
46	Cir. No. 2, 1869, S. G. O. p. 26.	Dement, J. J., Surgeon, P. A. C. S., Huntsville, Ala.	Field Infirmary.	Cannon, ——, Pr. A. 49th Ga. Regt., Toomsborough, Ga.	M. ab't 24	May 5, 1864.	May 6, 1864.	P.	Extensive comminuted fracture neck and trochanters left femur; from conoidal musket ball, rec'd Battle of Wilderness.
47	Cir. No. 2, 1869, S. G. O. p. 27. Letter, Dec. 30, 1873.	Gilmore, J. T. Chief Surgeon 1st Div. Longstreth's Corps, Mobile, Ala.	Field Hospital.	O'Rourke, Pr. 18th Miss. Regiment. "Healthy and of fine constitution."	M. 24	May 6, 1864.	May 6, 1864.	P.	Comminuted fracture of the neck right femur, from musket ball, received at Wilderness. But little injury to soft parts.
48	Cir. No. 2, 1869, S. G. O. p. 27.	Gibson, Chas. Bell, Surgeon C. S. A., Richmond, Va.	Receiving and Wayside Hospital, Richmond, Va.	Phillips, J. J. Pr. G, 61st Va. Regt. "Rallied promptly from the shock of operation." "During operation but little bleeding."	M. ?	May 6, 1864.	May 7, 1864.	P.	Longitudinal fracture of upper part shaft left femur, from conoidal musket ball, received at Battle of Wilderness. Ball split, part lodged in medullary canal, other portion in gluteal muscles. The fissure extended into trochanter major.
49	Cir. No. 2, 1869, S. G. O. p. 28.	Unknown.	Field Hospital 5th Corps.	Private 5th Army Corps, Army of Potomac. "Young and healthy-looking man."	M. ?	May 10, 1864.	May 10, 1864.	P.	Fracture of trochanteric portion of left femur, from musket ball, received at Spottsylvania Court-House.
50	Cir. No. 2, 1869, S. G. O. p. 43.	Gibson, Chas. Bell, Surgeon C. S. A., Richmond, Va.	Receiving and Wayside Hospital, Richmond, Va.	Smith, Marsella, Pr. F, 38th Va. Infantry. "Robust."	M.*	May 10, 1864.	May 12, 1864.	Int.	Oblique fracture upper portion of shaft left femur, from conoidal musket ball, received at Spottsylvania Court-House. Limb everted and shortened; crepitus.
51	Cir. No. 2, 1869, S. G. O. p. 28.	Snow, Geo. W., Surgeon 35th Mass. Vols., Newburyport, Mass.	Hosp. 3d Division 9th Army Corps.	McGuire, John A., Lieut. Co. I, 148th Penna. Vols.	M. ?	May 12, 1864.	May 12, 1864.	P.	Comminuted fracture of trochanters and neck right femur, from musket ball, rec'd at Spottsylvania.
52	Cir. No. 2, 1869, S. G. O. p. 28.	Gibson, Chas. Bell, Surgeon C. S. A. Richmond, Va.	Receiving Wayside Hospital, Richmond Va.	Mayo, G. W., Pr. B, 25th Battalion Va. Reserves. "Depressed from injury."	M. ?	May 12, 1864.	May 13, 1864.	P.	Fracture with extensive splintering of the neck and shaft of right femur, from conoidal musket ball, rec'd at "Yellow Tavern," Va.
53	Cir. No. 2, 1869, S. G. O. p. 43.	Thompson, J. F., Acting Asst. Surg.	Judiciary Square Hospital, Washington, D. C.	Ewing, Alex. Pr. A, 140th Pa. Vols. "In poor health; exhausted by travel."	M. 30	May 12, 1864.	May 19, 1864.	Int.	Comminuted fracture of left femur; considerable inflammation and swelling soft parts; neck splintered; fracture extending within capsule; great trochanter separated from upper part shaft; much comminuted; from conoidal musket ball, rec'd Spottsylvania, Va.

* "Middle aged."

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
43	Incis'n posteriorly thro'gh the glutei muscles	Head and neck of femur.	Probably died 16th day, from exhaustion.	.....	.....	.....	"Suppuration following operation was immense, and had hectic."
44	I	Fragments, neck and trochanter, the shaft to about 1 in. below lesser trochanter, and head of femur.	Died, 3 days	.....	.....	.....	Rallied satisfactorily from shock operation; condition encouraging the following morning; cause of death uncertain.
45	I	Head, shattered fragments of neck smoothed off, the jagged upper extremity of shaft.	Died, pyæmia, 17th day.	.....	.....	.....	Sent to the rear after operation, and failed to receive proper nourishment and care.
46	I	Head, neck, trochanters, upper end shaft, and fragments.	Recovered, 9 months.	3	Wound healed; health perfect; limb useless for locomotion; uses crutches; earns his living as a shoemaker.	18½	Died, Nov. 23, 1865, of diphtheria.
47	)	Head, fragments of neck and femur through trochanters.	Died 3d day, of shock, operation, and injury.	.....	.....	.....	Did not react.
48	I	Head and trochanters, and upper end femur smoothed off.	Died 4th day, exhaustion from traumatic fever.	.....	.....	.....	On the 8th doing well, on 9th much constitutional irritation, 10th "sinking"; died 11th.
49	?	Head, neck, and trochanters femur.	Died 3d day.	.....	.....	.....	Reported by Asst. Surgeon J. S. Billings, U. S. A. Morning after operation was in comfortable condition; cause of death uncertain.
50	?	Head, neck, trochanters, and 2 inches of shaft.	Died, about 24 hours. from effects chloroform.	.....	.....	.....	Began sinking at an early hour of the 13th, grew more and more feeble until he died at 3 P. M.
51	I	Head, neck, and trochanters.	Died, 3 days	.....	.....	.....	Cause death uncertain.
52	I	Head and numerous detached fragments of neck and trochanters, and the shaft 5 or 6 inches below trochanter minor.	Died in 45 hours, from shock, injury, and operation.	.....	.....	.....	"Did not react."
53	I	Head and fragments neck and trochanters, and shaft just below trochanter minor.	Died 5th day, exhaustion.	.....	.....	.....	"Wound assumed an unhealthy action."

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
54	Cir. No. 2, 1869, S. G. O. p. 43.	Ingraham, A., Asst. Surg. U. S. A.	Judiciary Square Hospital, Washington, D. C.	Cleaver, C.P., Pr. C, 2d U.S. Infantry. "Slender boy; condition unfavorable; exhausted by travel."	M. 18	May 12, 1864.	May 19, 1864.	Int.	Fracture of the neck and trochanters of right femur by conoidal musket ball, received at Spottsylvania. Thigh extensively lacerated, unhealthy pus burrowing in every direction about wound.
55	Cir. No. 2, 1869, S. G. O. p. 41.	Mursick, Geo. A., Acting Asst. Surgeon, Harlem, New York.	Stanton Hospital, Washington, D. C.	Wright, H., Pr. G, 87th N. Y. Vols. "Robust healthy man, general state hopeful."	M. 28	May 5, 1864.	May 27, 1864.	Int.	Comminuted fracture of the neck and trochanters right femur; limb swollen, everted, and shortened. Accumulation of pus in tissues about hip; from conoidal musket ball, rec'd at Wilderness.
56	Cir. No. 2, 1869, S. G. O. p. 29.	Unknown.	Field Hospital, 18th Army Corps.	Soldier of 18th Army Corps.	M. ?	June 3, 1864.	June 3, 1864.	P.	Comminuted fracture neck and trochanter right femur by fragment shell, rec'd at Cold Harbor.
57	Cir. No. 2, 1869, S. G. O. p. 44.	McCall, C.A., Asst. Surg. U. S. A.	Mount Pleasant Hospital, Washington, D. C.	Phelan, John, Capt. A, 73d N. Y. Vols. "Large, muscular, and healthy man; general state favorable."	M. 22	May 14, 1864.	June 3, 1864.	Int.	Comp. comminuted fracture neck and trochanter left femur; from conoidal musket ball; fracture extended to head; acetabulum not injured; rec'd at Spottsylvania.
58	Cir. No. 2, 1869, S. G. O. p. 29.	Ladd, Surg. 56 N. Carolina Regt.	Hospital in Center Petersburg, Va.	Private 56th N. Carolina Rgt. Ransom's Brig. "Robust naturally; worn and exhausted."	M. y'g	June 17, 1864.	June 18, 1864.	P.	Comminuted fracture neck right thigh, from conoidal ball: (probably) received front Petersburgh, Va.
59	Cir. No. 2, 1869, S. G. O. p. 30.	Grant, J. F., P. A. C. S.	On Field.	Hobson, T. J., Pr. H, 32d Tenn. Vols. "Shock very great."	M. 23	June 24, 1864.	June 24, 1864.	P.	Comminuted fracture neck and trochanters extending within capsule, from conoidal musket ball, received at Kenesaw Mountain.
60	Cir. No. 2, 1869, S. G. O. p. 52. Letter, 1872.	Bontecou, R. B., Surg. U. S. V. Troy, N. York.	Harewood Hospital, Washington, D. C.	Woodworth, Henry, Pr. A, 4th Vt. Vols. "Pulse quick and feeble; anæmic; anorexia; unpromising; exhausted by travel."	M. 18	May 11, 1864.	July 1, 1864.	S.	Grooving of the left femur at the trochanter minor with periostitis of the upper end of femur; destruction of joint; caries and partial absorption of the head, and destruction of round ligament, suppuration; from conoidal musket ball, received at Spottsylvania. Acetabulum ulcerated.
61	Cir. No. 2, 1869, S. G. O. p. 30.	White, Whitman V., Surg. 57th Mass. Vols. 151 E. 86th St. New York City.	Hospital 1st Div. 9th Army Corps.	Brown, Ed. T. Sergt. C, 21st Mass. Vols. "Strong healthy man, with a constitution of iron."	M. ab't 30	July 23, 1864.	July 23, 1864.	P.	Comminuted fracture upper five inches left femur (crushed to fragments from fragment of bomb, received at Petersburgh, Va. Soft parts lacerated about hip.
62	Cir. No. 2, 1869, S. G. O. p. 30.	West, G. S., Surgeon C. S. A.	Near Petersburgh, Va.	Goode, J. T., Pr. K, 6th Va. Infantry. "Poorly nourished."	M. 21	July 31, 1864.	July 31, 1864.	P.	Fracture of the upper femur (left), the shaft involved as low as to middle third; from conoidal musket ball, received before Petersburgh.

f Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
4	Curved	Trochanters, head, neck, and 4¼ inches shaft.	Died, 4 days, pyæmia.				
5	I	Fragments of neck (with ball), head, jagged upper end femur and trochanters, and on Sept. 25 and 26, exfoliations from upper end femur.	Recovered in 1 year.	5	"Limb sufficed for all purposes of locomotion. Stood on it firmly, moved it in any direction; for 1½ yrs. had been farm hand, and now a wood-chopper. Knee-joint quite stiff; general health good; rotation, flexion, extension, adduction and abduction performed (nearly normal)."	54	November, 1868, last heard from.
6	?	Head and neck, and trochanters femur.	Died in 3 days.	.....	.....	.....	Reported by Asst. Surgeon Billings, U. S. A. Patient "rallied encouragingly soon after operation, and was comparatively comfortable. Cause of death uncertain."
7	T	7 large and numerous small portions neck and trochanter major, the fractured upper end of femur and its head.	Died 18th day, exhaustion and diarrhœa.	.....	.....	.....	Weather oppressively hot; diarrhœa followed; lost strength rapidly.
8	?	Head and neck femur to through trochanters.	Died, 2 months, exhaustion.	.....	.....	.....	Death probably due to want of proper food, and suppuration.
9	I	Head, shattered fragments, and shaft just below trochanter.	Died, 3 da's, from shock, injury and exhaustion from transportation.	.....	.....	.....	"Was transported 40 miles over very rough road immediately after operation. Reaction was never complete."
0	)	Femur to just below the trochanter minor.	Died, 24 hours, shock, operation, and previous exhaustion.	.....	.....	.....	Did not rally from operation; sank gradually.
1	I	Shattered fragments head, and broken end shaft evened off; also neck and trochanters removed.	Died 4th day.	.....	.....	.....	Reacted promptly. In 3 days began to sink. "Talked and laughed the 2d day. Cause of death uncertain."
2	I	Upper third femur.	Died, 2 days, shock of operation.	.....	.....	.....	Was in feeble state before operation.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
63	Cir. No. 2, 1869, S. G. O. p. 52.	Read, J. B., Surgeon P. A. C. S.	Hospital No. 4, Richmond Va.	Henry, W. J., Ensign 21st Miss. Infty. "Copious suppuration and rapid emaciation; condition excited so much anxiety that a consultation was held."	M. 22	June 21, 1864.	Aug. 2, 1864.	S.	Comminuted fracture of the upper extremity of left femur; copious suppuration; from conoidal musket ball, received near Petersburgh, Va.
64	Cir. No. 2, 1869, S. G. O. p. 45.	Thomson, W., Asst. Surg. U. S. A., Philadelphia, Pa.	Douglas Hospital, Washington, D. C.	Boyle, Peter, Pr. D, 59th Mass. Vols. "Constitutional state poor." Exhausted by travel.	M. 60	July 30, 1864.	Aug. 5, 1864.	Int.	Fracture at junction of neck and trochanter major (without much longitudinal splintering either way) left femur; from conoidal musket ball, received in front of Petersburgh, Va.
65	Cir. No. 2, 1869, S. G. O. p. 120.	Unknown.	3d Div. Jackson's Hospital, Richmond Va.	Epton, J. W., Pr. I, 5th S. Carolina Regiment.	M. ?	Aug. 16, 1864.	Aug. ?	P.	Gunshot wound right hip-joint; from conoidal musket ball, probably rec'd at Deep Bottom, Va.
66	Cir. No. 2, 1869, S. G. O. p. 31.	Reamer, F. C., Surgeon 143d Pa. Vols.	Hospital 1st Div. 5th Army Corps.	McDonald, Ed. A., Pr. F, 149th Penna. Vols. "A robust athletic man."	M. 31	Aug. 23, 1864.	Aug. 23, 1864.	P.	Splintering neck right femur; ball lodged in head from conoidal musket ball received at the Weldon R. R. Battle.
67	Cir. No. 2, 1869, S. G. O. p. 31.	White, A. A., 8th Md. Vols.	Hospital 1st Div. 5th Army Corps.	Beard, Chas., Pr. 12th (Confederate) Regiment. "Appeared as one who had undergone great privations, and not in a favorable condition for operation."	M. ?	Aug. 23, 1864.	Aug. 23, 1864.	P.	Comminuted fracture neck fracture head right femur lower portion rim acetabulum broken off; from conoidal musket ball, rec'd engagement Weldon R. R. The fracture acetabulum did not communicate with the pelvis.
68	Cir. No. 2, 1869, S. G. O. p. 53.	Wagner, C., Asst. Surg. U. S. Army.	U. S. Hospital at Beverly, N. Jersey.	Zaborouski, John, Pr. H, 7th Conn. Vols. "Exhausted; rapidly failing from suppuration; sloughing."	M. 13	Aug. 16, 1864.	Sept. 27, 1864.	S.	Fracture of the neck with slight injury of head right femur; extensive sloughing of soft parts; free suppuration; from conoidal musket ball, received at Deep Bottom, Va.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
63	I	Head neck trochanters; about 6 inches upper extremity of femur.	Died 6th day, pneumonia.	.....	.....	.....	Reacted and passed a comfortable night.
64	I	Head, neck, and trochanters.	Died 5th day, from exhaustion.	.....	.....	.....	Reacted well.
65	?	Head and neck femur.	Died Sept. 2, 1864.	.....	.....	.....	Cause death not stated. Dr. A. C. Rice, late Surgeon C. S. A., now of Dallas, Texas, writes: Not one of the surgeons mentioned as having performed this excision in Circular No. 2, 1869, Surgeon-General's Office, states anything about dissecting out the synovial sac; leaving as they do a secreting surface, it is but natural to suppose that suppuration and infiltration of pus, and death from some one of the attendant consequences upon such a condition, would be the inevitable result of such an operation.
66	V	Head, fragments of neck, and to through the trochanteric ridge of femur.	Died 45th day, from pyæmia.	.....	.....	.....	"Patient reacted." This patient was transported to base hospital over rough roads in an ambulance after two days, and then sent to a Philada. hospital in three days, which did not seem to injure him.
67	⌟	Head and splintered (neck) fragments. (Also ball.)	Died, 2 days.	.....	.....	.....	Reacted favorably. Cause of death uncertain.
68	+	Head, neck, and 1 inch of trochanter major.	Died 1st day, exhaustion.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
69	Cir. No. 2, 1869, S. G. O. p. 32.	Clark, A. P., Surgeon 6th New York Cavalry.	"A Field Hosp."	Grimshaw, Samuel, Sergeant H, 6th N. York Vols. "Shock great; was desponding."	M. 31	Oct. 19, 1864.	Oct. 19, 1864.	P.	Fracture of left femur from fragment shell, head and neck shattered and shaft fissured; missile lodged in acetabulum; pelvis injured. Received at Cedar Creek, Va.
70	Cir. No. 2, 1869, S. G. O. p. 33.	Clark, A. P., Surgeon 6th New York Cavalry.	Flying Hospital 10th Army Corps.	Cole, Robert, Pr. B, 29th Conn. Vols. (Colored.)	M. ?	Oct. 27, 1864.	Oct. 27, 1864.	P.	Shattered fracture of upper extremity of right femur; from musket ball, rec'd near Fair Oaks.
71	Cir. No. 2, 1869, S. G. O. p. 32 and 31.	Leet, N. Y., Surgeon 76th Pa. Vols.	Flying Hospital 10th Army Corps.	Beebe, Dwight, Lieut. and Adjutant 3d New York Vet. Vols., Havana, Schuyler Co., New York.	M. ?	Oct. 27, 1864.	Oct. 27, 1864.	P.	Comminuted fracture neck and trochanter of right femur, from conoidal musket ball, rec'd near Richmond, Va.
72	Cir. No. 2, 1869, S. G. O. p. 32.	Leet, N. Y., Surgeon 76th Pa. Vols.	Flying Hospital 10th Army Corps.	Pease, Thos. G., Pr. B, 117th New York Vols.	M. ?	Oct. 28, 1864.	Oct. 28, 1864.	P.	Fracture of trochanters and neck of right femur (shattered); from musket ball, which lodged against head in acetabulum; received at Fair Oaks.
73	Letter, 1872.	Thompson, S. M., Shelbyville, Ky.	Field Hospital Kenesaw Mt.	Norman, J. F.	M. 33	June 9, 1864.	June 9, 1864.	P.	Gunshot wound of the hip-joint.
74	Cir. No. 2, 1869, S. G. O. p. 59.	Neudoerfer, J., Austria, 8th Austrian Army Corps, Vienna.	During 2d War Danish Duchies.	An Austrian soldier.	M. ?	.....	1864.	Int.	Fracture upper extremity of femur.
75	Cir. No. 2, 1869, S. G. O. p. 59.	Neudoerfer, J., Austria, 8th Austrian Army Corps, Vienna.	During 2d War Danish Duchies.	An Austrian soldier.	M. ?	.....	1864.	Int.	Fracture upper extremity of femur.
76	Cir. No. 2, 1869, S. G. O. p. 53.	Vansant, John, Surg. U. S. A.	General Hospital, Point Lookout.	Roth, Joseph, Pr. B, 188th N. York Vols. "Large and robust."	M. 25	Feb. 6, 1865.	Mar. 9, 1865.	S.	Fracture of head of femur; ball impacted in the same; posterior half head intact; no dislocation; late, great pain in knee and leg; no deformity; from round musket ball, received at "Hatcher's Run."
77	Cir. No. 2, 1869, S. G. O. p. 54.	McMahon, A., Surgeon U. S. Vols.	St. Louis Hospital, New Orleans, La.	Train, Hugh, Pr. G, 31st Mass. Vols. "General health poor; night sweats."	M. 22	Feb. 1, 1865.	Mar. 24, 1865.	S.	Fracture of neck of femur (left); inversion and shortening of limb; whole thigh infiltrated with unhealthy pus; abscesses discharging through fistulæ; caries of head; from conoidal musket ball, rec'd while on horseback serving with mounted infantry.
78	Cir. No. 2, 1869, S. G. O. p. 33.	Fuller, Wm., Surgeon 1st Michigan Vols., New Minden, Ill.	Field Hospital 1st Div. 5th Corps.	Morrison, Chas., Pr. C, 18th New York Vols. "Robust and in the best health."	M. ?	Mar. 29, 1865.	Mar. 29, 1865.	P.	Fracture of the trochanter and separation of the neck from the shaft left femur; a fissure 1½ inches below trochanter minor; from conoidal musket ball, rec'd at Quaker Road, South Petersburgh, Va.
79	Cir. No. 2, 1869, S. G. O. p. 46.	Bliss, D. W., Surgeon U. S. Volunteers.	Armory Square Hospital, Washington, D. C.	Patterson, D. N., Lieut. 46th Va. Regt. "General state very satisfactory."	M. 31	Mar. 29, 1865.	April 3, 1865.	Int.	Comminuted fracture of the neck, head, and trochanter of left femur; anterior border of acetabulum fractured; from conoidal musket ball, rec'd at Boydton Plank Road, near Petersburgh, Va. Fissures extended down the shaft: os innominatum extensively fractured.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
69	I	Head, neck, trochanter, and 4½ in. shaft femur.	Died 16th day.	.....	.....	.....	"No bad symptoms next day. Removed to Winchester Oct. 20. Cause of death uncertain."
70	I	Head, neck, and trochanters of femur.	Died 2 days after operation.	.....	.....	.....	Nothing as to cause of death.
71	I	Head, neck, and trochanter major to level trochanter minor, 4 inches.	Recovered 11 months.	3⅜	Afterwards, Jan. 1865, ⅞ in. of upper end of femur exfoliated; limb weak; knee stiff; wound firmly healed; only troubles him in damp weather; general health not good.	48	Next day taken in ambulance to James River, thence to Fort Monroe. The diagram on page 31 represents "a crutch" in the back-ground, hence it is believed he used at least one crutch.
72	I	"Upper extremity of femur."	Died 2d day.	.....	.....	.....	"Cause of death not stated."
73	.....	Head, neck, and trochanter major.	Died, 4 weeks, secondary hemorrhage	.....	.....	.....	Operation done between June 9th and 30th.
74	?	Not stated.	Died.	.....	.....	.....	Cause death not stated.
75	?	Not stated.	Died.	.....	.....	.....	Cause death not stated.
76	I	"Head divided near to the anatomical neck; some sharp portions of neck smoothed off."	Died, 100 days, exhaustion from malarial complications.	.....	.....	.....	But slight discharge; did well for several weeks, but gradually became feeble and emaciated, losing all appetite. In May, became yellow, and apparently suffered from malarial complications.
77	I	Femur divided just below trochanter minor.	Died, 6th day, exhaustion.	.....	.....	.....	"After wounded he walked upon the limb. Was easier for a few days after operation, but gradually sank and became very much emaciated."
78	I	Head and femur to 1½ inches below trochanter minor.	Died 28th day, of exhaustion from irritation and profuse suppuration.				
79	(	Fragments of neck, head, trochanters, and to 2 inches below trochanter minor.	Died 4th day, from unavoidable venous hemorrhage.	.....	.....	.....	Ball removed from the obturator muscle. Reacted well; did well 3 days; hemorrhage from lesion of internal iliac vein from a spicula of bone.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
80	Cir. No. 2, 1869, S. G. O. p. 46.	Allen, H., Asst. Surg. U. S. Army.	Mount Pleasant Hospital, Washington, D. C.	Sennet, Henry C., Corpl. F, 122d New York Vols.	M. 27	Mar. 27, 1865.	April 4, 1865.	Int.	Fracture of the head of left femur; 2 inches of upper end of femur denuded of periosteum, acetabulum slightly fractured; conoidal musket ball embedded in head; rec'd in front of Petersburgh, Va.
81	Cir. No. 2, 1869, S. G. O. p. 47.	Norris, W. F., Asst. Surg. U. S. A.	Douglas Hospital, Washington, D. C.	Phillips, Henry, Pr. I, 146th New York Vols. "Much exhausted from travel and wound."	M. 34	April 1, 1865.	April 8, 1865.	Int.	Fracture of the neck of the femur (left). Conoidal musket ball crushed in the anterior lamella of neck, fissuring into and nearly separating head; rec'd at South Side R. R., near Petersburgh, Va.
82	Cir. No. 2, 1869, S. G. O. p. 47.	McMahon, A., Surgeon U. S. Volunteers.	St. Louis General Hospital, New Orleans.	Brantly, G. W., Pr. C, 2d Alabama Regiment. "Very much exhausted."	M. 18	April 9, 1865.	April 15, 1865.	Int.	Fracture of the neck of left femur; surrounding parts of thigh and groin infiltrated with unhealthy pus: from a conoidal musket ball, received at Fort Blakely.
83	Cir. No. 2, 1869, S. G. O. p. 47.	McMahon, A., Surgeon U. S. Volunteers.	St. Louis General Hospital, New Orleans.	Foulke, T. E., Pr. D, 2d Ala. Regiment. "Exhausted from profuse suppuration."	M. 17	April 9, 1865.	April 27, 1865.	Int.	Fracture of upper third of left femur, involving neck and trochanters; soft parts about the hip infiltrated with unhealthy pus; from conoidal musket ball, received at Fort Blakely.
84	Cir. No. 2, 1869, S. G. O. p. 60.	Stromeyer, L. Hanover, Germany.	Not stated.	"A very debilitated subject."	M. ?	June 27, 1866.	July 17, 1866.	Int.	Fracture head femur; head completely separated; excessive pain; received at Langensalza, in Prussian Saxony.
85	Cir. No. 2, 1869, S. G. O. p. 59.	Langenbeck, Von B. Berlin Germany.	Hospital at Horic.	K——. "A Private; an Austrian."	M. ?	July 3, 1866.	Aug. 5, 1866.	Int.	Fracture of neck femur by a musket ball; received at Sadowa.
86	Cir. No. 2, 1869, S. G. O. p. 60.	Beck, Bernhard, Germany.	"Admitted to hospital."	S——, F. O., Drummer of King of Wurtemberg's Battalion. "Unfit for operation."	M. ?	July 24, 1866.	Aug. 5, 1866.	Int.	Comminuted fracture base of neck and trochanter major and fracture of trochanter minor; from musket ball. Copious secondary hemorrhage. Rec'd at Tauberbischofsheim.
87	Cir. No. 2, 1869, S. G. O. p. 60.	Langenbeck, B. Von, Berlin, Germany.	Hospital at Zittan.	Bauer, Emil, 10th Batt. Saxon Infty.	M. ?	June 29, 1866.	Aug. 20, 1866.	Int.	Comminuted fracture neck right femur; musket ball lodged near joint; copious suppuration, with burrowing of pus, and denudation of periosteum of innominatum. Received at Gitschin, Bohemia.
88	Cir. No. 2, 1869, S. G. O. p. 60.	Schoenborn, Austria.	Not stated.	Glutschak, Maxim., Pr. 8th Austrian Lancers.	M. 24	July 3, 1866.	Aug. 22, 1866.	Int.	Comminuted fracture of the head of the left femur (not stated from what); rec'd at Sadowa.
89	Cir. No. 2, 1869, S. G. O. p. 60.	Perin, Glover, Surgeon U. S. A.	Post Hospital, Newport, Ky.	Ahearn, Fran. Pr. U. S. Gen. Service. "Had mania-a-potu when shot. Condition somewhat improved at time of operation."	M. 30	July 31, 1867.	Aug. 26, 1867.	Int.	Comminuted fracture of the neck and trochanters, and splintering of the shaft of the right femur; abscesses; copious suppuration and acute pain in joint; from musket ball, received at Newport Barracks, Ky.
90	Cir. No. 2, 1869, S. G. O. p. 117.	Gibson, J. R., Asst. Surgeon U. S. A.	Fort Stanton, New Mexico.	Read, Chas. F., Pr. I, 37th U. S. Infty. "General condition improving under treatment."	M. ?	June 6, 1868.	Aug. 14, 1868.	S.	Wound involving the joint; ball lodged in head of left femur; free suppuration excessive pain of wound from Minié-ball, received in New Mexico. Has bedsores.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
80	T	Head and neck of femur.	Died 4th day, of peritonitis.				
81	(	Head, neck, and trochanter major femur.	Died 11th day, of exhaustion.	.....	.....	.....	Autopsy revealed a subperitoneal abscess in course of psoas and internal iliac muscles and double pleuritis; lungs healthy.
82	?	Head, neck, and trochanters femur.	Died 17th day, from capillary hemorrhage.	.....	.....	.....	Also had gunshot fracture external condyle right humerus; his condition did not permit anything being done for this. "Did not rally from operation very well."
83	?	Head, neck, trochanters, and 2 in. shaft femur.	Died 39th day, from exhaustion.				
84	+	Separated head, and end neck evened off.	Died 2d day.	.....	.....	.....	Cause not stated.
85	(	Head, neck, and trochanters.	Died 9th day, pyæmia.	.....	.....	.....	Operation produced but little depression.
86	(	Head and fragments including neck, trochanters (24 pieces) and end of shaft of femur.	Died, 5 days, exhaustion.	.....	.....	.....	"Grew gradually very weak; pulse small and weak; delirium supervened."
87	?	Head fragments and to base trochanter.	Died, exhaustion, early in September.				
88	)	Head, neck and trochanters to just below trochanter minor.	Recovered in 9 months.	3¼	"The patient could walk very well."	9	Operator says it is quite probable the acetabulum was shattered.
89	I	Head and fragments of neck, trochanter and shaft, 2 inches below lesser trochanter.	Died after 20 hours, of shock of operation.				
90	T	Head (ball embedded in it) and neck to trochanter major.	Recovered early in 1869.	1¾	"Walks with crutches; knee no longer stiff; operator thinks he could walk with the aid of a cane if he had a shoe which would compensate for shortening."	.....	Was transported 60 miles to Fort Stanton, N. M., before operation.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
91	Arch. für Klin. Chir. 16, 2, No. 10.	Billroth, Th., Vienna.	A Lazaretto in Berlin.	Pacot, 50th French Infty. Regt. "Pyæmic."	M.	Aug. 4, 1870.	Aug. 20, 1870.	Int.	Fracture neck right femur; ball entered behind and lodged.
92	Arch. für Klin. Chir. 16, 2, No. 30.	Beck, B., Germany.	A Lazaretto in Berlin.	B——, Sergt.-Major 3d French Line Infty. Regt.	M.	Aug. 6, 1870.	After Aug. 22, 1870.	Int.	Fracture of neck and trochanter of right femur, extending into the diaphysis; ball lodged.
93	Arch. für Klin. Chir. B. 16, H. 2, p. 329, No. 5.	Langenbeck, B. Von, Berlin.	Field Lazaretto at St. Apolline, France.	Petit, 67th French Regt. of the Line.	M.	Aug. 16, 1870. At Mars La Tour.	Aug. 30, 1870.	Int.	Wound right joint; ball entered front tuber ischii, came out near outer side of femoral artery; much shortening and limb rotated outward: great pain and swelling in the joint; neck shattered; trochanter fractured.
94	Arch. für Klin. Chir. B. 16, H. 2, p. 329, No. 1.	Langenbeck, B. Von, Berlin.	Franco-Prussian War.	Petit, 67th French Regt. of the Line.	M.	Aug. 16, 1870.	Aug. 30, 1870.	Int.	Wound right hip; ball entered at tuber ischii, came out front and to outer side of femoral artery.
95	Arch. für Klin. Chir. B. 16, H. 2, p. 329, No. 2.	Langenbeck, B. Von, Berlin.	Franco-Prussian War, Field Lazaretto, Village Bois, France.	Roma, ——, Lieut. 9th French Infty.	M. ?	Aug. 18, 1870.	Aug. 31, 1870.	Int.	Wound of left joint; ball entered under trochanter major and came out in the right nates; foot turned out; member ¾ in. shortened; great swelling; no fever; unhealthy suppuration; neck splintered into shaft.
96	Arch. für Klin. Chir. B. 16, H. 2, p. 329, No. 3.	Langenbeck, B. Von, Berlin.	Barrack Lazaretto in Gorze, France.	Congacz, Pierre, French Guarde Grenad Regt. of Labertry, France.	M. 23	Aug. 16, 1870.	Sept. 1, 1870.	Int.	Wound neck of left femur with opening of the joint; ball lodged; hip turned out; much shortening; great swelling of joint.
97	Arch. für Klin. Chir. 16, 2, No. 9.	Gaehde, Chief Staff Surgeon King Prussia, Germany.	In a Church at Vionville, France.	Liesegang, W., 4th Brand'g Infty. Regt., No. 24. "Much exhausted."	M.	Aug. 16, 1870. At Mars La Tour.	Sept. 2, 1870.	S.	Fracture of neck left femur; ball entered left nates at middle between base of coccyx and trochanter and lodged; foot turned out and but little shortening of limb; ichorous discharge. Sept. 2d, bleeding (arterial) from wound; arrested and it returned; caries of head.
98	Arch. für Klin. Chir. 16, 2, No. 16.	Lüecke, Prof., Berne, Germany.	Lazaretto Darmstadt, Denmark.	Hoffman, E. W., Prussian Guard. "Pyæmic."	M.	Aug. 18, 1870, At St. Privat.	Sept. 5, 1870.	S.	Wound head left femur; also wound of upper jaw right side, and also a glanced wound of breast. Ball entered in front of the trochanter major and came out left buttock; healthy suppuration; but little fever; head in several fragments.
99	Arch. für Klin. Chir. 16, 2, No. 15.	Fischer, Prof. H., Breslau, Germany.	Lazaretto Neunkirchen, Germany.	Weinert, Non-Commissioned East Prussian Dragoon Regt. No. 10.	M. ?	Aug. 14, 1870.	Sept. 6, 1870.	Int.	Wound left joint; simple capsular shot; ball entered nearly over the trochanter major and somewhat inward and lodged. The most severe pain from extraction of ball; Aug. 31st had chills, and again Sept. 6th; and pain in knee; joint destroyed; head uninjured by the ball.
100	Arch. für Klin. Chir. 16, 2, No. 11.	Billroth, Th., Vienna.	Not stated.	Geier, Ed., Bavarian 9th Infty.	M.	?	Sept. 28, 1870.	S.	Wound of hip-joint; ball entered behind; head of femur necrosed.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
91	?	Head of femur.	Died same day, pyæmia.				
92	?	Aug. 22d, portion of ball and several pieces of bones. Later, the head and upper third femur.	Died of pyæmia.	.....	Immediate effects of the operation favorable, and strength improved.	.....	Could not bear plaster Paris bandages long.
93	I	Head, femur, neck in fragments, and fractured trochanter major.	Died 102d day, of septicæma.				
94	I	Head of femur.	Died 16th day, of pyæmia.				
95	I	Head femur and trochanter major 3½ inches.	Died 4th day, of exhaustion.				
96	I	Head femur and 2¾ inches of split diaphysis; many small fragments also.	Died in 7 days.	.....	.....	.....	Also had shot in breast, with wound left lung, and a severe wound of left foot.
97	I	Head and neck with about 1½ in. of the splintered shaft.	Died 5 hours after of exhaustion and hemorrhage.	.....	.....	.....	From the exhaustion resulting from the secondary hemorrhage, the effects of the chloroform did not pass off.
98	?	Shattered head.	Died, 3 days, pyæmia.	.....	.....	.....	Free venous bleeding during operation.
99	⌒	Head and neck of the femur.	Died 7th day. Probably pyæmia.	.....	.....	.....	Recovered from the immediate effects of operation, and had chills again on the 4th day after operation. Probably died of pyæmia.
100	?	Head of femur.	Died 29th day, exhaustion from diarrhœa.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
101	Arch. für Klin. Chir. 16, 2, No. 13.	Wagner, A., Koenigsberg, Germany.	Franco-Prussian War.	Unknown.	M. ?	Sept. 19, 1870.	Oct. 20, 1870.	Int.	Fracture of neck left femur; ball entered behind left trochanter and passed out on inner side of left thigh under the symphysis of the pubes; limb shortened 1¼ inches; foot not turned out; crepitation in trochanteric region; slight pain; bone splinters in track of wound; pelvis not injured.
102	Arch. für Klin. Chir. B. 16, H. 2, No. 8.	Huepeden, Hanover, Germany.	Hanover, Germany.	John, Frederick, Berlin, 1st Brandenburger Gren. Regt. No. 8. General health good.	M. 23	Aug. 6, 1870. At Spicheren.	Nov. 4, 1870.	S.	Wound right joint; ball entered 1 inch below the right anterior superspinous process and came out through the right nates about a hand's breadth from middle of sacrum; joint freely movable: no swelling; walks with cane; 12th Sept. greater suppuration and pain behind trochanter major; incurvation of hip; bone rough; fragment of bone removed; head much invaded with caries; acetabulum widened and at points carious.
103	Arch. für Klin. Chir. B. 16, H. 2, p. 329, No. 4.	Langenbeck, B. Von, Berlin.	Lazaretto at Pithiviers, France.	Müller, Jean, from Elsass. General state good, no fever.	M. ?	Nov. 28, 1870.	Dec. 1, 1870.	Int.	Wound of left joint; ball entered behind trochanter and came out beneath the tuberosity of the ischium, left side; foot turned outward; shortening 1 inch; but little swelling; pain only on motion.
104	Arch. für Klin. Chir. B. 16, H. 2, No. 6.	Langenbeck, B. Von, Berlin.	English-American Ambulance, St. Eubert, Orleans, France.	Heinartz, Non-commissioned Officer 75th Inft. Regt. "Much exhausted."	M. 23	Dec. 9, 1870.	Dec. 14, 1870.	Int.	Wound right joint and bladder; Minié-ball entered 2 inches below anterior superior spinous process of right side, passed down and to the left and was cut out below the tuberosity of ischium left side; urine with synovia mixed dischargedby wound of entry, and but little bloody urine by urethra; emphysema. Thigh slightly flexed and rotated outwards. Passive motion joint painful; high fever; fracture of rim of acetabulum; joint opened; floor of acetabulum perforated and splintered; head of femur not fractured.
105	Arch. für Klin. Chir. B. 16, H. 2, No. 17.	Hüeter, Prof., Geifswald, Germany.	Franco-Prussian War.	Unknown, of King Württemberg Division.	M.	?	1870.	?	Wound involving joint.
106	Arch. für Klin. Chir. B. 16, H. 2, No. 18.	Heppner, St. Petersburg, Russia.	Lazaretto at Saarbruecken, Germany.	Unknown.	M.	?	1870.	S.	Wound involving joint.
107	Arch. für Klin. Chir. B. 16, H. 2, No. 18.	Heppner, St. Petersburg, Russia.	Lazaretto at Saarbrucken, Germany.	Unknown.	M.	?	1870.	S.	Wound involving joint.
108	Arch. für Klin. Chir. B. 16, H. 2, No. 20.	Volkman, R. Prof., Halle, Germany.	Franco-Prussian War.	Unknown.	M.	?	1870.	?	Wound involving joint.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
101	I	Femur to below trochanter major.	Died 8th day, of pyæmia.	.....	.....	.....	Permanent extension. Later upon double inclined plane.
102	White's	Extraction of a fragment of rim of acetabulum.	Recovered, 6 months.	.....	Wound healed completely, limb somewhat movable. Healthy.	6	Usefulness of member not stated. Case referred to by McCormac.
103	I	Head of femur and neck at the trochanter major.	Died 11th day, of pyæmia.				
104	I	Head of femur.	Died 6th day, of septicæmia.	.....	.....	.....	Von Langenbeck, see Arch. für Klin. Chir. Band 16, H. 2, S. 489, says, "All the intermediary amputations and resections at hip-joint died during this war."
105	?	Head of femur.	Unknown.	.....	Unknown.		
106	?	(Not stated.) Resection of joint.	Died.				
107	?	(Not stated.) Resection of joint.	Died.				
108	?	(Not stated.) Resection of joint.	Died from causes connected with the decubitus of the patient.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
109	Arch. für Klin. Chir. B. 16, H. 2, No. 21.	Volkman, R. Prof., Halle, Germany.	Franco-Prussian War.	Unknown.	M.	.....	1870.	?	Wound involving joint.
110	Arch. für Klin. Chir. B. 16, H. 2, No. 22.	Volkman, R. Prof., Halle, Germany.	Franco-Prussian War.	Unknown.	M.	.....	1870.	?	Wound involving joint.
111	Arch. für Klin. Chir. B. 16, H. 2, No. 23.	Welker, Dr., Germany.	Lazaretto Beschweiler.	B——, 2d Z. Regt.	M. ?	6 mos. before operation at Woerth.	1870.	S.	Fracture middle of neck of femur; ball entered in front of upper part thigh and lodged; wound healed excepting two fistulæ, through which probe detects denuded bone; foot inverted; limb shortened.
112	Arch. für Klin. Chir. B. 16, H. 2, No. 24.	Not stated.	Franco-Prussian War.	P——, 4th W. Infty. Regt. No. 17.	M. ?	.....	1870.	S.	Wound of right joint; ball lodged in head of femur.
113	Arch. für Klin. Chir. B. 16, H. 2, No. 25.	Czerny, Prof., Berne.	Franco-Prussian War.	Unknown.	M. ?	.....	1870.	?	Wound of the joint.
114	Arch. für Klin. Chir. B. 16, H. 2, No. 26.	Wagner, A., formerly Prof. Koenigsberg.	Franco-Prussian War.	Piasetzky.	M. ?	Aug. 8, 1870.	1870.	S.	Wound of neck left femur.
115	Arch. für Klin. Chir. B. 16, H. 2, No. 7.	Zmula, Staff Surgeon to King of Prussia.	Franco-Prussian War, 1870–71.	Pirczo, Franz, 1st Ober-'schles Infty. Regt. No. 22. Mittle, Lazisk Kreis Pless.	M. 24	Sept. 23, 1870, before Paris.	Not stated 1870.	....	Wound right joint; ball lodged in head of femur.
116	Arch. für Klin. Chir. B. 16, H. 2, No. 31.	Battlehner, Karlsruhe, Germany.	Franco-Prussian War.	Unknown.	M.	.....	1870.	?	Fracture of os femoris; head shot off.
117	Arch. für Klin. Chir. B. 16, H. 2, No. 12.	Billroth, Th., Vienna.	Lazaretto Bergzabern, Germany.	Unknown. Septicæmic at the time of the operation.	M.	3 w'ks before operation.	1870.	Int.	Wound of hip-joint; ball entered above and in front of joint close to the femoral nerve, and lodged; head of femur eroded and split.
118	Arch. für Klin. Chir. B. 16, H. 2, No. 14.	Küester, Berlin.	Franco-Prussian War.	Unknown.	M.	?	1870.	S.	Fracture of pelvis; secondary suppuration of the hip-joint; ball entered in left buttock and split, one part coursed to front, was removed at anterior superior spinous process; the other part perforated the os ilium and entered the pelvis; wound healed all to a fistula; patient goes about.
119	Arch. für Klin. Chir. B. 16, H. 2, No. 27.	Graf, Director Hospitals at Elberfeld, Germany.	Franco-Prussian War.	Unknown.	M.	.....	1870.	?	Wound of the joint.
120	Arch. für Klin. Chir. B. 16, H. 2, No. 28.	Beck, B., Germany.	Franco-Prussian War.	St. ——, 3d Pr. Field Pion'r Co.	M.	Same day operation.	1870.	P.	Fracture of left trochanter major and neck of femur; ball removed by incision from left buttock.
121	Arch. für Klin. Chir. B. 16, H. 2, No. 29.	Pagenstecher Germany.	Franco-Prussian War.	P——, 58th Infty. Regt. Bad condition.	M.	Aug. 6, 1871.	Sept. 1, 1871.	Int.	Fracture of neck and trochanter major left femur; ball entered in left buttock; great infiltration of the ichorous fluid in soft parts about wound.

of Hip-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
109	?	(Not stated.) Resection of joint.	Died from causes connected with the decubitus of the patient.				
110	.....	(Not stated.) Resection of joint.	Died from perforation of the pelvis.				
111	?	Necrosed head and half of neck femur.	Recovered.				
112	?	Head of femur.	Recovered.	2¾	"Wound healed. A kind of joint formed which permitted active and passive motion, but only to a limited degree."		
113	?	Head of femur.	Died.				
114	.....	Head of femur.	Died 10th day, of septicæmia.				
115	White's	Head of femur.	Recovered.	Near 4	Not stated when healed; no voluntary motion; passive motion to an angle of 30°; no firmness of joint; limb wasted.	In 1872.	
116	?	Neck of trochanter major to above trochanter minor.	Died.				
117	Wound dilated.	Ball extracted and head of femur.	Died, 24 hours after operation, pyæmia.				
118	.....	1st. Neck of femur (trochanter, left); 2d. Later, the half of destroyed head.	Died 8th day.	.....	.....	.....	Inflammation of joint came up suddenly during convalescence before operation.
119	?	Head of femur.	Died.				
120	?	Head of femur.	Died 9th day, of septicæmia.	.....	.....	.....	"Limb dressed in extended position; parts about infiltrated with ichorous matter; œdema of lungs, and infarctæ of both sides."
121	?	Head and trochanter major of femur.	Died 9th day, of pyæmia.	.....	.....	.....	Second day after operation, had chills.

Tabular Statement of Excision

No case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Hodges, p. 91; Winne's ta. 4; Barwell, Dis. Joints, p. 431; Heyfeld. ta. 3; Am. Jour. Med. Sci. N. S. ix. 487; Cir. No. 2, S. G. O. p. 10, 1869.	Hewson, Dublin.	Ireland.	?	M. ad't	.....	1828.	S.	Ch. arthritis; caries head, neck, trochanter femur; acetabulum perforated; pelvic abscess; head of femur absorbed (morb. cox.); dislocation.
2	Hodges, p. 98; Heyfeld. ta. 6; Am. Jour. Med. Sci. N. S. ix. 488; Lancet, vii. 384, 1848,	Textor, K., and Jaeger, Würzberg, Bavaria.	Germany.	Germany.	M. 7½	Some w'ks before.	July 31, 1834.	....	Ch. arthritis; suppuration; abscess joint, and necrosis head, neck, and trochanters femur; from fracture neck by a fall; pelvic bones fractured in several places.
3	Hodges, p. 91, and ta. 3; Winne's ta. 3.	Brodie, Berg. C., London.	London.	England.	M. ad't	?	1836.	....	Ch. arthritis; head bone not displaced (morb. cox.).
4	Hodges, p. 91; Hodges' ta. 2; Winne's ta. 9; Heyfeld. ta. 8; Am. Jour. Med. Sci. N. S. ix. 488; Lancet, vii. 385, 1848; Ashhurst's ta. 217.	Textor, K., Würzberg, Bavaria.	Germany.	Germany.	M. 22	?	1838.	....	Ch. arthritis; bone dislocated; caries of half head of femur, from disease (morb. cox.).
5	Hodges' ta. 1; Winne's ta. 8; Heyfeld. ta. 9.	Textor, K., Würzberg, Bavaria.	Germany.	Germany.	M. 54	?	1839.	....	Ch. arthritis; caries great trochanter and of neck of femur; the acetabulum healthy; bone not dislocated; head femur healthy (morb. cox.).
6	Winne's ta. 10; Heyfeld. ta. 10; Lancet, vii. 385, 1848; Hodges, p. 91, and No. 94; Heyfeld. p. 67; Sayre's ta. 7; Ashhurst's ta. 218.	Textor, K., Würzberg, Bavaria.	Germany.	Germany.	M. 7	?	Jan. 15, 1845.	....	Ch. arthritis, the result of "a blow upon the trochanter" (morb. cox.); caries
7	Sayre's ta. 8; Lancet, ii. 280; 1845; Ib. vii. 385, 1848; Ib. v. 428, 1847; Ib. i. 245, 1851; Retrospect, Part 12, p. 147; Rank. Abst. No. , p. 132, and No. 17, p. 155; Winne's ta. 11; Fergusson, Surg. p. 355.	Fergusson, W., 16 George St., Hanover Sq., W. Lond.	King's College Hospital,	Clark, John, England. "In last stage of hectic."	M. 14	15 mos. standing.	Mar. 1, 1845.	....	Ch. arthritis; caries: sinuses; dislocation of head femur on dorsum ilii; flexion at hip and knee; no disease pelvic bone (morb. cox.).
8	Surgery, by Operator, Ed. 4th, p. 354; Winne's ta. 12; Heyfeld. ta. 12; Hodges' ta. 6; Lancet, vii. 385, 1848; Sayre's ta. 9.	Fergusson, W., 16 George St., Hanover Sq., W. Lond.	King's College Hospital,	England. "Hectic and emaciation."	M. 8	Some mos. standing.	Nov. 1846.	....	Ch. arthritis; caries of acetabulum and head femur; abscess; dislocation head femur (morb. cox.).
9	Hodges' ta. 7; Winne's ta. 13; Heyfeld. ta. 16; Lancet, vii. 384, 1848; Sayre's ta. 10.	Roux, Ph. J., Paris.	Paris.	France. "Emaciation, cough, and hectic."	M. 15	Long standing.	Feb. 1847.	....	Ch. arthritis; dislocation caries head femur and acetabulum, and ramus pub (morb. cox.).

of Hip for Disease and Injuries.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	⌣	Femur divided above trochanter minor; acetabulum gouged.	Died, 3 months, of pelvic abscess.	.....	"Sat up in bed at two months."		
2	That made to open the abscess was enlarged.	To above the trochanter minor.	Died, 23d day, from exhaustion from suppuration, bed-sores, and gangrene.	?			
3	?	Head of femur.	Died in a few days from the operation.	?			
4	∧	Head of femur; acetabulum cauterized.	Died, 4th day, from exhaustion and diarrhœa.	?			
5	∧	Upper 6 inches; 2 inches below trochanters.	Died, 53d day, bed-sores.	?	Wound nearly healed—commencement of false joint.	.....	"Sloughs on sacrum; hectic fever."
6	∧	"All above the trochanter minor."	Recovered, 8 months.	2¾	"Result perfect; obtains his living as a travelling tailor."	8	
7	Longitudinal	To below the trochanter minor, 4¼ inches.	Recovered.	2½ 6	"When Prof. Henry Smith last saw him, in Dec. 1850, could walk 3 miles with aid of a stick and high-heeled shoe, and the motion of joint was free; was hearty."	84	
8	+	Head and neck of femur and margin of acetabulum.	Recovered, 5 months; *i. e.*, from operation.	?	"Imperfect recovery; wound never entirely healed; portion of necrosed bone found at acetabulum after death."	24	Died 2 years after of disease of liver.
9	⊔	"Head and part of neck of femur."	Died, 7th day, from exhaustion from secondary hemorrhage.	?	.....	?	Abscess in glutei muscles; the rough section of femur had ulcerated the femoral artery; no extension kept up.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred	Date of operation.	P. S. or Int.	Performed for
10	Braith. Retro. Part 24, p. 184.	Smith, Henry, 82 Wimpole St., W. Lond.	King's College Hospital, London.	Humphreys, England.	M. 8	?	1847.	....	Ch. arthritis; dislocation head femur (morb. cox.).
11	Lond. Med. Gaz. Dec. 1850; Lancet, ix. 205; 1849; Ib. i. 245, 1851; Braith. Pt. 24, 180; Winne's ta. 17; Hodges' ta. 12; Am. Jour. Med. Sci. N. S. xxi. 509; Sayre's ta. 22.	Fergusson, W., see Case 7.	King's College Hospital.	Wingen, Eliza, England. "Little girl."	F. 10	3 years' standing.	Jan. 13, 1848.	....	Ch. arthritis (morb. cox.); dislocation on dorsum ilii; acetabulum filled with healthy bone; caries.
12	Lancet, vii. 385, 1848; Winne's ta. 14; Heyfeld. ta. 21; Hodges' ta. 10; Sayre's ta. 14; Rank. Abst. Pt. 17, p. 136.	Simon, John, 40 Kinsington Sq., W. Lond.	St. Thomas' Hospital, London.	"A child," England. "Almost dead when operated on."	M. 8	2 years' standing.	Before Mar. 1848.	....	Ch. arthritis (morb. cox.); dislocation; sinuses; caries; abscesses; acetabulum slightly involved.
13	Rank. Abst. No. 8, p. 136; Hodges' ta. 16; Winne's ta. 19; Ashhurst's ta. 228; Heyfeld. ta. 95.	Walton, H. Haynes, 1 Brook St., Hanover Sq., W. London.	London.	England. "Health much pulled down."	M. 16	2 years' standing.	Mar. 24, 1848.	....	Ch. arthritis (morb. cox.); caries head femur; trochanter major diseased; pain, distortion member; dislocation; slight caries acetabulum.
14	Lancet, ix. 110, 1849; Am. Jour. Med. Sci. N. S. xx. 204; Winne's ta. 18; Heyfeld. ta. 20; Ashhurst's ta. 207.	Smith, H., 82 Wimpole St., W. London.	Durry-Lane, London.	R——, Wm., England. "A soldier of the Grenadier Guards."	M. 33	17 mos. standing.	June 14. 1848.	....	Ch. arthritis (morb. cox.); caries head femur and margin and centre of acetabulum.
15	Gross' Surg. ii. 1105; Winne's ta. 15; Furg. Surg. 356; Rank. Abst. No. 8, 136; Barwell Dis. Joints 442.	French, I. G., 41 Gt. Marlborough St., W. London.	St. James' Infirmary London.	E——, M., England. "Extremely exhausted."	F. 10	18 mos. standing.	1848.	....	Ch. arthritis (morb. cox.); dislocation; sinuses; acetabulum healthy; head carious.
16	Ashhurst's ta. 103; Heyfeld. ta. 19; Hodges' ta. 25; Winne's ta. 48; Sayre's ta. 12.	Heyfelder, J. F., Erlangen, Bavaria.	Germany.	Germany.	M. 20	?	1848.	....	Ch. arthritis (morb. cox.) caries; acetabulum diseased; partial dislocation limb had been anchylosed but had given way (left side).
17	Ashhurst's ta. 220; Heyfeld. ta. 22 and p. 74.	Textor, Son, Würzberg.	Germany.	Germany.	M. 8	?	1848.	....	Ch. arthritis (morb. cox.) caries; acetabulum involved.
18	Hodges' ta. 32; Lancet, April 15, 1848.	Fergusson, W., see Case 7.	King's College Hospital, London.	England.	F. 20	?	1848.	....	Ch. arthritis (morb. cox.) dislocation; acetabulum not diseased (right side).
19	Letter, 1872.	Wilcox, Oliver C., Easton, Pa. Reported by his brother, C. A., of Uxbridge, Mass.	Easton, Pa.	U. S.	M. 35	?	June 1849.	....	Ch. arthritis; caries head femur, also neck.
20	Winne's ta. 28; Ashhurst's ta. 55; Hodges' ta. 5; Rank. Abst. Pt. 2, 122; Heyfeld. ta. 23.	Cotton, Chas., Lynn, Eng.	Lynn Hospital.	Bulwer, Jessie, Eng. "Emaciation."	F. 12	?	Oct. 12, 1849.	....	Ch. arthritis (morb. cox.) caries; dislocation; sinuses.

f Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
0	?	Head femur; acetabulum was not touched.	Died, 2 years; see remarks.	?	"Health improved; able to go on crutches; a new joint formed; could even use the limb by placing the toes on the ground."	24	2 years after, died of pelvic abscess; autopsy showed the acetabulum carious and perforated.
1	+	To below trochanter minor.	Recovered.	?	"Healthy; able to walk a mile without assistance."	23	
2	?	Head of femur and portion of the acetabulum.	Died, 4 days, exhaustion.	?			
3	straight	4 inches; head, neck, and trochanter major; portion rim and spot bottom of the acetabulum gouged.	Died, 3 months, of general disease.	?	Considered at first by the operator to be very successful; subsequently limb became as useless as before operation.		
4	†	To below trochanter minor; acetabulum gouged.	Died, 5 months, caries of spine.	.....	"Wound nearly healed, and femur rounded off."		
5	?	Femur below the trochanter minor.	Recovered.	4½	"Some motion at hip; cannot support more than a few pounds pressure."	144	
6	T	Head and neck of femur; acetabulum gouged and actual cautery applied.	Recovered, 12 months.	?	"Got about on crutches; caries returned in a year; after 3½ years amputation and removal 2½ inches horizontal ramus pubes; died, 2 hours afterwards, of shock."		
7	∧	Head of femur.	Died, 24th day, of psoas abscess.	?			
8	?	Below trochanters.	Recovered.	.....	Foot ulcerated from imperfect nutrition; can bear but few pounds weight on limb.		
9	?	Head of femur, also neck.	Recovered, 6 months.	?	The shortening the only apparent inconvenience; resumed active labor in 6 months as a brickmason at which he continues.	84	
0	straight	Head and neck of femur.	Died, 6 months, of double psoas abscess.	?	.....	?	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
21	Am. Jour. Med. Sci. N. S. xx. 204; Ib. xxi. 509; Winne's ta. 23; Heyfeld. ta. 24; also, Lancet; Hodges, p. 97.	Morris, England.	England.	England. "A tailor."	M. 18	6 years' standing.	1849.	....	Rheumatic ch. arthritis; caries head and neck of femur.
22	Braith. Retro., Part 20, p. 112; Hodges, 51.	Fergusson, W.; see Case 7.	King's College Hospital, London.	England.	M. 10	.....	Probably 1849.	....	Ch. arthritis (morb. cox.); acetabulum filled with soft tissues; dislocation.
23	Ashhurst's ta. 206; Winne's ta. 20; Braith. Retro., Part 22, p. 196; Hodges' ta. 119.	Skey, E. C., 24 Mount St., W. London.	St. Bartholomew Hospital.	Sugg, Ann, England.	F. 13	?	Aug. 17, 1850.	....	Ch. arthritis (morb. cox.); dislocation on dorsum ilii; head femur absorbed; acetabulum enlarged; caries.
24	Rank. Abst. Pt 17, p. 148; Ashhurst's ta. 38; Hodges' ta. 18.	Buchanan, Professor, Glasgow.	Royal Infirmary Glasgow.	Downie, Jas., Scotland. "Has hectic, night sweats, and diarrhœa."	M. 41	2 years' standing.	Dec. 23, 1850.	....	Ch. arthritis (morb. cox.) caries head and neck of femur; abscesses; no dislocation; rim acetabulum carious; acute pain, from disease; idiopathic.
25	Am. Jour. Med. Sci. N. S. xx. 204; Ashhurst's ta. 229.	Walton, H. Haynes, 1 Brook St., Hanover Sq., W. London.	London.	England.	M. 12	Long standing.	Before 1850.	....	Ch. arthritis (morb. cox.) part head lost; neck shortened and reduced in size.
26	Am. Jour. Med. Sci. N. S. xx. 204.	Walton, H. Haynes, 1 Brook St., Hanover Sq., W. London.	London.	England.	F. 9	Long standing.	Before 1850.	....	Ch. arthritis (morb. cox.) head entirely, and nec nearly all absorbed.
27	Hodges' ta. 131; Ashhurst's ta. 134; Heyfeld. ta. 27; Rank. Abst. Part 17, p. 151.	Jones, G. M., Jersey Is.	Jersey Hospital, Jersey Is.	Burton, Jane, Jersey Island. "Anorexia, nausea vomiting, system failing."	F. 32	14 years' standing.	Feb. 19, 1851.	....	Ch. arthritis (morb. cox.) abscesses; pain; caries ulceration of cartilages dislocation; acetabulu absorbed—from fall.
28	Sayre's ta. No. 25, and p. 537; Ashhurst's ta. 185.	Sayle.	?	?	?	.....	1851.	....	Ch. arthritis (morb. cox. caries; head and nec partially destroyed.
29	Lancet, i. 301, 1852; Ashhurst's ta. 213; Hodges' ta. 50; Heyfeld. ta. 96; Sayre's ta. 28.	Stanley, Edward, Lond.	St. Bartholomew's Hospital.	England. "In a very weak state; emaciated."	F. 10	Several years' standing.	Jan. 24, 1852.	....	Ch. arthritis (morb. cox. abscesses; caries head a neck femur; disease a tabulum; head not disloc ted; fistulæ dischargi freely.
30	Lancet, i. 303, 1852; Hodges' ta. 14; Ashhurst's ta. 97; Winne's ta. 25; Heyfeld. ta. 26; Sayre's ta. 29 and 537.	Hawkins, Cæsar H., 26 Grosvenor St., W. London.	St. George's Hospital.	England. "Emaciated and greatly exhausted."	F. 8	4 years' standing.	Feb. 12, 1852.	....	Ch. arthritis (morb. cox caries head femur; dis cation; end of femur so ened; acetabulum disea and perforated.
31	Ashhurst's ta. 29; Hodges' ta. 17 and p. 92; Heyfeld. ta. 31; Winne's ta. 26; Sayre's ta. 32, and p. 538; Am. Jour. Med. Sci. xxiv. 90.	Bigelow, Henry J., Boston, Mass.	Boston, Mass.	U. S. Exhausted.	M. 11	12 mos. standing.	Feb. 21, 1852.	....	Ch. arthritis (morb. cox caries of head and neck femur; acetabulum eased; dislocation, absc and fistulæ.
32	Lancet, i. 228, 1853.	Solly, Sam., Saville Row, London.	St. Thomas' Hospital.	B——, Wm., England. "Sinking rapidly; has cough."	M. ?	Old standing.	April 2, 1852.	....	Ch. arthritis (morb. co caries acetabulum head and neck femur; fuse suppuration.
33	Heyfeld. ta. 28; Ashhurst's ta. 100; Lyon's ta. 1; Hodges' ta. 95; Sayre's ta. 27.	Heuser, J., Hombrechticon, Switz.	Switzerland.	Switzerland.	M. 17	3 years' standing.	April 18, 1852.	....	Ch. arthritis (morb. co caries.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
21	?	Head and neck of femur.	Recovered, 7 weeks.	3½	"Motion perfect with thigh; could flex thigh on pelvis as readily as the other, and walk a short distance."	12	
22	I	Femur to below the trochanter major.	Recovered.	.....	"Can bear his weight on limb."		
23	Ulcerated opening enlarged by some cutting.	Femur to just below trochanters.	Uncertain.	.....	"No details."	½	
24	⊥	Head and neck of femur; apex of trochanter major; acetabulum gouged.	Died, about April 27th, 1851, of dysentery.	?	Was removed to country; wound nearly healed; general system doing well when taken with dysentery; motion at new joint without pain.	?	
25	I	Remains head and part neck femur.	Died, in few hours, of secondary hemorrhage.				
26	I	Remains of neck.	Recovered.	.....	"She made a good recovery."		
27	∩	Femur to below the trochanters.	Recovered, 8 months.	?	"Walks across ward by aid of stick; walks with crutch; can bear whole weight on limb."	18	Died a year or two afterwards of visceral disease.
28	?	Head of femur.	Died from the disease.	.....	"Wound healed; abscess formed subsequently."		
29	⌣	Head and portion of neck of femur.	Recovered, 17 months.	?	"No details as to subsequent history." "Wound healed."	17	
30	Vertical.	To 1 inch below trochanter minor; acetabulum gouged.	Died, 4 days, hemorrhage.	?	.....	?	Sayre gives age 10; post-mortem showed pus in pelvic cavity.
31	+	Head and neck of femur; acetabulum not gouged.	Died, exhaustion, 12 days.	?	.....	.....	Post-mortem revealed large perforation of acetabulum and extensive caries remaining.
32	+	All of the femur to below base trochanter major.	Died, 16th day, of erysipelas.	?	"Wound healing and doing well up to time he took erysipelas."	?	
33	?	Head, neck and both trochanters.	Recovered, 20 weeks.	?	"5 years after walked 10 to 12 hours daily; complete use of the member; motions of joint free."	60	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
34	Lancet, i. 351, 1854; Hodges' ta. 15; Ashhurst's ta. 211; Winne's ta. 21; Heyfeld. ta. 97.	Stanley, Ed., London.	St. Bartholomew's Hospital.	England. "Great emaciation, and worn out with hectic."	M. 8	Several years' standing.	July 22, 1852.	....	Ch. arthritis (morb. cox.); caries head of femur; abscesses; fistulæ; dislocation.
35	Heyfeld. ta. 29; Ashhurst's ta. 180; Sayre's ta. 30; Hodges' ta. 39.	Ried, Fr., Jena.	Germany.	Germany.	M. 10	?	1852.	....	Ch. arthritis (morb. cox.); caries; partial dislocation; acetabulum diseased.
36	Rank. Abst. Part 20, p. 160; Ashhurst's ta. 169; Hodges' ta. 26; Am. Jour. Med. Sci. N. S. xxvii. 338;	Parkman, Boston, Mass.	Mass. General Hospital, Boston.	United States. "Hectic, exhaustion, diarrhœa."	M. 12	Over 6 mos. standing.	Oct. 19, 1853.	S.	Ch. arthritis (morb. cox.); abscesses groin and nates; limb retracted; no dislocation; caries head femur; acetabulum carious to ¼ of its extent; absorption articular cartilages.
37	Lyon's ta. 2; Ashhurst's ta. 177.	Quackenboss, J. V. P., 712 Broadway, Albany, N. Y.	U. S.	United States. "Anorexia, emaciation, hectic."	M. 3½	2 years' standing.	Oct. 1853.	?	Ch. arthritis (morb. cox.); fistulæ; joint much swollen; much nocturnal pain; acetabulum carious.
38	Hodges' ta. 30; Lancet, i. 352, 1854; Winne's ta. 22; Ashhurst's ta. 64; Heyfeld. ta. 80; Sayre's ta. 35: Braith. Retro. Part 29, p. 179.	Erichsen, J. E. 6 Cavendish Sq. W. Lond.	University College Hospital.	B——, Geo., England. "Slight cough; night sweats; emaciation; greatly reduced."	M. 14	8 years' standing.	Nov. 23, 1853.	S.	Ch. arthritis (morb. cox.); caries; sinuses; dislocation; suppuration; limb flexed on pelvis.
39	Heyfeld. ta. 34; Hodges' ta. 34; Am. Jour. Med. Sci. N. S. xxix. 572; Letter, Jan. 1872; Winne's ta. 27; Trans. Am. Med. Assoc. xiii. 525.	Sayre, L. A., 285 5th Ave., New York.	In City N. York, private house.	Guion, Ellen, 297 5th Street, New York. "Chills; night sweats profuse; great prostration."	F. 9	18 mos. standing.	Mar. 29, 1854.	S.	Ch. arthritis (morb. cox.) no dislocation; caries; large abscess; upper margin acetabulum absorbed from fall 18 months before.
40	Heyfeld. ta. 13; Winne's ta. 29; Sayre's ta. 36; Ashhurst, ta. 78; Hodges' ta. 123;	Fergusson, W. See case 7.	King's College Hospital.	England.	F. 13	Long standing.	1854.	S.	Ch. arthritis (morb. cox.) caries; dislocation, and necrosis.
41	Heyfeld. ta. 33; Ashhurst's ta. 219; Hodges' ta. 98.	Textor, K., Würzberg, Germany.	Germany.	Germany.	M. 23	?	1854.	S.	Ch. arthritis (morb. cox.) caries.
42	Leisrink's ta. 98;	B. Langenbeck, Berlin, Germany.	Germany.	Germany.	M. 5	.....	1854.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
43	Heyfeld. ta. 36, and p. 64; Ashhurst's ta. 182; Hodges' ta. 83; Sayre's ta. 43.	Roser, Prof., Marburg, Germany.	Germany.	Germany.	M. 8	3 years' standing.	1855.	S.	Ch. arthritis (morb. cox.) caries, from fall on hip.
44	Hodges' ta. 93; Heyfeld. ta. 43; Ashhurst's ta. 71.	Esmarch, F., Kiel, Denmark.	Denmark.	Denmark. ?	M. 23	?	1855.	S.	Ch. arthritis (morb. cox. suppurative arthritis; dislocation.
45	Heyfeld. ta. 44; Hodges' ta. 78; Ashhurst's ta. 20; Sayre's ta. 44.	Bauer, L., St. Louis, Mo.	Brooklyn, N. York.	United States.	M. 4	?	1855.	S.	Ch. arthritis (morb. cox. caries acetabulum and head and neck of femur.
46	Heyfeld. ta. 45; Hodges' ta. 75; Ashhurst's ta. 19; Sayre's ta. 42.	Bauer, L., St. Louis, Mo.	Brooklyn, N. York.	United States.	M. 3½	mos. before.	1855.	S.	Ch. arthritis (morb. cox. caries; acetabulum d eased, from fall.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
34	⌣	Head of femur.	Recovered, 18 months.	?	About on crutches; but parts not healed; some motion; wound discharged over a year.	After 18	
35	∧	Head of femur; acetabulum and trochanter major gouged.	Recovered, 1 year.	2½	"Useful; could walk in 1 year; walks tolerably with a cane."	12	
36	Single, direction not stated.	"Head and half of the neck of femur; nothing done to acetabulum."	Died, 10 months, from cough, diarrhœa, and local disease.				
37	?	Head and neck close to trochanter; acetabulum gouged.	Recovered, 1 year.	1½	"At 2 years health perfect; walks without any support: no motion of the joint."	24	
38	T	Below trochanters; acetabulum scraped.	Died, suppuration, 6 months. Exhaust'n.	?	"Prospect of recovery at 2 months."	?	
39	Semi-lunar ¼-way betw'n crest ilium & trochanter major.	Below trochanter minor; acetabulum and crest of ilium gouged.	Recovered, 8 months.	1½	"Motion joint; 7 years after operation jumps rope, motions joint perfect. January, 1874, is married, and expects to be confined in a few days."	216	Revised table by Prof. Sayre.
40	?	Head of femur and both trochanters; the acetabulum gouged.	Recovered.	?	Doing well several months after.	Several months.	
41	∧	Head of femur.	Died, 1 month.	?	?		
42	I	Head of femur; acetabulum gouged.	Died of exhaustion.				
43	Single transverse.	"Cut off through trochanters; acetabulum not touched.	Recovered, 4 months.	?	"Walks without crutches."	?	
44	Single transverse.	Head and neck removed.	Recovered, 9 months.	?	Died from phthisis and caries of the pelvis 3 years after.	?	
45	?	Femur cut off through the trochanters; acetabulum gouged, and also small trochanter.	Died, 18 months, of convulsions.	?	"Wound not healed."	?	
46	?	Head, neck, and part trochanters; the acetabulum gouged.	Recovered.	2	"Has movable false joint; satisfactory success."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
47	Lancet, i. 162, 1858; Ashhurst's ta. 212; Hodges' ta. 42; Winne's ta. 44; Heyfeld. ta. 54;	Stanley, Ed., London.	Saint Bartholomew's Hospital.	England. "Rapidly failing; probably phthisis before operation; state too bad to operate on."	M. 13	?	Mar. 21, 1856.	....	Ch. arthritis (morb. cox.); caries surface head femur; articular cartilage absorbed and ulcerated; bone dislocated on inferior spine ilium; acetabulum filled with soft substance; no cause stated.
48	Barwell, Dis. Joints, p. 438; Lancet, i. 336, 1858; Am. Jour. Med. Sci. N. S. xxxiv. 248; Rank. Abst. No. 26, p. 283; Winne's ta. 32; Ashhurst's ta. 95; Hodges' ta. 31.	Hancock, H., 76 Harley St., W. London.	Charring Cross Hospital, London.	Dacey, Tim., England. "Emaciated and worn; night sweats; cough."	M. 14	Over 5 years' standing.	Dec. 6, 1856.	S.	Ch. arthritis (morb. cox.); abscess thigh and joint; caries head femur and acetabulum; latter perforated; pelvic abscess; profuse suppuration; sinuses; no dislocation.
49	Heyfeld. ta. 46; Ashhurst's ta. 22; Hodges' ta. 80; Sayre's ta. 54.	Bauer, L., St. Louis, Mo.	Brooklyn, N. York.	United States. "Hectic fever."	F. 7	?	1856.	S.	Ch. arthritis (morb. cox.); caries; suppuration; periostitis ending in caries of neck and external perforation capsule; acetabulum perforated.
50	Heyfeld ta. 47; Hodges' ta. 79; Ashhurst's ta. 21; Sayre's ta. 53.	Bauer, L., St. Louis, Mo.	Brooklyn, N. York.	United States. "Emaciation."	M. 3	2 years' standing.	1856.	S.	Ch. arthritis (morb. cox.); caries; acetabulum diseased; no cause detectable; fistulæ.
51	Heyfeld. ta. 56; Ashhurst's ta. 25; Hodges' ta. 127, Sayre's ta. 58.	Bauer, L., St. Louis, Mo.	Brooklyn, N. York.	United States. "Emaciation."	F. 9	?	1856.	S.	Ch. arthritis (morb. cox.); caries; head separated.
52	Hodges' ta. 115; Heyfeld. ta. 81; Ashhurst's ta. 204.	Shaw, Alex., 40 Abbey Rd., W. Kilburne, N. W.	England.	England.	F. 14	?	1856.	....	Ch. arthritis (morb. cox.) dislocation; caries.
53	Heyfeld. ta. 49; Ashhurst's ta. 221.	Textor, Son, Würzberg, Bavaria.	Germany.	Germany.	M. 10	.....	1856.	....	Ch. arthritis (morb. cox.) caries.
54	Heyfeld. ta. 50; Ashhurst's ta. 137; Hodges' ta. 33.	Kinloch, R. A., Charleston, S. Carolina.	United States.	United States.	M. 20	.....	1856.	....	Ch. arthritis (morb. cox.) bone not dislocated; acetabulum diseased; caries
55	Heyfeld. ta. 52; Ashhurst's ta. 61; Winne's ta. 33; Hodges' ta. 114.	De Morgan, Campbell G., 51 Upper Seymour St., W. London.	Middlesex Hospital, London.	England.	M. 17	.....	1856.	....	Ch. arthritis (morb. cox.) caries; acetabulum nearly healthy; bone dislocated
56	Heyfeld. ta. 53; Ashhurst's ta. 68; Winne's ta. 30; Hodges' ta. 116; Sayre's ta. 37.	Erichsen, J. E., see Case 38.	University College Hospital.	England; "Has hectic; great emaciation."	M. 8	Long standing.	1856.	....	Ch. arthritis (morb. cox.) acetabulum diseased; caries.
57	Sayre's ta. 50.	Erichsen, J. E., See Case 38.	Univ. College Hospital.	England.	M. 6	.....	1856.	....	Ch. arthritis (morb. cox. caries.
58	Sayre's ta. 55; Ashhurst's ta. 164; Hodges' ta. 87.	Nussbaum, Von J., Munich, Germany.	Germany.	Germany. "Has hectic fever."	F. 8	.....	1856.	....	Ch. arthritis (morb. cox. caries; suppuration; acetabulum diseased.
59	Lyster's ta. No. 1.	Southworth, C. T., Durango, Mexico.	Mexico.	Mexico. "Great emaciation."	F. 19	15 mos. standing.	Dec. 1856.	....	Ch. arthritis (morb. cox. necrosis head and neck femur; caries acetabulu sinuses; suppuration; fr a fall.
60	Lancet, i. 76, 1858; Hodges' ta. 45; Ashhurst's ta. 65; Winne's ta. 38; Sayre's ta. 64.	Erichsen, J. E., see Case 38.	University College Hospital.	W——, Wm., England. "Very weak and emaciated; night sweats."	M. 7½	3 years' standing.	Jan. 7, 1857.	....	Ch. arthritis (morb. cox caries; abscess over he femur; caries acetabulu dislocation; fistulæ.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
47	?	Femur below trochanters; acetabulum gouged.	Died, phthisis, 5 weeks.	.....	"Went on well for some time after operation; discharge profuse and exhausting; his strength kept up. He then got worse with all symptoms of chest disease."		
48	+	Femur just below trochanter major; whole acetabulum sawed out.	Recovered, 4½ months.	?	Walked at 8 weeks without crutches—this induced abscess, from which he recovered; later, walks well with crutch; at end 7 months took phthisis and died in 1 year.	12	Operator claims to have first shown that the acetabulum is generally diseased in these cases, against the views of Colson and Henry Smith, England, who believed such disease was a bar to the operation.
49	?	Head and neck of femur.	Died in 12 months of uræmic convulsions and exhaustion.	.....		?	Operation done simply to relieve suffering.
50	?	Part head and neck femur; acetabulum gouged.	Died, 12 months, of diphtheritic croup.				
51	?	Head and neck of femur; head loose near joint.	Recovered.	½	"After a year the union of the bones was a little firm; doing well."	After 12	
52	?	Head and neck of femur.	Recovered.	.....	At 3 months doing well; able to lift limb; but not out of bed.	3	
53	∧	Head of femur.	Died, 30 days.	?	?	?	
54	?	Head and neck of femur; acetabulum removed.	Died, 30 hours, of shock.				
55	?	Head and neck of femur.	Recovered.	?	"Doing well."	3	
56	T	Head and neck of femur; margin of acetabulum.	Recovered, 3 months.	.....	"Sent to Margate at 3 months; doing well."	3	
57	T	Not stated.	Recovered.	.....	Recovered perfectly with a useful limb.		
58	⌣	Head and below trochanters; acetabulum gouged.	Recovered.	.....	"Walks well and rapidly with high heel, without cane or crutch."	36	Neck broken in disarticulating head.
59	?	Femur ½ inch below trochanter minor; the acetabulum gouged.	Recovered, 6 months.	2½	"Utility of limb fully restored."	6	
60	T	Femur through trochanters; acetabulum gouged at margin.	Recovered, 6 months.	?	Wound almost healed; "wears a leather cap over hip; walked pretty well with a high-heeled shoe; health greatly improved."	6	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
61	Winne's ta. 46; Ashhurst's ta. 225; Hodges' ta. 27; Heyfeld. ta. 55; Lancet, ii. 146, 1857; Am. Jour. Med. Sci. N. S. xxxiv. 525.	Ure, Alex., London.	St. Mary's Hospital, London.	England. "Wan and withered and exhausted."	M. 8	3 years' standing.	Feb. 11, 1857.	....	Ch. arthritis (morb. cox.); caries; absorption cartilages; suppuration; caries head and neck of femur; caries trochanter and acetabulum; sinuses.
62	Lancet, i. 72, 1858; Heyfeld. ta. 59; Hodges' ta. 28; Winne's ta. 36; Ashhurst's ta. 32.	Bowman, William, 5 Clifford St., W. London.	King's College Hospital.	B——, Chas., England. "Pale and delicate."	M. 11	18 mos. standing.	April 4, 1857.	....	Ch. arthritis (morb. cox.); caries; abscess; ulceration skin; absorption capsular ligament; suppuration.
63	Lancet, ii. 206, 1857; Hodges' ta. 117; Ashhurst's ta. 57; Heyfeld. ta. 82.	Cooker, R., and Davies N., Rye, England.	Rye Union House, England.	G——, Edward, England. "Health greatly suffering; increasing emaciation."	M. 12	3 years' standing.	June 2, 1857.	....	Ch. arthritis (morb. cox.); bone dislocated; fistulæ; suppuration; caries neck of femur and acetabulum.
64	Lancet, i. 160, 1858; Hodges' ta. 38; Winne's ta. 42; Ashhurst's ta. 96; Heyfeld. ta. 57.	Hancock, H.; see Case 48.	Charring Cross Hospital.	Little boy; England. "Has phthisis; night sweats; cough; emaciation."	M. 10	2 years' standing.	June 13, 1857.	....	Ch. arthritis (morb. cox.); caries, erosion, and partial absorption of head femur; dislocation; neck carious; suppuration; fistulæ; acetabulum carious at one point.
65	Lancet, i. 74, 1858; Hodges' ta. 46; Ashhurst's ta. 33.	Bowman, W.; see Case 62.	King's College Hospital.	S——, Ellen, England. "Has organic disease of heart."	F. 6	2 years' standing.	June 26, 1857.	....	Ch. arthritis (morb. cox.); false anchylosis of joint; thigh nearly at right angles with pelvis; caries of head femur, acetabulum and pubes; sinuses; head of bone absorbed.
66	Lancet, i. 75, 1858; Hodges' ta. 47; Winne's ta. 37; Ashhurst's ta. 125; Sayre's ta. 70.	Holt, B. W., 14 Savile Row, W. London.	Westminster Hospital, London.	England. "Strumous diathesis strongly marked."	M. 6	2 years' standing.	July 7, 1857.	....	Ch. arthritis (morb. cox.); suppuration; extensive caries head femur and acetabulum; limb bent at right angle on pelvis and fixed; fistulæ; bone not dislocated.
67	Lancet, i. 503, 1858; Lancet, i. 158, 1860; Heyfeld. ta. 58; Ashhurst's ta. 173; Hodges' ta. 20.	Price, P. C., London.	Great Northern Hospital, London.	L——, S., England. Health from being badly broken down improved somewhat by treatment.	M. 8½	Nearly 3 years' standing.	Aug. 5, 1857.	....	Ch. arthritis (morb. cox.); abscess of hip; sinuses; bone not dislocated; thigh bent on pelvis; degeneration synovial membrane; destruction cartilages and ligamentum teres.
68	Lancet, i. 75, 1858; Ashhurst's ta. 76; Heyfeld. ta. 14; Hodges' ta. 118; Sayre's ta. 68.	Fergusson, W.; see Case 7.	King's College Hospital, London.	M——, Sarah Agnes, England. "Very delicate strumous girl."	F. 11	Far advanced standing.	Aug. 8, 1857.	....	Ch. arthritis (morb. cox.); bone partially dislocated; acetabulum separated from caries; head femur carious; thigh flexed at right angles with pelvis.
69	Lyster's ta. No. 2.	Maisonneuve, Paris.	France.	France.	F. 17	Long standing.	Aug. 19, 1857.	....	Ch. arthritis (morb. cox.).
70	Lancet, i. 162, 1858; Heyfeld. ta. 62; Ashhurst's ta. 53; Winne's ta. 45.	Coote, Holmes, 52 Margaret St., W. London.	St. Bartholomew's Hospital, London.	H——, Thomas, England.	M. 16	Over 2 years' standing.	Sept. 21, 1857.	....	Ch. arthritis (morb. cox.) dislocation to ischiatic notch; caries head femur suppuration; head femur denuded of cartilage.
71	Am. Med. Monthly, xi. 317, 1859; Hodges' ta. 36; Heyfeld. ta. 66; Ashhurst's ta. 155.	Markoe, T. M., 20 W. 30th St., New York.	New York Hospital.	Richford, William, United States.	M. 8	10 mos. standing.	Sept. 27, 1857.	....	Ch. arthritis (morb. cox.) caries head of femur and acetabulum; abscess o thigh; bone not dislocated

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
61	⌣	Head and neck of femur to base trochanter major; the latter gouged and a portion of the acetabulum.	Recovered, 10 months.	1½	At 6 weeks could flex and abduct thigh; about out of doors.	10	Heyfelder gives the age in this case at 5 years, and also Hodge
62	Irregular.	Femur to level with trochanter minor; the acetabulum gouged.	Recovered, 5½ months.	1½	"Walks without crutch with aid of high-heeled shoe; can bear weight of body on limb short time; some antero-posterior motion; wound rapidly cicatrizing."	5½	
63	T	"Femur to just below great trochanter; acetabulum gouged at back part and on its floor."	Uncertain.	?	"Doing well; can raise leg."	1	
64	?	Femur to just below the trochanter major; acetabulum gouged.	Died, of phthisis, in 10 weeks.	.....	Improved for 6 or 7 weeks generally and at joint; the phthisis progressed after this and healing ceased; the operation only done to remove a cause of suppuration and exhaustion, and prolong life.		
65	Enlarged the original opening.	Femur below trochanters; acetabulum and horizontal ramus of the pubes scraped.	Died, in 3 months, of valvular disease of heart.	?	"Wound quite healed and limb in favorable position."	?	Hodges gives the age 5 years.
66	?	Head and a portion of neck femur and separated acetabulum.	Recovered, 3 months.	?	"Wound almost healed; leg quite straight; can bear his weight on limb, and walk around bed."	3	Has disease of heart.
67	⊢ Posterior.	Femur to below trochanters; acetabulum gouged.	Recovered, 9 weeks.	1¾	"Walking on crutches at 9 weeks; at 2 years can do all motions of joint; movable fibrous tissue joint; can stand on this limb; can join in many of the sports of his playmates."	24	
68	Vertical.	Femur to below trochanters, and separated acetabulum.	Uncertain.	.....	"Doing well; at 2 months walked with crutches."	2¼	
69	Single transverse.	Not stated.	Died, 1 year.	.....	"Did not walk."	12	
70	) Posterior.	Head and neck and part of trochanter major of femur; acetabulum not touched.	Recovered.	.....	"Limb useless."		
71	⊢ Back.	Head and neck of femur, and portion lip and entire surface of acetabulum gouged.	Recovered, 5 months.	.....	"Walks and runs with a cane."	5	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
72	Heyfeld. ta. 32; Hodges' ta. 21; Ashhurst's ta. 135; Winne's ta. 34.	Jones, G. M., Jersey Island.	Jersey Island.	Jersey Isl'nd, English Channel. "Hectic; bed-sores."	F. 26	Long standing.	1857.	....	Ch. arthritis (morb. cox.); caries of acetabulum and femur; former perforated; large abscess; sinuses along ilium; head of bone not dislocated.
73	Lancet, i. 161, 1858; Ashhursts' ta. 205; Heyfeld. ta. 83; Hodges' ta., see page 105; Winne's ta. 43.	Simon, John, 40 Kensington Square, W. London.	St. Thomas' Hospital.	"Little boy, England. Had phthisis; emaciated; exhausted."	M. ?	Many years' standing.	Early in 1857.	....	Ch. arthritis (morb. cox.); abscess; caries of head of femur; destruction joint; head of femur separated from acetabulum; fistulæ.
74	Heyfeld. ta. 84; Ashhurst's ta. 63; Sayre's ta. 72; Hodges' ta. 71.	Dumreicher, V. J., Baron, Vienna.	Austria.	Austria.	M. 21	2 years' standing.	1857.	....	Ch. arthritis (morb. cox.); caries; luxation; femoral abscesses; fistulæ thigh.
75	Lancet, i. 158, 1860; Hodges' ta. 49; Ashhurst's ta. 136; Lancet, ii. 337, 1861.	Jones, G. M., Jersey Island; died 1861.	Jersey Hospital, Jersey Island.	England. "Health broken down."	F. 20	.....	1857.	....	Ch. arthritis (morb. cox.); caries of head of femur; abscesses and continuous pain.
76	Sayre's ta. 75; Ashhurst's ta. 101; Hodges' ta. 129.	Hewson.	United States.	United States. "Hectic."	F. 13	2 years before.	Dec. 16, 1857.	....	Ch. arthritis (morb. cox.); caries; abscess; fistulæ; spontaneous luxation.
77	Leisrink's ta. 9.	Knorre, Hamburg.	Germany.	Germany.	M. 10	.....	1857.	....	Ch. arthritis (morb. cox.).
78	Glasgow Med. Jour., 1857; Ashhurst's ta. 232; Hodges' ta. 52.	?	Scotland.	Scotland.	M. 8	.....	1857.	....	Ch. arthritis (morb. cox.).
79	Heyfeld. ta. 85; Ashhurst's ta 145; Hodges' ta. 84; Sayre's ta. 73.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	F. 5	?	1857.	....	Ch. arthritis (morb. cox.); caries; acetabulum diseased; abscesses; thigh flexed.
80	Heyfeld. ta. 86; Ashhurst's ta. 146; Hodges' ta. 84; Sayre's ta. 74.	Langenbeck, B., Berlin, Germany.	Germany.	Germany. "Hectic."	F. 10	4 years' standing.	1857.	....	Ch. arthritis (morb. cox.); caries; bone dislocated; acetabulum diseased; suppuration; head anchylosed by callus.
81	Lancet, ii. 287, 1858; Hodges' ta. 73; Ashhurst's ta. 66; Erichsen's Surg. by Ashhurst, p. 778; Heyfeld. ta. 88; Sayre's ta. 83.	Erichsen, J. E., see Case 38.	University College Hospital.	F——, Anna, England. "Strumous; greatly exhausted; could not be removed from table for some hours."	F. 13	16 mos. standing.	Feb. 3, 1858.	....	Ch. arthritis (morb. cox.); caries head femur, ramus, ischium, and pubes, tuberosity ischium, and part dorsum ilium; suppuration; from rheumatic arthritis.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
72	∩	Femur below trochanters; acetabulum gouged.	Recovered in 34 months.	3	"Eventually walked with a cane."	34	
73	Fistula enlarged.	Head of femur sawn off.	Died, in a few days, of phthisis.	.....	"Fatal result not hastened by operation."	.....	This is Simon's case; see "Hodges' Excisions," p. 105.
74	.....	Femur to near trochanter; carious cavity in the trochanter gouged.	Recovered, 4 mos.	.....	"Walks with a cane; there remain some fistulæ; useful."	4	Ashhurst says the limb was "useful"
75	∩	Head of femur.	Recovered, 2 years.	.....	"General health restored; has a most serviceable limb; able to gain her living."	24	
76	T	Femur 3½ in. below trochanter major.	Died, 7 months, Diarrhœa.				
77	?	"Head alone."	Died, 26th day, amyloid degeneration.				
78	?	Excision of head alone.	Recovered.	.....	"Re-excision at 4 months; amputation subsequently."	?	
79	I	Femur below trochanters; acetabulum gouged.	Recovered, 3 months.	.....	No details except, "discharged cured."	?	
80	I	Femur through trochanters; acetabulum gouged and 2 sequestra removed from it.	Died, 11 days, of exhaustion.	?	.....	?	
81	T	Below trochanter major; necrosed new bone about acetabulum; the ramus of the pubes and ischium; portion of tuber ischii and part dorsum ilii.	Recovered, 4½ months.	2	"Limb straight; walked with much ease; health perfect."	120	Prof. Erichsen makes 3 forms of morbus coxarius. 1st, arthritic, in which the ligaments, cartilages, and synovial membrane are alone primarily affected; abscess often attends this form; this may end spontaneously, and sometimes in adhesions joint surfaces. 2d, the femoral beginning in the cancellated structure of the upper epiphysis femur; this is insidious, and occurs mostly in young children; yellow tubercular matter is deposited in cancelli; always leads to abscess. 3d form where the disease originates in the acetabulum and spreads outward. See Braith. Retro, part 42, p. 140.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
82	Lancet, ii. 288, 1858; Hodges' ta. 113; Ashhurst's ta. 67; Heyfeld. ta. 89.	Erichsen, J. E., see Case 38.	University College Hospital.	G——, Emma, England.	F. 10	4½ mos. standing.	Mar. 3, 1858.	....	Ch. arthritis (morb. cox.); caries; abscess over joint; head bone denuded of cartilage; its neck and base softened; bone dislocated; no assignable cause.
83	Am. Med. Monthly, N. Y. xi. 317; Hosp. Records tabulated by Surgeon Gray, U. S. A.; Hodges' ta. 35; Ashhurst's ta. 154; Sayre's ta. 80, and p. 538.	Markoe, T. M., 20 W. 30th Street, New York.	New York Hospital.	Pitz, Jacob, United States. "No marked deterioration of general health."	M. 18	10 mos. standing.	Dec. 6, 1858.	....	Ch. arthritis (morb. cox.); abscess; caries; head femur; acetabulum diseased and perforated.
84	Lancet, i. 336, 1858; Heyfeld. ta. 87; Hodges' ta. 19; Ashhurst's ta. 94.	Hancock, H., see Case 48.	Charring Cross Hospital, London.	England. "Flushed face and very delicate health."	F. 26	20 years' standing.	1858.	....	Ch. arthritis (morb. cox.); anchylosis in bad position; fistulæ; pelvic abscess; caries head femur; disease of spine and tuberosity of ischium; from fall; caries of bottom of acetabulum.
85	Heyfeld. ta. 61; Ashhurst's ta. 35; Hodges' ta. 126; Sayre's ta. 76.	Bowman, W., see Case 62.	King's College Hospital, London.	England.	M. 45	?	1858.	....	Ch. arthritis (morb. cox.); caries.
86	Ashhurst's ta. 234; Hodges' ta. 44.	Unknown.	May be Royal Berkshire Hospital.	England. "Exhausted."	F. 23	?	1858.	....	Ch. arthritis (morb. cox.); caries.
87	Heyfeld. ta. 64; Ashhurst's ta. 222; Hodges' ta. 104.	Tiersch, C., Liepzig, Germany.	Germany.	Germany.	?	?	1858.	....	Ch. arthritis (morb. cox.); caries.
88	Hodges' ta. 103; Heyfeld. ta. 65; Ashhurst's ta. 223.	Tiersch, C., Liepzig, Germany.	Germany.	Germany.	?	?	1858.	....	Ch. arthritis (morb. cox.); caries.
89	Hodges' ta. 77; Ashhurst's ta. 124; Heyfeld. ta. 67; Sayre's ta. 78.	Holston, J. G. F., Washington, D. C.	At his home.	Lippett, Henry, Zanesville, O. "Broken down from long continued diseases."	M. 27	Long standing.	1858.	....	Ch. arthritis (morb. cox.); the head of bone softened; carious, infiltrated with fatty cells; caries ilium, pubes, and ischium; bone dislocated; sinuses.
90	Heyfeld. ta. 68; Hodges' ta. 81; Ashhurst's ta. 23; Sayre's ta. 63.	Bauer, L., St. Louis, Mo.	Brooklyn New York.	United States.	M. 6	Some mos. before.	1858.	....	Ch. arthritis (morb. cox.); caries head and neck femur and acetabulum; from fall; acetabulum perforated.
91	Heyfeld. ta. 69; Hodges' ta. 82; Ashhurst's ta. 24; Sayre's ta. 77.	Bauer, L., St. Louis, Mo.	Brooklyn New York.	United States.	M. 4½	?	1858.	....	Ch. arthritis (morb. cox.); caries head femur; disease acetabulum; from contusion of hip.
92	Heyfeld. ta. 90; Hodges' ta. 29; Ashhurst's ta. 104; Sayre's ta. 85.	Hilton, John. 10 New Broad St., E. C. London.	London.	England. "Bed-sores."	M. 54	2 years' standing.	1858.	....	Ch. arthritis (morb. cox.); caries; bone dislocated and absorbed; acetabulum not diseased.
93	Heyfeld. ta. 91; Hodges' ta. 88; Ashhurst's ta. 165; Sayre's ta. 56.	Nussbaum, Von J., Munich, Germany.	Germany.	Germany.	M. 10	Long standing.	?	....	Ch. arthritis (morb. cox.) caries; profuse suppuration.
94	Heyfeld. ta. 92; Hodges' ta. 89; Ashhurst's ta. 166; Sayre's ta. 86.	Nussbaum, Von J., Munich, Germany.	Germany.	Germany. "Hectic."	M. 16	Several years.	1858.	....	Ch. arthritis (morb. cox.) caries acetabulum; latter perforated; caries femur suppuration.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
82	T	Femur below great trochanter; small piece ilium gouged out.	Recovered, 2 months.	?	"Doing well; sent to Margate; the discharge less abundant and fetid."	2	
83	I	Head femur through cervix; diseased points in acetabulum untouched.	Died, 13 days, apparently from pyæmia.	.....	.....	.....	Post-mortem showed infiltration (purulent) of whole of upper part of thigh, and pus in femoral vein.
84	I	Femur below trochanters; bottom of acetabulum, spine, ischium, and considerable portion of tuber ischii.	Died, 8 days, erysipelas.				
85	?	Uncertain.	Uncertain.	.....	"Doing well."	1	
86	?	Acetabulum gouged: head femur alone.	Died, 4th day, of exhaustion from suppuration.	.....	.....	.....	See Heyfeld. ta. No. 63.
87	?	Not stated.	Died, from erysipelas.				
88	?	Not stated.	Recovered.	.....	"Useful."		
89	?	Head of femur and portions of ilium, pubes, and ischium.	Died, 7 days, "exhaustion."	.....	.....	.....	Writer assisted at this operation.
90	?	Head and neck of femur, acetabulum and surrounding bone.	Died, 4 mos., of inanition and progressive caries.	.....	.....	.....	Operation done to relieve suffering simply.
91	?	Head femur; acetabulum gouged.	Recovered.	¼	"Useful limb."	?	
92	T	Femur below trochanters.	Died, 11 days, from bedsores.				
93	?	Upper third of femur and entire acetabulum.	Recovered.	3½	"Requires mechanical assistance in walking."		
94	(	"Femur below trochanters; acetabulum gouged."	Recovered, 4 months.	.....	"Walks well with crutches; nearly well."	4	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
95	Sayre's ta. 88; Ashhurst's ta. 26; Hodges' ta. 54.	Beaney.	?	?	F. 12	?	1858.	....	Ch. arthritis (morb. cox.); no dislocation; acetabulum healthy.
96	Leisrink's ta. 10.	Knorre, Hamburg, Germany.	Germany.	Germany.	M. 4	.....	1858.	....	Ch. arthritis (morb. cox.).
97	Leisrink's ta. 11.	Ried, Fr., Jena.	Germany.	Germany.	M. 2	.....	1858.	...	Ch. arthritis (morb. cox.); acetabulum diseased.
98	Leisrink's ta. 13	Langenbeck, B. Von, Berlin, Germany.	Germany.	Germany. Exhausted.	F. 16	.....	1858.	....	Ch. arthritis (morb. cox.); acetabulum diseased.
99	Hodges' ta. 55; Ashhurst's ta. 93.	Hamilton, Robert, Princes Road, Liverpool.	Liverpool.	England. Exhausted.	M. 13	.....	Prob. 1858.	....	Ch. arthritis (morb. cox.); head and neck absorbed (left side).
100	Heyfeld. ta. 93; Hodges' ta. 86; Ashhurst's ta. 144; Sayre's ta. 81, and p. 538.	Kuechler, Darmstadt, Germany.	Germany.	Germany.	M. 7	18 mos. standing.	1858.	....	Ch. arthritis (morb. cox.); extensive caries; acetabulum diseased.
101	Heyfeld. ta. 110.	Sédillot, Strassburg.	Germany.	Germany.	M. 31	Long standing.	1858.	....	Ch. arthritis (morb. cox.); caries of head and neck of femur; femur carious.
102	Heyfeld. ta. 72; Hodges' ta. 64; Ashhurst's ta. 80; Sayre's ta. 95.	Fock, C., Magdeburg, Saxony, Prussia.	Germany.	Germany.	F. 9	3 years' standing.	May 13, 1859.	....	Ch. arthritis (morb. cox.); caries; abscess; bone not dislocated; acetabulum diseased.
103	Hodges' ta. 70.	Dumreicher, J. V. Baron, Vienna.	Austria.	Austria.	M. 19	.....	May 28, 1859.	S.	Ch. arthritis (morb. cox.); left hip; dislocation.
104	Heyfeld. ta. 73; Hodges' ta. 65; Ashhurst's ta. 81; Sayre's ta. 96.	Dumreicher, J. V. Baron, Vienna.	Austria.	Austria.	M. 14	1 year's standing.	June 10, 1859.	....	Ch. arthritis (morb. cox.) acetabulum diseased; from fall; caries; bone not dislocated.
105	Lancet, i. 407, 1861; Hodges' ta. 68; Ashhurst's ta. 171.	Partridge, R., 18 Wimpole Street, W. London.	King's College Hospital.	E——, Wm., England. "Health very indifferent."	M. 8½	6 years' standing.	June 2?, 1859.	....	Ch. arthritis (morb. cox.) caries femur; acetabulum diseased; head of femur nearly absorbed; abscesses; sinuses; from fall.
106	Lancet, i. 328, 1861; Hodges' ta. 48; Ashhurst's ta. 170.	Partridge, R., 18 Wimpole Street, W. London.	King's College Hospital.	T——, John, England. "Strumous-looking."	M. 4	Over 6 mos. standing.	Aug. 3, 1859.	....	Ch. arthritis (morb. cox.) abscess of lower border of gluteus maximus discharging freely; absorption of acetabulum; absorption and detachment of greater part of head of femur.
107	Heyfeld. ta. 74; Hodges' ta. 66; Ashhurst's ta. 82; Sayre's ta. 98.	Fock, C., see Case 102.	Germany.	Germany.	M. 22	4 mos. standing.	Sept. 27, 1859.	....	Ch. arthritis (morb. cox.) bone dislocated; acetabulum not diseased.
108	Lancet, ii. 143. 1860; Ashhurst's ta. 75; Hodges' ta. 37.	Fergusson, W., see Case 7.	King's College Hospital.	W——, J., England. "Emaciated, pale: weak from discharge; appetite good."	M. 12	9 years' standing.	Oct. 8, 1859.	....	Ch. arthritis (morb. cox.) abscesses; suppuration leg flexed on thigh, latter on pelvis; disease acetabulum; bone not dislocated; loss of cartilages; from fall.
109	Heyfeld. ta. 75; Hodges' ta. 97; Sayre's ta. 97.	Fock, C., see Case 102.	Germany.	Germany. "Chronic rheumatism."	M. 45	.....	Oct. 11, 1859.	....	Rheumatic arthritis; fistula; osteophytes above acetabulum; enlargement of acetabulum; absorption of round ligament.
110	Sayre's ta. 92; Ashhurst's ta. 47; Hodges' ta. 57.	Church, W. H., New York.	United States.	United States.	M. 7	1 year's standing.	Oct. 16, 1859.	....	Ch. arthritis (morb. cox.) abscess; no dislocation acetabulum healthy.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
95	?	Head and 2 in. shaft.	Recovered, 1 year.	?	"Walks well with high heeled shoe."	12	
96	?	Not stated.	Recovered.	.....	"Useful."		
97	^	Head femur; acetabulum gouged.	Died, 1 month, exhaustion.				
98	I	Head femur; acetabulum gouged.	Died, 24 hours, exhaustion.				
99	?	Below great trochanter femur.	Died, 6 weeks, exhaustion.				
100	?	Head and neck of femur; acetabulum gouged.	Died, 5 months, of tubercular meningitis.	.....	"Wound entirely healed; able to elevate limb."		
101	I	"Femur below the trochanters; évidement of the carious femur.	Died, of intra pelvic suppuration, in 10 months.				
102	(	Femur below trochanter major; acetabulum gouged.	Recovered, 6 months.	¾	"On her feet most of the day; uses a cane ordinarily; can go without."	6	
103	?	Head and neck of acetabulum not touched.	Recovered, 7 months.	.....	"Walks without crutches."	7	
104	?	Head femur alone; acetabulum gouged.	Died, 11 weeks, of fatty degeneration of kidneys.				
105	I	Femur below trochanter major; acetabulum gouged.	Recovered, 5 months.	?	"Discharged cured."	5	
106	I	Femur below great trochanter, and great portion of head of bone lying loose in the joint.	Recovered, 7 weeks.	?	"Can move his limb of his own accord, and suffers no pain when the limb is rotated on his body; wound nearly healed; discharged cured."	1¾	
107	I	Head and neck of femur; acetabulum not gouged.	Died, pyæmia, 18 days.				
108	I	Femur below trochanters; acetabulum gouged.	Died, 39 days, of exhaustion from diarrhœa.				
109	?	Femur below trochanter.	Recovered.	1½	"Result very good."		
110	?	Head of femur.	Recovered, 7 months.	.....	"Walks without crutches; recovered perfectly; useful."	7	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
111	"Corrected table" by Sayre; Sayre's ta. 94; Letter, 1872; Hodges' ta. 56; Ashhurst's ta. 187; Trans. Am. Med. Assoc. xiii. 530.	Sayre, L. A., see Case 39.	Private house.	Raymond, —, 152 Hicks St., Brooklyn, New York. "In articulo mortis; intense pain." Is 4 ft. 9 in. in height and weighs 40 lbs.	M. 11	6 mos. standing.	Oct. 20, 1859.	....	Ch. arthritis (morb. cox.); disease of head of femur, ilium, ischium, and pubes; large abscesses; slough over each tuber ischii.
112	Lancet, ii. 511, 1860; Ashhurst's ta. 174.	Price, P. C., London.	Great Northern Hospital, London.	W——, G., England. "Wasted to a mere shadow: at point of death."	M. 10	4½ years' standing.	Oct. 29, 1859.	....	Ch. arthritis (morb. cox.); caries of head femur; loss of cartilages; sinuses; abscess; necrosis acetabulum; leg flexed on thigh; bone not dislocated.
113	Letter, 1872.	Walter, A. G. 66 and 68 6th Avenue, Pittsburg, Pa.	Walter Hospital, Pittsburg	Gunzier, David, Allegheny City, Pa.	M. 32	2 years' standing.	Nov. 6, 1859.	....	Ch. arthritis; caries of the head and neck of the left femur, following synovitis.
114	Heyfeld. ta. 71; Hodges' ta. 90; Ashhurst's ta. 69.	Esmarch, Fred., Kiel. Denmark.	Denmark.	Denmark. "Great emaciation."	M. 21	18 mos. standing.	1859.	....	Ch. arthritis (morb. cox.) caries; bone dislocated; from fall.
115	Sayre's ta. 93; Ashhurst's ta. 226.	Van Duminski, Vienna, Austria.	Austria.	Austria.	F. 19	1 year's standing.	1859.	....	Ch. arthritis (morb. cox.) caries; open abscesses; ligamentum teres destroyed.
116	Leisrink's ta. 12.	Knorre, Hamburg, Germany.	Germany.	Germany.	M. 5	.....	1859.	....	Ch. arthritis (morb. cox.)
117	Heyfeld. ta. 103; Hodges' ta. 40; Ashhurst's ta. 132.	Husband, W. D., York, England.	England.	England.	M. 12	.....	1859.	....	Ch. arthritis (morb. cox.) acetabulum diseased; caries.
118	Heyfeld. ta. 104; Hodges' ta. 41; Ashhurst's ta. 102.	Hey, Wm., 1 Albion Place, Leeds, England.	England.	England.	M. 17	.....	1859.	....	Ch. arthritis (morb. cox.) acetabulum not diseased.
119	Heyfeld. ta. 105; Hodges' ta. 22; Ashhurst's ta. 56.	Craven, R., Southport, Lancashire.	England.	England.	M. 10	.....	1859.	....	Ch. arthritis (morb. cox.) bone dislocated; acetabulum diseased.
120	Heyfeld. ta. 76; Sayre's ta. 106; Ashhurst's ta. 84; Hodges' ta. 121.	Fock, C., Magdeburg, Saxony, Prussia.	Prussia.	Germany. "Hectic fever."	F. 13	3 years' standing.	Jan. 9, 1860.	....	Ch. arthritis (morb. cox.) without fistulæ; round ligament destroyed; head partly absorbed; neck and trochanter major carious; joint full of pus.
121	Lancet, ii. 511, 1860; Ashhurst's ta. 175; Winne's ta. 41.	Price, P. C., London.	Great Northern Hospital	F——, J., England. Hectic emaciation.	M. 8	Existed for years.	Jan. 10, 1860.	....	Ch. arthritis (morb. cox.) loss round ligament; bone denuded; acetabulum diseased; pus in joint; synovial membrane destroyed; sinuses; no dislocation.
122	Lancet, ii. 143, 1860; Hodges' ta. 24; Ashhurst's ta. 224.	Ure, Alex., London.	St. Mary's Hospital, London.	W——, J., England. "Emaciation; hectic."	M. 11	6 mos. standing.	Jan. 11, 1860.	....	Ch. arthritis (morb. cox.) caries and erosion and absorption of head; latter not dislocated; pulpy degeneration; loss of round ligament; fistulæ.
123	Heyfeld. ta. 98. Ashhurst's ta. 70; Hodges' ta. 92; Sayre's ta. 109.	Esmarch, F., Kiel, Denmark.	Denmark.	Denmark.	M. 27	1 year's standing.	Jan. 24, 1860.	....	Ch. arthritis (morb. cox.) abscess; from contusion.
124	Heyfeld. ta. 99; Hodges' ta. 91; Ashhurst's ta. 147; Sayre's ta. 108.	Langenbeck, B., Berlin.	Germany.	Germany. "Hectic fever."	M. 5	9 mos. standing.	Feb. 13, 1860.	....	Ch. arthritis (morb. cox.) dislocation; suppuration followed measles.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
111	U	Femur to base trochanters; acetabulum perforated; extensive portions of bone removed; internal periosteum separated, causing large abscess in ilium.	Died, 8 days, of exhaustion.	?	?	?	"Operation not expected to be successful, but done to make patient more comfortable."
112	⊢ post.	Femur to base of great trochanter; acetabulum gouged.	Recovered.	?	"Health improving; wound healing; still recumbent."	2	
113	I	Head and neck of femur to below trochanter major; acetabulum gouged.	Recovered, 24 weeks.	1½	"Semi-anchylosis of joint; but useful for ordinary purposes; is able to attend to his business as a grocer."	24	
114	–	Femur below trochanters.	Recovered, 12 months.	.....	"Walks with cane and high heel; useful."	12	
115	I	Head and neck of femur.	Recovered.	.....	"Walked without crutches; useful."	?	
116	?	3 inches of femur.	Died, 7 mos. of phthisis, and amyloid degeneration.				
117	?	Femur below trochanters; acetabulum gouged.	Recovered, 4 months.	.....	"Excellent result; walks well."	4	
118	?	Head femur alone; acetabulum not touched.	Recovered, 12 months.	.....	"A good recovery; useful limb."	12	Heyfeld. has age 27.
119	?	Head femur alone; acetabulum gouged.	Died, 3 months, from exhaustion and suppuration.				
120	?	Femur below trochanters; acetabulum gouged.	Uncertain.	?	"Wound nearly healed."	3	Phthisical 3 months after operation.
121	Sinus enlarged.	Head femur; nothing said as to acetabulum.	Recovered, 9 weeks.	.....	"Health improving; gained a useful limb; walking on crutches in 9 weeks."	2¼	
122	⌣	Head femur alone; acetabulum not gouged.	Died, 20 days, of exhaustion.				
123	–	Head and neck of femur.	Died, 16 days, pyæmia.	.....	.....	.....	Bedsores appeared on 31st of January.
124	I	Femur below trochanter major; acetabulum not touched.	Died, 8 days, pyæmia.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
125	Heyfeld. ta. 77; Hodges' ta. 67; Ashhurst's ta. 83; Sayre's ta. 107.	Fock, C., see Case 102.	Prussia.	Germany.	M. 13	2 mos. standing.	Mar. 16, 1860.	....	Acute arthritis (morb. cox.); caries; acetabulum diseased; abscess; partial dislocation.
126	Heyfeld. ta. 100; Hodges' ta. 125; Ashhurst's ta. 179; Sayre's ta. 105.	Rausche, Germany.	Germany.	Germany. "Hectic."	M. 10	2 years' standing.	Mar. 23, 1860.	....	Ch. arthritis (morb. cox.); anchylosis; caries; fistulæ.
127	Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	McGarr. "Much exhausted from excessive suppuration of 3 years."	M. 16	1st fall 11 years, 2d, 3 years before.	Mar. 1, 1860.	S.	Ch. arthritis (morb. cox.); luxation on dorsum ilii, shortening 1½ in.; caries; acetabulum perforated.
128	Sayre's ta. 102 and p. 539; Ashhurst's ta. 48; Hodges' ta. 58.	Church, W. H., see Case 110.	United States.	United States. "Great emaciation."	M. 17	3 years before.	Mar. 1860.	....	Ch. arthritis (morb. cox.) from fall; abscess; free suppuration; luxation of trochanter; neck absorbed remains of head and femur in acetabulum; latter diseased and perforated.
129	Sayre's ta. 100; Ashhurst's ta. 17.	Bauer, L., St. Louis, Mo.	United States.	United States.	M. 7	3 years before.	April 4, 1860.	....	Ch. arthritis (morb. cox.) from injury; caries head and acetabulum.
130	Ashhurst's ta. 159; Sayre's ta. 101.	Mott, A. B., New York.	United States.	United States. "Great emaciation."	F. 4	2 years before.	May 1, 1860.	....	Ch. arthritis (morb. cox.) from falls; 3 fistulæ; acetabulum diseased.
131	Lyon's ta. 3; Ashhurst's ta. 210.	Spencer, H. G. P.	United States.	United States. "Very much emaciated; anorexia; insomnia; pain."	M. 13	3 years' standing.	May 10, 1860.	....	Ch. arthritis (morb. cox.) caries of femur; periosteum denuded from femur sinuses; neck entirely absorbed; head loose; acetabulum carious; fracture femur at middle; from acute synovitis.
132	Lancet, i. 407, 1861; Winne's ta. 39; Ashhurst's ta. 34; Hodges' ta. 74; Heyfeld. ta. 106.	Bowman, W. see Case 62.	King's College Hospital.	K——, M. A., England. "Pale and very emaciated; liver large."	F. 6	14 mos. standing.	May 19, 1860.	....	Ch. arthritis (morb. cox.) sinuses; free suppuration head and neck of femur necrosed and loose in excavation in the trochanter major; acetabulum partly absorbed; from fa
133	Lancet, i. 243, 1861; Hodges' ta. 63; Ashhurst's ta. 85; Heyfeld. ta. 108.	Folkar, W. H. Hanley, Staffordshire, England.	North Staffordshire Infirmary.	B——, Edw'd, England. "Pale and emaciated."	M. 30	25 mos. standing.	May 26, 1860.	....	Ch. arthritis (morb. cox. caries; partial anchylo by bone; head not dislocated; acetabulum disease open sore; free discharg from jumping.
134	Sayre's ta. 99; Ashhurst's ta. 18; Hodges' ta. 62.	Bauer, L., St. Louis, Mo.	United States.	United States.	M. 6	9 mos. before.	May, 1860.	....	Ch. arthritis (morb. cox caries of head and acetabulum; perforation of c sule; abscess; from in jury.
135	Lancet, i. 329, 1861; Hodges' ta. 69; Ashhurst's ta. 60.	DeMorgan, Campbell G., see Case 55.	Middlesex Hospital, London.	C——, James, England. "Health improved under treatment."	M. 21	Over 6 mos. standing.	May 26, 1860.	....	Ch. arthritis (morb. cox abscesses; from infan no injury; dislocation head, and neck caric and softened: acetabul healthy.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
125	?	Head and neck; acetabulum cauterized.	Died, 14 days, thrombosis.				
126	?	Femur through trochanters.	Uncertain.	.....	"Doing well 2 months after operation."	2	
127	)	Head separated; bone removed below trochanter minor.	Died, last May, 1860, exhaustion.	.....	Disease still progressed.	.....	Autopsy showed os innominatum carious, acetabulum perforated and broken in three pieces (probably fractured at time of fall in cistern); femur rounded off by effort of nature and attached to healthy portion of acetabulum by fibrous tissue; abscess on inner surface of ilium connecting with fissures in acetabulum.
128	?	Loose head femur, and trochanter major, and portions of acetabulum.	Died, 4 months, exhaustion, from erysipelas and pelvic disease.	.....	.....	.....	Post-mortem showed a fissure of acetabulum; pelvic abscess extending to sacro-iliac junction, which was carious.
129	?	Head and neck gouged, acetabulum thoroughly.	Recovered.	1¼	"Began walking in July, 1860; motion of joint; useful."	3	
130	?	Femur through trochanter major; loose pieces from acetabulum.	Recovered, 3 months.	.....	"Recovered with free motion, but not able to bear any weight upon limb."	3	
131	?	Upper 8½ or 9 in. of femur; acetabulum gouged; periosteum saved.	Recovered, 3 months.	?	"In 3 months considerable voluntary power to move limb in different directions; 4 years robust; walks without cane or crutch; rides horseback; has all motions of the joint; mowing away hay in hay-loft."	48	
132	?	Femur below great trochanter; surface of acetabulum scraped, and separated head and neck.	Recovered, 2½ months.	?	"Discharged cured; health good."	.....	This is Bowman's case, page 105, "Hodges on Excisions."
133	I	Femur to below great trochanter; acetabulum gouged.	Died, 3 months, of diarrhœa and exhaustion.				
134	?	Head and neck; acetabulum gouged superficially.	Recovered, 3 months.	¾	"Mobility joint useful."	3	July 20 last heard from.
135	V	Head femur; acetabulum not touched.	Recovered, 8 months.	?	"Walks ward with aid of a stick; wound healed; health greatly improved."	8	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
136	Lancet, i. 327, 1861; Heyfeld. ta. 107; Hodges' ta. 120; Ashhursts' ta. 77.	Fergusson, W., see Case 7.	King's College Hospital.	K——, Wm., England. "General health pretty good."	M. 4	14 mos. standing.	July 7, 1860.	....	Ch. arthritis (morb. cox.); caries with absorption of head femur; caries of trochanter; partial dislocation; abscess; cartilage absorbed; acetabulum healthy; from fall.
137	Hodges' ta. 124; Lyon's ta. 4; Ashhurst's ta. 189; Letter, 1872; Sayre's ta. 104; Sayre's corrected table, 1874.	Sayre, L. A., see Case 39.	Private House, New York.	McClure, 11th Avenue and 52d St., New York,	M. 4	2 years' standing.	July 8, 1860.	....	Ch. arthritis (morb. cox.); capsule ruptured; extensive femoral abscesses; no external opening; from fall; head almost absorbed.
138	Letter, 1872; Hodges' ta. 72; Ashhurst's ta. 188; Sayre's ta. 110; Sayre's corrected table, 1874.	Sayre, L. A., see Case 39.	Private House, New York.	United States, May S.	F. 5	18 mos. standing.	Sept. 4, 1860.	....	Ch. arthritis (morb. cox.); acetabulum diseased; fistulæ; necrosis; great deformity; from a fall.
139	Lancet, ii. 69, 1860; Hodges' ta. 112; Ashhurst's ta. 156.	Maunder, C. F., 29 New Broad St., E. C. London.	London.	England.	M. 7	?	Oct. 1860.	....	Ch. arthritis (morb. cox.); disease of head of femur, acetabulum, and ilium; dislocation.
140	Lancet, i.328, 1861; Ashhurst's ta. 176; Hodges' ta. 59.	Price, P. C., London.	Great Northern Hospital, London.	E——, John T., England. Pale and very emaciated.	M. 5	4 years' standing.	About Oct. 1860.	....	Ch. arthritis (morb. cox.); sequel of measles and whooping-cough; thigh flexed and across its fellow; head of femur absorbed; necrosis of acetabulum; no dislocation.
141	Lyon's ta. 5; Ashhurst's ta. 230; Hodges' ta. 122.	Wood, J. R., 80 Irving Place, New York.	New York.	United States.	M. 17	1 year's standing.	Dec. 22, 1860.	....	Ch. arthritis (morb. cox.); disease of head, neck, and trochanters.
142	Lyon's ta. 15; Sayre's corrected ta. 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital.	Great emaciation, and hectic.	F. 10	2 years' standing.	Dec. 1860.	S.	Ch. arthritis (morb. cox.); sinuses with profuse discharge; head nearly absorbed; acetabulum perforated.
143	Ashhurst's ta. 91; Hodges' ta. 23.	Gay, Boston.	Boston.	United States.	M. 9	.....	Prob. 1860.	....	Ch. arthritis (morb. cox.); dislocation; acetabulum not diseased; (left side).
144	Heyfeld. ta. 109; Hodges' ta. 100; Ashhurst's ta. 235; Hodges' ta. 125.	Humphrey, G. M., Cambridge.	England.	England.	M. 8	?	1860.	....	Ch. arthritis (morb. cox.); caries; acetabulum diseased.
145	Lyon's ta. 6; Hodges' ta. 128; Ashhurst's ta. 160.	Mott, A. B. New York.	New York.	United States. "Emaciation and hectic."	F. 12	4 years' standing.	1860.	....	Ch. arthritis (morb. cox.) sinuses; caries of acetabulum; disease of bone above trochanter minor.
146	Good's ta. 1.	Langenbeck, B. Von, Berlin, Germany.	Prussia.	Germany.	M. 13½	?	1860.	....	Ch. arthritis (morb. cox.) dislocation; acetabulum full of granulations; no suppuration.
147	Good's ta. 4.	Bardeleben, Greifswald, Germany.	Germany.	Germany.	M. 12	?	1860.	....	Ch. arthritis (morb. cox.) caries of head of femur; acetabulum healthy.
148	Good's ta. 5.	Dumreicher, V., Vienna.	Austria.	Austria.	F. 19	Over 5 mos. standing.	1860.	....	Ch. arthritis (morb. cox.) spontaneous luxation.
149	Good's ta. 2.	Esmarch, F., Kiel, Denmark.	Denmark.	Denmark.	M. 23	?	1860.	....	Ch. arthritis (morb. cox.) luxation with suppuration.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
136	I	Femur through base of trochanter major.	Recovered.	?	Moves limb of own accord quite well; "useful limb."	1¼	5 weeks a short time to determine definite result in a case.
137	⌒	Head femur; acetabulum gouged.	Recovered, 6 weeks.	1½	"Shortening ½ in. and wound nearly closed in 6 weeks; at 2 years walks well with a cane; hip perfectly sound."	24	
138	I	Head, neck, and part of trochanter major; acetabulum gouged.	Recovered, 3 months.	½	"Perfect result; walked with a stick in 3 months."	84	Operator believes this disease is local and traumatic, and does not believe in constitutional taint as a cause.
139	?	Head of femur, and acetabulum gouged.	Uncertain.	.....	"Doing well."	1½	
140	?	A large portion of sequestrum from acetabulum below trochanters.	Recovered, 10 months.	?	"Parts recovering; promises useful limb."	10	Operator died Nov. 13, 1864.
141	?	Head and neck trochanters and 2 in. shaft.	Recovered.	.....	"Wound nearly healed in 1 month; 3½ years after is a hack driver; gets up and down from box with ease; walks without any support; hip sound; motion very free."	42	
142	⌒	Femur 1 in. below trochanter minor; acetabulum gouged.	Recovered, 18 months.	3	At 2 years wound perfectly closed; is quite fleshy; walks without support; generally uses a cane on street; wears a cork sole 3 inches thick.	36	
143	?	Head and neck.	Died, 16 days, "exhaustion."				
144	?	Head of femur and great trochanter; acetabulum gouged.	Died, 3 months, phthisis.				
145	?	Femur to above trochanter minor; acetabulum not gouged.	Recovered, 6 months.	2	"Walked with aid of splint; good motion at joint; wound entirely closed."	6	
146	I	Head of femur.	Recovered.	"Less 1"	"Movements in new joint give no pain; walks easily."	?	
147	?	Head of femur.	Recovered, 3 months.	1¼	"Attempted walking 3 months after operation; 3 years after walks easily."	36	
148	?	Head and neck of femur.	Recovered, 5 months.	2	"Mobility upon pelvis restored; walks without crutches."	5	
149	—	Head of femur.	Died, in 2 years, of exhaustive suppuration.	.....	"Pelvis carious."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
150	Ashhurst's ta. 1; Hodges' ta. 107; Letter, 1874.	Andrews, E., Chicago, Ill.	United States.	United States. "Bad."	F. 11	7 years' standing.	1860.	....	Ch. arthritis (morb. cox.); head and neck absorbed; acetabulum healthy; caries.
151	Ashhurst's ta. 148.	Lyon, F. W., Peter Culter, Scotland.	Scotland.	Scotland.	M. 24	.....	1860.	....	Ch. arthritis (morb. cox.).
152	Ashhurst's ta. 158.	Morton.	Scotland.	Scotland.	F. 13	.....	1860.	....	Ch. arthritis (morb. cox.) (right side).
153	Sayre's ta. 103; Ashhurst's ta. 42, 43; Hodges' ta. 76; Lyon's ta. 31.	Carnochan, J. M., 498 Broadway, New York.	New York.	United States. "Constitutional disturbance moderate."	M. 13	2½ years' standing.	1860.	....	Ch. arthritis (morb. cox.); from fall; caries with external abscesses and fistulæ.
154	Chicago Med. Examiner, June 1861; Ashhurst's ta. 3; Letter, 1874.	Andrews, E., Chicago, Ill.	United States.	United States. "Tuberculous family. Bad."	F. 13	2 years' standing.	1860.	....	Ch. arthritis (morb. cox.); acetabulum diseased; caries.
155	Good's ta. 6.	Parsons.	?	? "Caries of vertebræ."	M. 30	10 mos. standing.	1860.	....	Ch. arthritis (morb. cox.); suppuration, arthritis; acetabulum diseased; from fall.
156	Good's ta. 7.	Billroth, Th., Vienna, Austria.	Austria.	Austria. ("Remittent fever.")	? 7	?	1860.	....	Ch. arthritis (morb. cox.); ill conditioned suppuration.
157	Lyon's ta. 7; Ashhurst's ta. 39.	Buck, Gurdon 46 W. 29th St. New York.	New York.	United States.	F. 20	2½ years' standing.	Jan. 12, 1861.	....	Ch. arthritis (morb. cox.) abscesses about joint; acetabulum diseased; from an injury.
158	Letter, 1872, tabulated by Surgeon Gray, U. S. Army, from Hospital Records.	(Probably) Watson, New York. (Patient admitted by him.)	New York Hospital.	McDonald, Pat, New York.	M. 12	?	Mar. 29, 1861.	....	Ch. arthritis (morb. cox.) disease of acetabulum.
159	Letter, 1872; Ashhurst's ta. 186, Sayre's corrected table.	Sayre, L. A., see Case 39.	Private House, New York.	Davis, Lancaster, Ohio.	F. 9	Over 2 years' standing.	Mar. 1861.	....	Ch. arthritis (morb. cox.) acetabulum diseased; from fall.
160	Med. and Surg. Reporter, vii. 198, Philada.; Ashhurst's ta. 214.	Swinburn, John, Albany, New York.	Albany.	O'C——, J., New York, United States. "Emaciation; night sweats; hectic."	M. 10	7 mos. standing.	April 2, 1861.	....	Ch. arthritis (morb. cox.) disease of head, neck, tr chanter, and acetabulu from a kick; dislocatio abscess.
161	Hospital Records tabulated by Surgeon Gray, U. S. A.; Ashhurst's ta. 172; Lyon's ta. 8; Hodges' ta. 105.	Peters, Geo. A., 12 W. 29th St., New York.	St. Luke's Hospital, New York.	Marquis, Alexander, New York. "Weak and thin."	M. 20	18 mos. standing.	April 17, 1861.	....	Ch. arthritis (morb. cox large abscesses commu cating with joint; exc sive discharge; brim o acetabulum carious; fr fall (right side).
162	Lyon's ta. 9; Hodges' ta. 131; Ashhurst's ta. 133.	Jacobi, Abram, 110 W. 34th St., New York.	New York.	United States. "Much debility."	M. 4	2 years' standing.	April 20, 1861.	....	Ch. arthritis (morb. cox large abscess near hip acetabulum diseased; fr fall.
163	Corrected Table, 1874.	Sayre, L. A., see Case 39.	Private House, New York City.	Holmes, C. A. Brooklyn, Iowa. "Much emaciated."	F. 8	?	April 24, 1861.	....	Ch. arthritis (morb. cox acetabulum diseased; fr fall.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
150	?	1½ in. shaft.	Recovered, 2 years.	.....	"Good."	24	Right side.
151	?	.....	Probably died, uncertain.	.....	"Useless."		
152	?	Partial excision.	Recovered.	.....	?		
153	(I	4 in. of femur.	Recovered, 11 months.	2½	"Perfect recovery with motion; walks well with a cane."	11	
154	?	Acetabulum interfered with; head of femur and trochanter major.	Died, 10 months, return of disease.	.....	Improved in 2 months; then relapsed; complicated with anal fistula.		
155	?	Femur below trochanter major; acetabulum gouged.	Died, 3 months, of exhaustion from caries of the vertebræ.	?			
156	Irregular.	Opened abscess and removed head of femur.	Recovered.	?	"Had the fever until the 22d day; nothing as to state of limb."	⅔	
157	?	"Femur below the trochanter minor; brim of acetabulum pared."	Died, 3 years, from exhaustion.	?	"Wound never entirely closed, and discharged pus and dead bone often until death."		
158	I	Femur to level with trochanter minor; acetabulum not touched.	Died, 13 days.				
159	U	Head, neck, and trochanter major; acetabulum perforated.	Recovered.	?	"Good."	132	Operator in trying to luxate head, lower epiphysis was separated on account of consolidation about hip being so firm; says in such cases it is better to pass a chain saw around the femur, and make section of bone; and pinch out head with forceps."
160	T	Femur to just at the inter-trochanteric space; acetabulum gouged.	Recovered, 5 months.	1	"Nearly complete restoration of motion of thigh on pelvis; and which is daily improving; doubtful."	5	
161	I	Head, neck, and upper half of trochanter major; acetabulum gouged.	Died, 4 months, of exhaustion.	.....	"Hip continued to discharge, and patient sank."		
162	?	Head and neck of femur; acetabulum gouged.	Recovered, 3½ months.	?	"3 years afterwards walks and jumps all day without support."	36	
163	U	Head, neck, and trochanter major; acetabulum perforated.	Recovered, 6 months.	¾	"Very good."	120	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
164	Lyon's ta. 10; Sayre's corrected table, 1874.	Sayre, L. A., see Case 39.	New York.	Schletting, A. 54th St. near 8th Avenue, New York. "Great emaciation."	F. 10	18 mos. standing.	May 8, 1861.	....	Ch. arthritis (morb. cox.); sinuses; neck absorbed, and head lying loose; acetabulum diseased; from fall on curbstone.
165	Lyon's ta. 30; Ashhurst's ta. 194; Sayre's corrected table, 1874.	Sayre, L. A., see Case 39.	Private House, New York.	54 9th Avenue New York. "Worn with pain and sleeplessness."	F. 7	2 years before.	May 1861.	....	Ch. arthritis (morb. cox.); large abscesses unopened, and connected with joint; from fall.
166	Med. and Surg. Reporter, viii. 244, Philada.; Ashhurst's ta. 52; Hodges' ta. 132.	Cooper, E. S., San Francisco California.	California.	T——, A., United States. "Prostrated to last point of endurance."	F. 5	2 years before.	May 13, 1861.	....	Ch. arthritis (morb. cox.); leg flexed; abscesses; sinuses discharging; head and neck of femur nearly absorbed; acetabulum ulcerated and perforated; hip-bone divided into 2 parts.
167	Letter, 1872.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Pa.	Walter's Hospital, Pittsburg.	Roth, Fredolin. Allegheny City, Pa., United States. "Exceedingly emaciated; irritative fever."	M. 11	4 years' standing.	June 16, 1861.	....	Ch. arthritis (morb. cox.) "caries of left acetabulum and head of femur, and necrosis of shaft."
168	Lancet, ii. 281, 1862; Ib. 256, 1866; Lyon's ta. 11; Ashhurst's ta. 37.	Bryant, Thomas. 2 Finsbury Sq., E. C. London.	Guy's Hospital.	F——, J., England. "Health fair; delicate."	M. 5	2 years' standing.	Aug. 27, 1861.	....	Ch. arthritis (morb. cox.) hip much swollen with sinus discharging; caries of head femur, and local necrosis of neck; absorption of cartilage of acetabulum; head separated epiphysis.
169	Lancet, ii. 220, 1862; Lyon's ta. 12. Ashhurst's ta. 126.	Holt, B. W., 14 Savile Row W. London.	Westminster Hospital, London.	P——, Harry England. "Emaciated greatly; hectic."	M. 8	2 years' standing.	Oct. 1, 1861.	....	Ch. arthritis (morb. cox.) 3 sinuses; flexion leg and thigh; caries head femur and acetabulum; from fall.
170	Lancet, ii. 222. 1862; Ashhurst's ta. 79.	Fergusson, W., see Case 7.	King's College Hospital.	B——, W., England. "Pale and delicate looking."	M. 13	7 years' standing.	Oct. 19, 1861.	....	Ch. arthritis (morb. cox.) dislocation; absorption head of femur; extensive disease of acetabulum sinuses.
171	Lancet, ii. 220, 1862; Ashhurst's ta. 127.	Holt, B. W., see Case 169.	Westminster Hospital, London.	P——, Wm., England. "Extremely emaciated."	M. 8	3 years' standing.	Oct. 22, 1861.	....	Ch. arthritis (morb. cox.) dislocation; no injury sinuses; profuse suppuration; acetabulum carious and penetrated; soft anchylosis; flexion of leg and thigh.
172	Lancet, ii. 222, 1862; Ashhurst's ta. 163.	Nunn, T. W., 8 Stratford Place, W. London.	Middlesex Hospital, London.	England.	F. 12	?	Nov. 20, 1861.	....	Ch. arthritis (morb. cox.) abscess of thigh; free suppuration; no dislocation extensive disease of ischium and pubes.
173	Lyon's ta. 13; Ashhurst's ta. 138.	Krackowizer, Ernst, 16 W. 12th Street, New York.	New York.	United States.	F. 4	10 mos. standing.	Dec. 20, 1861.	....	Ch. arthritis (morb. cox.) both hips; right side; dislocation; bony union acetabulum of the cup-shaped shell of head; latter absorbed.
174	Lyon's ta. 14; Ashhurst's ta. 196; Sayre's corrected table 1874.	Sayre, L. A., see Case 39.	Private House, New York.	Esterly, Frank J., Belloit, Wis. "Great emaciation and hectic."	M. 10½	6 years' standing.	Mar. 2, 1862.	....	Ch. arthritis (morb. cox.) femur anchylosed to acetabulum with closure through the new bone from fall; hip riddled with abscesses.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
164	⌣	Femur just above trochanter minor; acetabulum gouged.	Recovered, 5 months.	½	6 weeks wound nearly closed; 18 months walks without support; good motion at joint.	18	
165	⌣	Femur between trochanters; acetabulum gouged.	Recovered, 1 year.	¾	"Wound nearly healed in 2 months; walks without support."	72	
166	Irregular, through sinuses.	Bone at junction with trochanter major; acetabulum gouged extensively.	Recovered, 10 months.	Hardly any.	"Walks finely; is fat; nearly well."	10	
167	I	4 inches of femur and acetabulum removed.	Died, 18 days, pyæmia,	.....	.....	.....	Only done as a last resort; deposits of matter in the knee at death.
168	.....	Head separated at epiphysis and to below trochanter major; acetabulum not touched.	Recovered.	.....	"Going about in 3 months on crutches; latest a very useful limb; walks and runs with facility, and stands upon the limb alone without inconvenience."	64	
169	Enlarged sinuses.	Head of femur and portion of acetabulum.	Recovered, 10 weeks.	2½	"Free motion of limb in every direction; with high heeled shoe and one crutch walked out of hospital to go into the country; promises a useful limb."	2½	Left side.
170	+	Carious fragments from acetabulum, nothing more.	Uncertain.	.....	Somewhat improved; openings refused to heal; wounds still discharging.	1⅕	
171	T	Head of femur; acetabulum gouged.	Recovered, 4 months.	2	"Some slight discharge; can move limb in every direction."	4	Left side.
172	I	Head and neck of femur and trochanter major; nothing more.	Uncertain.	?	"Improving; eating and sleeping well; free from pain; limb over its fellow."	After 1½	
173	?	Right side operated upon; neck femur close to trochanter.	Died, 2 months, diphtheria.	.....	Necrotic bone kept wound open two months.		
174	⌣	Femur two inches below the trochanter minor; all the new bone removed from about the femur.	Died of tetanus, 15th day.	.....	"Improved until 9th day, when took tetanus from exposure."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
175	Med. and Surg. Rept., Phila., vi. 270; Ashhurst's ta. 2; Letter, 1874.	Andrews, E., Chicago, Ill.	United States.	United States. "Good vigor."	F. 6	2 years' standing.	1861.	....	Ch. arthritis (morb. cox.); head carious, denuded of cartilage, and lay with its burr-like surface against the flesh on all sides.
176	Lyon's ta. 16; Ashhurst's ta. 161.	Mott, A. B., New York.	New York.	United States. "Much emaciation and hectic."	M. 24	6 years' standing.	1861.	....	Ch. arthritis (morb. cox.); sinuses discharging copiously.
177	Lyon's ta. 17; Ashhurst's ta. 62.	Dolbeau, Paris.	Paris.	France. "Much emaciation and prostration, diarrhœa and hectic."	M. 17	.....	?	....	Ch. arthritis (morb. cox.); hip riddled with sinuses; acetabulum carious.
178	Hodges' ta. 102; Ashhurst's ta. 203.	Senftleben, H. Germany.	Germany. ?	Germany. ?	F. 14	.....	Before 1861.	....	Ch. arthritis (morb. cox.); right side.
179	Leisrink's ta. 34.	Knorre, Hamburg.	Germany.	Germany.	F. 16	.....	1861.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
180	Leisrink's ta. 35.	Billroth, Th., Vienna, Austria.	Austria.	Austria.	M. 7	.....	1861.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
181	Leisrink's ta. 36.	Billroth, Th., Vienna, Austria.	Austria.	Austria.	M. 7	.....	1861.	....	Ch. arthritis (morb. cox.)
182	Leisrink's ta. 37.	Billroth, Th., Vienna, Austria.	Austria.	Austria.	F. 27	.....	1861.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
183	Leisrink's ta. 38.	Baum, Prof., Gottingen.	Germany.	Germany.	F. 19	.....	1861.	....	Ch. arthritis (morb. cox.
184	Leisrink's ta. 39.	Baum, Prof., Gottingen.	Germany.	Germany.	M. 17	.....	1861.	....	Ch. arthritis (morb. cox.
185	Ashhurst's ta. 49.	Collis.	?	?	M. ch.	.....	Before 1861.	....	Ch. arthritis (morb. cox.
186	Ashhurst's ta. 50.	Collis.	?	?	?	.....	Before 1861.	....	Ch. arthritis (morb. cox.
187	Ashhurst's ta. 51.	Cooper, E. H., San Francisco.	California.	United States.	M. 13	.....	Before 1861.	....	Ch. arthritis (morb. cox.
188	Letter, 1874.	Andrews, E., Chicago, Ill.	?	United States. Exhausted.	? 25	Several mos.	?	....	Ch. arthritis (morb. cox. caries.
189	Chicago Med. Exam., June, 1861; Ashhurst's ta. 4; Letter, 1874.	Andrews, E., Chicago, Ill.	United States.	United States. "Vigor good."	? 6	2 years' standing.	Before June, 1861.	....	Ch. arthritis (morb. cox. caries.
190	Chicago Med. Exam., June, 1861; Ashhurst's ta. 5; Letter, 1874.	Andrews, E., Chicago, Ill.	United States.	United States. "Fair vigor."	? 6	6 mos. standing.	Before June, 1861.	....	Ch. arthritis (morb. cox. caries.
191	Chicago Med. Exam., June, 1861; Ashhurst's ta. 6; Letter, 1874.	Andrews, E., Chicago, Ill.	United States.	United States. "Cachexia following diphtheria; vigor bad."	? 13	1 year's standing.	Before June, 1861.	....	Ch. arthritis (morb. cox. caries.
192	Chicago Med. Exam., June, 1861; Ashhurst's ta. 7; Letter, 1874.	Andrews, E Chicago, Ill.	United States.	United States. "Abscess at ankle; vigor bad."	? 22	Several years.	Before June, 1861.	....	Ch. arthritis (morb. cox. caries.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
175	?	Head of femur.	Recovered, 4 months.	.....	"Walks well."	4	
176	?	Head femur below trochanter minor; acetabulum not gouged.	Died, 1 month, of exhaustion.				
177	?	Bone divided between the trochanters; acetabulum gouged and cauterized with hot iron.	Died, 7th day, never rallying from the operation.				
178	.....	Not stated.	Died.				
179	?	Head of femur; acetabulum gouged.	Recovered.	.....	"Useful."		
180	?	Head of femur; acetabulum gouged.	Died, 6 months, marasmus and amyloid degeneration.				
181	?	"Head of femur only."	Recovered.	.....	"Useful."		
182	?	Head of femur; acetabulum gouged.	Died, 28 days, pyæmia.				
183	?	Not stated.	Died, 6 months, exhaustion and phthisis.				
184	?	Not stated.	Recovered.	.....	"Useful."		
185	?	Not stated.	Progress favorable.	.....	"Progress favorable."		
186	?	Not stated.					
187	?	Not stated.	Recovered.	.....	"Useful."	.....	Left side.
188	.....	Head of femur and two inches of shaft	Died, 5 days, exhaustion.				
189	?	Head of femur and one side of trochanter.	Recovered, 8 months.	.....	"Walks well."	8	
190	?	Head of femur.	Recovered, 7 months.	.....	"Walks well."	7	
191	?	Head and part of the trochanter.	Died, 4 weeks, exhaustion.				
192	?	Head of femur.	Died, 4 weeks, exhaustion.	.....	Not doing well; suffers from diarrhœa.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
193	Syd. Yr. Book, 1861, p. 283, from Am. Med. Times, April 20, p. 260.	Peters, G. A., 12 W. 29th St. New York.	New York Hospital.	New York.	M. 30	6 mos. before.	1861.	S.	Blasting injury; hit on left hip by fragment of rock; fracture of acetabulum; impaction of head femur; fixation at hip; deformity of limb; sinuses; discharge; head perforated into the pelvis.
194	Heyfeld. ta. 101; Ashhurst's ta. 167.	Pagenstacher Germany.	Germany.	Germany.	M. 13	?	1861.	....	Ch. arthritis; suppurative coxalgia.
195	Heyfeld. ta. 102; Ashhurst's ta. 168.	Pagenstacher Germany.	Germany.	Germany.	M. 15	?	1861.	....	Ch. arthritis (morb. cox.); caries.
196	Good's ta. 8.	Berend, Berlin, Germany.	Germany.	Germany. "Scrofulous."	M. 11	12 mos. standing.	1861.	....	Ch. arthritis (morb. cox.); abscess; acetabulum healthy.
197	Good's ta. 9.	Beck, B., Germany.	Germany.	Germany. "Chills."	M. 21	51 days' standing.	1861.	....	Ch. arthritis (morb. cox.); suppuration; edge of acetabulum carious; round ligament destroyed.
198	Good's ta. 10.	Kuechler, Darmstadt, Germany.	Germany.	Germany.	M. 6	2 years' standing.	1861.	....	Ch. arthritis (morb. cox.); fistulæ; acetabulum healthy; caries of head.
199	Ashhurst's ta. 162; Hodges' ta. 101.	Nottingham, John, Rosecommon St., Liverpool.	Liverpool	England.	M. 13	.....	1861.	....	Ch. arthritis (morb. cox.); acetabulum diseased.
200	Good's ta. 11.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	M. 10	?	1861.	....	Ch. arthritis (morb. cox.); suppuration; spontaneous luxation.
201	Good's ta. 12 and 16.	Bardeleben, Griefswald, Germany.	Germany.	Germany.	M. 14	?	1861.	....	Ch. arthritis (morb. cox.); caries of head, neck, and pelvis; acetabulum diseased.
202	Good's ta. 13.	Simon, Rostock, Germany.	Germany.	Germany.	M. 39	?	1861.	....	Ch. arthritis (morb. cox.); caries of head and acetabulum; profuse suppuration.
203	Lancet, p. 23, 1865; Ashhurst's ta. 105.	Holmes, T., 31 Clarges St., Mayfair, W. London.	Hospital for Sick Children, London.	Richards, Isaac, England. "Health and appetite failing."	M. 7	?	Mar. 23, 1862.	....	Ch. arthritis (morb. cox.); abscess; edge of acetabulum; caries of head and neck of femur; absorption of cartilage of head; no dislocation; free suppuration; right hip.
204	Letter, 1872.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Pa.	Walter's Hospital, Pittsburg, Pa.	Hatfield, John, Allegheny City, Pa., U. S.	M. 10	4 years' standing.	Mar. 29, 1862.	....	Ch. arthritis (morb. cox.) caries of head and neck necrosis of trochanter of right femur; acetabulum diseased.
205	Lyon's ta. 18; Ashhurst's ta. 215.	Tewksbury, S. H., Portland, Maine.	Maine.	United States. "Emaciation and hectic."	M. 6	23 mos. standing.	Mar. 1862.	....	Ch. arthritis (morb. cox.) 6 sinuses discharging profusely; from fall.
206	Letter, 1872; Ashhurst's ta. 192; Lyon's ta. 19; Sayre's corrected table, 1874.	Sayre, L. A., see Case 39.	Private, New York.	Evans, B., Wrightsville, Pa., U. S. "Extreme emaciation."	M. 6	3 years' standing.	April, 10, 1862.	....	Ch. arthritis (morb. cox.) profuse discharge; several sinuses; acetabulum diseased; neck absorbed; head loose in acetabulum from kick by a boy.
207	Lancet, ii. 221, 1862; Ashhurst's ta. 128.	Holt, B. W., 14 Saville Row, W. London.	Westminster Hospital, London.	H——, Catharine L., England. "Pale and feeble."	F. 8	3 years before.	April 15, 1862.	....	Ch. arthritis (morb. cox.) from fall; flexion of thigh on pelvis; caries of head femur, which was dislocated and fixed to pelvis carious spot on pelvic bone; abscesses; sinuses (right side).

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
193	?	Femur to below the lesser trochanter.	Died, 9th day, exhaustion.	.....	"Rallied from operation and then sank."	.....	Ramus, pubis, and ischium fractured.
194	?	Uncertain.	Recovered, 5 months.	?	"Began to walk 5 months later; satisfactory."	5	
195	?	Uncertain.	Died, 12 days, of exhaustion.				
196	?	Head and great trochanter of femur.	Recovered, 5 months.	1½	"Limb supported with the weight of body; flexion of thigh to right angle on pelvis; walked with cane."	5	
197	?	Head of femur; acetabulum not touched.	Died, 16th day, pyæmia.	.....	.....	.....	Autopsy revealed perforation acetabulum; abscess of pelvis; embolic clot in femoral, popliteal, and tibial veins.
198	?	Head of femur.	Died, some months after, of exhaustion.	.....	.....	.....	Autopsy revealed necrosis of acetabulum.
199	?	Head and part of neck; acetabulum gouged.	Recovered, 6 months.	.....	"Walks 4 miles a day with cane." "Useful."	6	
200	?	Head of femur.	Died, 14 days, pyæmia.	.....	.....	.....	"Pyæmia originated an embolic clot in femoral vein."
201	?	Head, neck, and great trochanter; necrosed portions of acetabulum.	Died, 26 days, exhaustion.	.....	"Purulent matter in pelvis at death."	.....	This is the same case as Good's, No. 16.
202	?	Femur below great trochanter.	Died, 2 days, exhaustion.				
203	Simple incision (Uncertain.)	Femur to through upper part of trochanter major; edge of acetabulum gouged.	Died, 10 months, phthisis.	.....	Morb. cox. of other (left) hip supervened; wound did not heal, and abscesses followed.		
204	⌣	Head, neck, and 1 inch below trochanter major; acetabulum gouged.	Recovered, 9 months.	1½	"Wound healed; anchylosis of the joint; able to walk any distance, even to run."	36	
205	?	Femur to ½ in. below trochanter minor, 3 in.	Recovered, 1 year.	1½	Robust health; walks, dances, has all motion of natural joint; can touch chin with knee.	12	
206	⌣	Femur to just above trochanter minor; acetabulum gouged and perforated.	Recovered, 4 months.	1½	"Wound closed in 4 months; at 2 years joint sound; walked well with a cane; later perfect result."	108	Lyon gives age 9, Ashhurst as 6; operator says 6 is correct.
207	Thro' sinuses.	Head and trochanter major; carious spot on pelvis gouged.	Doing well.	.....	"Wound nearly healed; but little discharge; health materially improved."	1	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
208	Lyon's ta. 20; Ashhurst's ta. 106; Lancet, p. 23, 1865.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Kirby, Margaret, England. "Health good."	F. 4½	2½ years' standing.	May 28, 1862.	....	Ch. arthritis (morb. cox.); acetabulum diseased; caries of head, neck, and trochanter.
209	Letter, 1872; Lyon's ta. 21; Ashhurst's ta. 193; Sayre's corrected table, 1874.	Sayre, L. A., see Case 39.	Private House.	Hillory, M., Burlington, Iowa. "Extreme emaciation."	F. 13	2 years' standing.	July 3, 1862.	....	Ch. arthritis (morb. cox.); sinuses discharging profusely; neck absorbed; head nearly absorbed, and lying loose in the acetabulum; abscess between the internal pelvic periosteum and bone; acetabulum perforated; from fall on trochanter.
210	Lyon's ta. 22; Ashhurst's ta. 139.	Krackowizer, Ernst, see Case 173.	New York.	United States. "Very cachectic; prostration from suppuration."	F. 3½	1 year's standing.	July 7, 1862.	....	Ch. arthritis (morb. cox.); free suppuration; head and most of neck absorbed; acetabulum diseased, and inner periosteum exposed.
211	Lyon's ta. 23; Ashhurst's ta. 129.	Hulke, J. W., 10 Old Burlington St., W.	London.	England. "Emaciated from pain and sleeplessness."	F. 4	Long standing.	July 8, 1862.	....	Ch. arthritis (morb. cox.); disease of acetabulum; from a blow.
212	Lyon's ta. 24; Ashhurst's ta. 140.	Krackowizer, E., see Case 173.	New York.	United States. "Much reduced by bedsores and suppuration."	M. 7½	Some time.	July 11, 1862.	....	Ch. arthritis (morb. cox.); suppuration and extensive disease of acetabulum.
213	Letter, 1872.	Walter, A. G., 66 and 68 Pittsburg. Pa.	At the home of patient.	Modisfacher, Luwig, Pittsburg, Pa.,	M. 3½	18 mos. standing.	Sept. 7, 1862.	....	Ch. arthritis (morb. cox.); caries of head of left femur, and osteo-myelitis of the shaft; erosion of head.
214	Lyon's ta. 25; Ashhurst s ta. 98.	Heath, C., Newcastle, England.	Newcastle Infirmary, England.	England. "Pale and feeble."	F. 8	2 years' standing.	Sept. 16, 1862.	....	Ch. arthritis (morb. cox.) sinuses discharging; disease of acetabulum.
215	Letter, 1872.	Sterling, E., Cleveland, Ohio.	Cleveland, O.	Stephens, Mary L., United States.	F. 18	.....	Sept. 24, 1862.	....	Ch. arthritis (morb. cox.) necrosis of head of femur and acetabulum.
216	Lyon's ta. 26; Ashhurst's ta. 178.	Raphaele, Benj. J., 19 E. 9th St., New York.	New York.	United States. "Extreme emaciation."	M. 11	18 mos. standing.	Sept. 29, 1862.	....	Ch. arthritis (morb. cox.) 3 sinuses discharging; acetabulum diseased; rigidity of limb; from a fall.
217	Lyon's ta. 27; Ashhurst's ta. 40; Hospital Records by Surgeon Gray, U. S. Army.	Buck, Gurdon, 46 W. 29th St., New York.	St. Luke's Hospital, New York.	Schrivber, Sophia, New York, U. S. Exhausted.	F. 7	Some years' standing.	Nov. 1862.	....	Ch. arthritis (morb. cox.) abscesses and sinuses about joint discharging freely.
218	Ashhurst's ta. 209.	Smith, Th., see Case 221.	?	England. "Has phthisis."	?	?	1862.	....	Ch. arthritis (morb. cox.)
219	Brit. and For. Med.-Chir. Rev., Jan. 1863; Ashhurst's ta. 236.	?	England.	England.	M. y'g	.....	Before 1863.	....	Ch. arthritis (morb. cox.)
220	Letter, 1872; Sayre's corrected table, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Pendegrast, J., New York, U. S. "Nearly dead from exhaustion; excessive suppuration."	M. 8	2 years' standing.	Jan. 31, 1863.	....	Ch. arthritis (morb. cox.) acetabulum diseased; from fall from fence.
221	Lyon's ta. 29; Ashhurst's ta. 208.	Smith, Th., 5 Stratford Place, W. London.	?	England. "Lungs tuberculous."	? ch.	.....	?	....	Ch. arthritis (morb. cox.)

of Hip for Disease and Injuries.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
208	.....	Femur to most of the trochanter major; acetabulum gouged.	Recovered, 6 months.	1½	"Before taken with pneumonia could walk nimbly for a while; wound healed."	9	"Died of pneumonia ultimately."
209	(	Head, neck, and trochanter major; acetabulum gouged and perforated.	Recovered, 8 months.	2	"2 years after walks well with a cane; considerable motion; health perfect; at 4 years good use of member."	48	"This case also fractured at the epiphysis of the knee."
210	?	Femur between trochanters; acetabulum perforated and gouged.	Died, 39 days, tubercular meningitis.	.....	"Wound doing well."		
211	?	Femur below trochanter minor; brim of acetabulum gouged.	Died, 4 months, of diarrhœa and exhaustion.				
212	?	"Head, neck, and trochanter major; acetabulum gouged."	Died, 4 months, of diarrhœa and suppuration.	.....	"The disease continued."		
213	Longitudinal fr'm trochanter to outer condyle	Head of femur with entire shaft down to lower epiphysis; the periosteum being preserved; acetabulum gouged.	Died, 6 weeks, tubercular meningitis.	.....	Case did well until a week before he died; the shaft had already become, to a great extent, regenerated.		
214	?	"Femur below trochanter major; acetabulum gouged."	Recovered, 6 months.	3	"Can bear his weight firmly upon the foot; useful."	6	
215	I	Head of femur at junction with neck; ⅓ of acetabulum.	Recovered, 6 months.	.....	Could dance as well as ever 6 months after operation; walks well; can mount stairs with ease."	72	Died of phthisis in 1868.
216	.....	Head and neck; and acetabulum pared.	Recovered, 6 months.	¾	"Walked without support with considerable motion in the joint."	6	Rigid muscles divided subcutaneously.
217	?	Head, neck, and great trochanter; acetabulum not gouged.	Died, of shock and previous exhaustion; (never rallied).				
218	?	Excision of joint.	Probably died.	.....	Only temporary benefit; has phthisis.		
219	?	Partial excision.	Died.				
220	U	Head, neck, and trochanter major; acetabulum gouged and perforated.	Died, 2 weeks, exhaustion from tubercles in lungs and bowels.				
221	?	"Excision of the joint; probably total."	Died, 2 months, of phlebitis, pelvic abscess, and phthisis.	.....	Pelvic bones carious at death.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
222	Good's ta. 15.	Simon, Rostock, Germany.	Germany.	Germany. "Great exhaustion."	F. 11½	?	1862.	....	Ch. arthritis (morb. cox.); caries of articulation of head of femur and acetabulum.
223	Good's ta. 16.	Bardelben, Griefswald, Germany.	Germany.	Germany. Exhausted.	M. ?	.....	1862.	....	Ch. arthritis (morb. cox.); caries of articulation of head of femur and acetabulum.
224	Good's ta. 18.	Bardelben, Griefswald, Germany.	Germany.	Germany.	M. 28	?	1862.	....	Ch. arthritis (morb. cox.); caries of head, neck, and acetabulum; latter perforated.
225	Good's ta. 17.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	M. 15	.....	1862.	....	Ch. arthritis (morb. cox.); with caries of head of femur.
226	Leisrink's ta. 58.	Knorre, Hamburg.	Germany.	Germany.	M. 12	.....	1862.	....	Ch. arthritis (morb. cox.).
227	Leisrink's ta. 155.	Thaden, V., Germany.	Germany.	Germany.	M. 13	.....	1862.	....	Ch. arthritis (morb. cox.).
228	Lyon's ta. 33; Sayre's corrected table, 1874.	Sayre, L. A., see Case 37.	Father's House.	Cooke, Otisville, New York, United States. "Emaciation and hectic."	M. 14	2 years' before.	Feb. 17, 1863.	....	Ch. arthritis (morb. cox.); sinuses discharging profusely; acetabulum perforated; from fall.
229	Lyon's ta. 31; Ashhurst's ta. 227.	Voss, New York.	Jews' Hospital, New York.	United States. "Hectic."	M. 6½	1 year's standing.	Feb. 20, 1863.	....	Ch. arthritis (morb. cox.); suppuration and crepitation in joint; acetabulum diseased; from a fall.
230	Letter, 1872; Ashhurst's ta. 190; Letter, Sayre, 1874.	Sayre, L. A., see Case 37.	Private House, New York.	Durie, O., United States. Much exhausted from long suppuration.	M. 13	4 years' standing.	Mar. 9, 1863.	....	Ch. arthritis (morb. cox.); acetabulum diseased; numerous sinuses; fall from a wagon.
231	Lyon's ta. 35; Ashhurst's ta. 141.	Krackowizer, Ernst, see Case 173.	New York.	United States. "Considerable emaciation."	M. 13	3 years' standing.	May 1, 1863.	....	Ch. arthritis (morb. cox.); joint swollen and painful; profuse suppuration; caries of os pubis and acetabulum.
232	Lyon's ta. 36; Ashhurst's ta. 142.	Krackowizer, Ernst, see Case 173.	New York.	United States. "Favorable."	F. 7½	11 mos. standing.	June 23, 1863.	....	Ch. arthritis (morb. cox.); acetabulum diseased; from a fall.
233	Lancet, p. 358, 1864; Ashhurst's ta. 99.	Heath, C., 9 Cavendish Place, W. London.	West London Hospital.	M——, Rosa, England. "Thin, pale, and reduced."	F. 7	4 years' standing.	June 25, 1863.	....	Ch. arthritis (morb. cox.); abscesses; thigh flexed; absorption of head femur: neck bare; knee bent.
234	Letter, 1872; Lyon's ta. 37; Letter, 1874.	Sayre, L. A., see Case 39.	Private House.	Murphy, J. W., 307 E. 8th St., N. York. "Miserable."	M. 8	2 years before.	July 3, 1863.	....	Ch. arthritis (morb. cox.); acetabulum perforated; from a fall.
235	Lancet, p. 23, 1865; Ashhurst's ta. 107.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	H——, M., England. "Health good."	F. 9½	6 mos. standing.	July 4, 1863.	....	Ch. arthritis (morb. cox.) abscess; caries of head neck, and acetabulum; ligaments destroyed.
236	Lancet, p. 568, 1871; Ashhurst's ta. 87; Lyon's ta. 38.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital, London.	R——, John, England. "Advanced hectic; much emaciation."	M. 16	1 year's standing.	Aug. 22, 1863.	....	Ch. arthritis (morb. cox.) caries of head, neck, and great trochanter, shaft of femur and acetabulum dislocation; abscess; destruction of articular cartilages; from cold.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
222	?	Femur below great trochanter.	Recovered, 6 months.	4	"Cured; walked after 6 months with 2 canes; used limb very well."	After 6	
223	.....	Portion of femur.	Died, 25 days, exhaustion.	.....	.....	.....	"Purulent matter in pelvis at death."
224	?	Head, neck, and part of great trochanter.	Recovered, 5 months.	.....	"Cured; uses limb well; mobility in new joint."	5	
225	?	Head of femur.	Died, 7 months.	?			
226	?	Not stated.	Died, 4½ months, of ascites and amyloid degeneration.				
227	?	Below lesser trochanter.	Recovered.	.....	"Useful."		
228	(	Between trochanters; acetabulum gouged.	Died, 2 weeks, double pneumonia.	.....	.....	.....	Operator expressly states died of double pneumonia.
229	?	Head, neck, and both trochanters; acetabulum gouged.	Recovered, 1 year.	¼	"At 1 year hip sound; good motion; walks without any support."	12	
230	U	Head, neck, and trochanter major; acetabulum perforated.	Died, 17 months, dysentery.	.....	Limb nearly well, with limited motion; very slight discharge from two sinuses back of thigh; walked with crutches; went into country and died of dysentery August, 1874.		
231	?	Head, neck, and both trochanters; acetabulum and os pubis gouged.	Died, 70 days, exhaustion.	.....	"The disease continued."		
232	?	Femur between trochanters; acetabulum perforated and gouged.	Recovered, 3 months.	1½	"At 6 months walked without support; great freedom at the joint; at 15 months wound perfectly firm, and walked well without any support."	15	
233	I	Femur below trochanter major; acetabulum gouged.	Recovered.	?	"At 4 months able to move about on crutches; can put toe to ground firmly; wound nearly healed; slight occasional discharge from near pubes."	4	
234	(	Head, neck, trochanter major, and bone just above trochanter minor; acetabulum gouged.	Recovered, 1 year.	¼	"Very good; walks without support; motion of joint almost natural."	36	
235	?	Femur to small portion of trochanter major; acetabulum gouged.	Died, from causes unconnected with operation.				
236	T	5½ inches of upper end of femur; acetabulum gouged.	Recovered, 2½ months.	?	"Permanent result; a freely movable joint, and useful limb."	60	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
237	Letter, 1872.	Muscroft, S.C. 333 John St., Cincinnati, O.	St. Mary's Hospital, Cincinnati.	Roehler, John Cincinnati, Ohio.	M. 10	?	1863.	....	Ch. arthritis (morb. cox.); necrosis; acetabulum diseased.
238	Lyon's ta. 30; Ashhurst's ta. 92.	Gillespie, R. W., Durham, England.	England.	England. "Much exhausted."	F. 19	Some time.	?	....	Ch. arthritis (morb. cox.).
239	Good's ta. 19.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	F. 4½	?	1863.	....	Suppurative chronic arthritis (morb. cox.).
240	Good's ta. 20.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	M. 23	?	1863.	....	Suppurative chronic arthritis (morb. cox.); caries of acetabulum.
241	Good's ta. 21.	Bardelben, Griefswald, Germany.	Germany.	Germany.	M. 2	1 year's standing.	1863.	....	Ch. arthritis (morb. cox.); caries of femur; acetabulum healthy.
242	Good's ta. 22.	Bardelben, Griefswald, Germany.	Germany.	Germany. Exhausted.	M. 10	21 mos. standing.	1863.	....	Ch. arthritis (morb. cox.); caries; acetabulum carious and perforated.
243	Good's ta. 23.	Busch, W. Prof., Bonn, Germany.	Germany.	Germany. "Signs of phthisis."	M. 20	5 mos. standing.	1863.	....	Suppurative chronic arthritis (morb. cox.); caries of acetabulum.
244	Good's ta. 24.	Gosselin, France.	France.	France. Exhausted.	M. 17	"Advanced" standing.	1863.	....	Suppurative chronic arthritis (morb. cox.); caries of acetabulum.
245	Leisrink's ta. 77.	Baum, Prof., Gottingen.	Germany.	Germany.	F. 9	.....	1863.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
246	Leisrink's ta. 78.	Esmarch, F., Keil, Denmark.	Denmark.	Denmark.	M. 12	.....	1863.	....	Ch. arthritis (morb. cox.).
247	Leisrink's ta. 80.	Billroth, Th., Vienna.	Austria.	Austria.	M. 5	.....	1863.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
248	Leisrink's ta. 156.	Thadeu, V.	Germany.	Germany.	M. 11	.....	1863.	....	Ch. arthritis (morb. cox.).
249	Leisrink's ta. 4, "A."	Baum, Prof., Gottingen.	Germany.	Germany.	M. 22	.....	1863.	....	Ch. arthritis (morb. cox.).
250	Lyon's ta. 40; Ashhurst's ta. 231.	Wood, J. R., 80 Irving Place, New York.	Bellevue Hospital, New York.	United States. "In very good condition."	M. 34	2 years' standing.	Jan. 23, 1864.	....	Ch. arthritis (morb. cox.) no sinuses; acetabulum diseased.
251	Lancet, p. 121, 1865; Ashhurst's ta. 108.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Watts, Wm., England. "Rapidly sinking."	M. 7	12 mos. standing.	Feb. 11, 1864.	....	Ch. arthritis (morb. cox.) abscesses extending down thigh; profuse suppuration; acetabulum diseased.
252	Lancet, p. 122, 1865; Ashhurst's ta. 109; Holmes' Surg. Dis. Childhood, p. 454.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Morgan, Wm. England. Exhausted.	M. 8	3 years' standing.	Mar. 3, 1864.	....	Caries of end femur and acetabulum.
253	Lancet, p. 568, 1871; Ashhurst's ta. 89.	Gant, F. J., see Case 236.	Royal Free Hospital, London.	M——, Wm., England. "Advanced hectic."	M. 26	4 years' standing.	Admitted Mar. 28, 1864.	....	Ch. arthritis (morb. cox.) abscess; caries of head femur; articular cartilage destroyed; caries of acetabulum; dislocation; from injury.
254	Letter, 1872, and 1874.	Sayre, L. A., see Case 39.	Private House, New York.	Rowel, J. F., Fordham, Winchester, United States. "Has anæmia and hectic."	M. 7	3 years' stand-	Mar. 29, 1864.	....	Ch. arthritis (morb. cox from fall from a stone wall.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
237	I	Femur to trochanter major; acetabulum gouged.	Recovered.	Shortened. ?	"Joint anchylosed and limb shortened; health perfect."	108	
238	?	Head of femur.	Died, 9 days, of acute necrosis of entire shaft of femur.				
239	I	Head of femur.	Died, 3 months.				
240	I	Detached head removed, and femur to below great trochanter.	Died, 18 days, from exhaustion.				
241	?	Head of femur.	Recovered, 3 months.	?	"Cured; left hospital in 3 months perfectly well."	After 3	Died after 3 months of tubercular meningitis.
242	?	Femur above great trochanter.	Died, 10 weeks, caries of pelvis.	.....	.....	.....	Autopsy "showed tubercles in lungs and intestines."
243	?	Head of femur and acetabulum.	Died, 18 months, phthisis pulmonalis.				
244	?	Femur below great trochanter.	Died, of exhaustion, short time after operation.				
245	?	Total excision.	Died, 36 days, exhaustion.				
246	Transverse.	Not stated.	Recovered.	.....	"Cured; useful."		
247	?	"Head of femur; acetabulum gouged."	Died, 3 months, marasmus.				
248	.....	Between trochanters.	Died, 2 years after, of albuminuria.				
249	?	Not stated.	Recovered.	.....	"Useful; recovered with fistulæ."		
250	?	Femur to just above trochanter minor; acetabulum not gouged.	Died, 24 days, pyæmia.				
251	?	Head with neck at the trochanter major; tip of acetabulum gouged.	Recovered, 5 months.	?	"Wound healed; motion of joint in every direction; at first walks awkwardly with a high-heeled boot."	After 5	
252	?	1st operation, head, neck of femur, and acetabulum gouged. 2d, 1 inch end of femur, and acetabulum gouged.	Uncertain.	Much	Health improving; fair motion; can straighten limb; doubtful; limb distorted; open wounds leading to softened bone.	After 3	Had been excised three years before by Athol Johnston for morbus cox.
253	T	4 inches of femur and 1 inch of cancellated structure.	Recovered, 3 months.	.....	"Freely movable joint and useful limb."	30	
254	U	Head, neck, and trochanter major.	Recovered, 1 year.	¾	"Good."	84	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
255	Lancet, p. 122, 1865; Ashhurst's ta. 110.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	W——, Alice, England. "Dreadfully emaciated."	F. 6½	5 mos. standing.	May 5, 1864.	....	Ch. arthritis (morb. cox.); abscesses; free suppuration; caries of head of femur; acetabulum carious and perforated; pelvic abscess.
256	Letter, 1872, and 1874.	Sayre, L. A., see Case 39.	Private House, New York.	Dakin, E., 106 Vainck St., N. York. Excessive suppuration from several abscesses; emaciated to a skeleton.	F. 3½	2 years' standing.	May 25, 1864.	....	Ch. arthritis (morb. cox.); acetabulum diseased; from fall out of crib.
257	Lancet, p. 123, 1865; Ashhurst's ta. 111.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Hall, Mary Ann, England "Good general health."	F. 10½	5 mos. standing.	June 2, 1864.	....	Ch. arthritis (morb. cox.); abscesses; sinuses; distortion of limb; neck of bone separated from head; head necrosed and in acetabulum; latter not diseased.
258	Lancet. p. 568, 1871; Gant's Surg. p. 642.	Gant, F. J., see Case 236.	Royal Free Hospital, London.	C——, George England. "Health good."	M. 15	2 years' standing.	Admitt'd June 9, 1864.	....	Ch. arthritis (morb. cox.); caries of head, neck, great trochanter, and acetabulum; dislocation; abscess; from injury; head and neck nearly destroyed.
259	Lancet, p. 568, 1871; Ashhurst's ta. 88.	Gant, F. J., see Case 236.	Royal Free Hospital, London.	M——, Ed., England. "Advanced hectic."	M. 8	5 years' standing.	Admitt'd June 10, 1864.	....	Ch. arthritis (morb. cox.) caries of head, neck, and acetabulum; from cold head and neck destroyed
260	Lancet, p. 124, 1865; Ashhurst's ta. 112; Holmes' Surg. Dis. Childhood, p. 454.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Tapson, Jas., England. "Looked well nourished."	M. 10	1 year's standing.	June 16, 1864.	....	Ch. arthritis (morb. cox.) abscess; caries of head and acetabulum; denudation of cartilages; no dislocation; abscess within pelvis.
261	Letter, 1872, and 1874; Lyon's ta. 41.	Sayre, L. A., see Case 39.	Private House, New York.	Keeler, J., Mulvey St., New York, "Extreme emaciation."	M. 4	28 mos. standing.	June 1864.	....	Ch. arthritis (morb. cox.) acetabulum diseased; fell out of bed.
262	Lancet, p. 558, 1865; Ashhurst's ta. 58.	Davies, Redfern, Walsall, England.	England.	A——, George, England. "Strumous looking."	M. 5	18 mos. before.	July 13, 1864.	....	Ch. arthritis (morb. cox.) following pertussis; dislocation; abscess; suppuration; caries of acetabulum.
263	Letter, 1874; Photographic Review, No. 3, Vol. 1.	Sayre, L. A., see Case 39.	Private House, New York.	Roussel, A., New York, United States. Reduced to a skeleton.	M. 9	4 mos. standing.	Oct. 20, 1864.	....	Ch. arthritis (morb. cox.) acetabulum diseased; from acute synovitis; cause known.
264	Letter, 1874.	Sayre, L. A., see Case 39.	Private House, New York.	Watson, W. K., Sandusky, Ohio.	M. 10	18 mos. standing.	Oct. 25, 1864.	....	1st. Ch. arthritis (morb. cox). 2d. Necrosis of femur.
265	Lancet, p. 489, 1865; Ashhurst's ta. 59.	Davies, Redfern, Walsall, England.	Walsall Cottage Hospital.	England.	F. 6½	?	Nov. 24, 1864.	....	Ch. arthritis (morb. cox.
266	Good's ta. 25.	Simon, Rostock, Germany.	Germany.	Germany.	M. 19	.....	1864.	S.	Caries of articulation aft a punctured wound.
267	Good's ta. 26.	Gosselin, Paris, France.	France.	France. Exhausted.	M. 18	Far advan'd standing.	1864.	....	Ch. arthritis (morb. cox acetabulum carious.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
255	?	Femur to base of trochanter major; acetabulum gouged and perforated.	Died, 7 days, pyæmia.	.....	.....	.....	This operation done too late, and long after it was proposed to the parents of the child.
256	⌣	Head, neck, and trochanter major; acetabulum gouged and perforated.	Died, 70 days, of marasmus and cholera infantum.				
257	?	Femur through upper part of trochanter and the loose neck and head; acetabulum not touched.	Recovered.	1?	"Wounds sound; motion in every direction; walks with perfect ease, though awkwardly, as is not accustomed to high-heeled boot."	Some time after two.	
258	T	1¾ inches of femur.	Recovered, 3 months.	?	"Useful limb and freely movable joint."	3	
259	T	2 inches of femur; acetabulum not touched.	Recovered, 2 months.	?	"Useful limb and movable joint."	3	
260	?	Femur through great trochanter; acetabulum gouged and perforated.	Recovered.	¼	"Wounds nearly healed; progress of cure uninterrupted; under extension; perfectly recovered."	.....	Probably seen late in 1838.
261	⌣	Femur to above trochanter minor; acetabulum perforated.	Died, 2 months, dysentery.	.....	.....	.....	Operation was only palliative.
262	I	Upper half of head; acetabulum partly gouged.	Recovered.	.....	?		
263	⌣	Half inch below trochanter minor; acetabulum perforated.	Recovered, 1 year.	¼	Operator says this is the most perfect case on record; can skate and dance as well as any one, and kick higher than his head	84	Great deformity and numerous abscesses before operation.
264	⌣	1st operation, head, neck, and trochanter major. 2d, removed 6 inches of femur.	Died, 9 months, exhaustion.	?	A second operation required, from leaving cotton in the wound after the first operation, which induced abscess and the necrosis of femur.		
265	?	Head of femur.	Died, 3½ months, diarrhœa and vomiting.	1	"Wound had nearly healed; could walk a few paces; played about the streets with her crutches before taken with the diarrhœa in the middle of February, 1865."	.....	No cause given for this diarrhœa.
266	?	Superior portion of femur.	Died, 3 days, septicæmia.				
267	?	Femur below great trochanter.	Died, of exhaustion, some time after operation.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
268	Good's ta. 27.	Dolbeau, Paris, France.	France.	France.	F. 3	?	1864.	....	Ch. arthritis (morb. cox.); caries of head of femur.
269	Good's ta. 28.	Busch, W., Prof., Bonn, Germany.	Germany.	Germany.	F. 16	?	1864.	....	Ch. arthritis (morb. cox.); abscess; caries of acetabulum.
270	Good's ta. 29.	Ried, Fr., Jena, Germany.	Germany.	Germany.	M. 17	?	1864.	....	Ch. arthritis (morb. cox.); abscess of joint; dislocation.
271	Ashhurst's ta. 153.	McKinley, Scotland.	Scotland.	Scotland.	M. 26	.....	1864.	....	Ch. arthritis (morb. cox.); acetabulum diseased.
272	Good's ta. 30.	Szymanowsky, J., Prof., Kiew, Russia.	Russia.	Russia.	M. 40	Far advanced standing.	1864.	....	Ch. arthritis (morb. cox.); caries of borders of acetabulum; fistulæ; luxation.
273	Lyster's ta. 3.	Jackson, T. Vincent, Wolverhampton, England.	Wolverhampton Hospital, England.	England. "Strumous."	F. 10	6 mos. standing.	1864.	....	Ch. arthritis (morb. cox.); hip much enlarged and riddled with sinuses.
274	Leisrink's ta. 98.	Esmarch, F., Kiel.	Denmark.	Denmark.	M. 13	.....	1864.	....	Ch. arthritis (morb. cox.).
275	Leisrink's ta. 99.	Wagner, A., Koenigsberg.	Prussia.	Germany.	F. 18	.....	1864.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
276	Leisrink's ta. "A." 8.	Thaden, V., Germany.	Germany.	Germany.	M. 11	.....	1864.	....	Ch. arthritis (morb. cox.)
277	Ashhurst's ta. 90; Lancet, p. 569, 1871.	Gant, F. J.	Royal Free Hospital, London.	England.	M. 5	.....	Before 1865.	....	Ch. arthritis (morb. cox.) right side.
278	Ashhurst's ta. 149.	Lyon, F. W., Peter-Culter, Scotland.	Scotland.	Scotland.	?	.....	Before 1865.	....	Ch. arthritis (morb. cox.)
279	Ashhurst's ta. 150.	Lyon, F. W., Peter-Culter, Scotland.	Scotland.	Scotland.	?	.....	Before 1865.	....	Ch. arthritis (morb. cox.)
280	St. Bartholomew's Hospital Reports, i. 40; Ashhurst's ta. 242.	?	St. Bartholomew's Hospital, London.	England.	M. 7	.....	Before 1865.	....	Ch. arthritis (morb. cox.)
281	Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Brown, G., Wilton, Conn.	M. 8	2 years' standing.	Jan. 28, 1865.	....	Ch. arthritis (morb. cox.) acetabulum diseased; injured his hip going up stairs 10 years before.
282	Lancet, p. 102, 1866; Ashhurst's ta. 152.	Macgregor, Donald, Glasgow, Scotland.	Barnhill Hospital, Glasgow.	M——, Jas., Scotland. "Patient fast sinking; hectic."	M. 17	2 years' before.	April 1865.	....	Ch. arthritis (morb. cox.) following rheumatism; abscesses; profuse suppuration: no dislocation; neck wholly carious.
283	Med. News and Library, xxiv. 178; Ashhurst's ta. 12.	Barwell, Richard, 22 Old Burlington Street, London.	Charing-Cross Hospital, London.	N——, Lewis, England.	M. 7	.....	May 20, 1865.	....	Ch. arthritis (morb. cox.) acetabulum diseased.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
268	?	Head of femur.	Died, 8 months, exhaustion.	.....	"Disease continued."	.....	"Autopsy revealed caries of shaft of femur; acetabulum perforated, and tubercles in base of lungs.
269	?	Head and neck of femur; red-hot iron to acetabulum.	Died, 15 months, fatty degeneration of liver, spleen and kidneys.	.....	Caries extended to pelvis; tubercles found in lungs at autopsy.		
270	?	Head of femur.	Recovered, 8 months.	?	"Walks with aid of high-heeled shoe."	8	
271	.....	Complete excision; acetabulum gouged.	Not stated.	.....	"Improved."		
272	?	Femur below great trochanters; acetabulum gouged.	Recovered.	3	"At 1 year movements good; flex thigh to almost right angle."	12	
273	T	"Head, neck, and portion of trochanter; acetabulum well scraped with gouge and osteotrite."	Recovered slowly.	Considerable.	"Cured; at last successful; far preferable to an artificial limb."	?	
274	Transverse.	"Head of femur only."	Died, 6 days, pyæmia.				
275	.....	Head of femur; acetabulum cauterized.	Died, 21 days, phthisis.				
276	.....	Not stated.	Recovered.	.....	"Recovered with fistulæ."		
277	T	Not stated.	Recovered.	.....	?	?	
278	?	Not stated.	Died.	.....	"Useless."		
279	?	Not stated.	Recovered.	.....	"Amputated subsequently."	?	
280	?	Partial excision.	Died, 444 days, "exhaustion."				
281	U	Head, neck, and trochanter major; acetabulum perforated.	Recovered, 4 months.	½	Fell again Dec. 1865; abscess resulted; some bone discharged; permanent healing; is now a very strong and large man; walks without support and scarcely a perceptible limp.	72	
282	⌐	Femur at root of great trochanter; abscess in shaft gouged.	Recovered, 5 months.	But little.	"Joint anchylosed; walks out with only a stick to support him."	5	
283	⌒	Head of femur; acetabulum gouged.	Recovered.	.....	"Useful, either with or without support."	10	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
284	Med. News and Library, xxiv. 178; Ashhurst's ta. 13.	Barwell, Richard, 22 Old Burlington Street, London.	Charing-Cross Hospital, London.	S——, Robert, England.	M. 6	.....	May 27, 1865.	....	Ch. arthritis (morb. cox.).
285	Med. News and Library, xxiv. 178; Ashhurst's ta. 14.	Barwell, Richard, see Case 283.	Charing-Cross Hospital, London.	England.	?	.....	1864 to 1865.	....	Ch. arthritis (morb. cox.).
286	Med. News and Library, xxiv. 178; Ashhurst's ta. 15.	Barwell, Richard, see Case 283.	Charing-Cross Hospital, London.	England.	M. ad't	.....	1864 to 1865.	....	Ch. arthritis (morb. cox.).
287	Med. News and Library, xxiv. 178; Ashhurst's ta. 16.	Barwell, Richard, see Case 283.	Charing-Cross Hospital, London.	England.	....	.....	1864 to 1865.	...	Ch. arthritis (morb. cox.).
288	Letter, 1874.	Sayre, L. A., see Case 39.	Private House, New York.	Dugan, C., 118 Greenwich Ave., New York.	F. 7	28 mos. standing.	June 18, 1865.	....	Ch. arthritis (morb. cox.); disease of acetabulum; caused by fall from wagon step.
289	Med. Record, N. Y., ii. 17; Med. and Surg. Report'r, Phila., xv. 502; Letter, 1872; Ashhurst's ta. 181.	Rogers, Stephen, 249 W. 42d St., New York.	Demilt Dispensary, New York.	United States.	M. 8	3 years' standing.	Nov. 1865.	....	Ch. arthritis (morb. cox.); caries.
290	Med. and Surg. Reporter, xiv. 270; Ashhurst's ta. 143.	Krackowizer, Ernst, 16 W. 12th St., New York.	New York.	United States.	M. 6½	About 3 mos.	About Nov. 1865.	....	Ch. arthritis (morb. cox.); abscess; capsule opened; no dislocation; head of bone denuded; no disease of acetabulum; from a long walk.
291	Leisrink's ta. 119.	Billroth, Th., Vienna.	Austria.	Austria.	M. 15	.....	1865.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
292	Leisrink's ta. 120.	Billroth, Th., Vienna.	Austria.	Austria.	M. 14	.....	1865.	....	Ch. arthritis (morb. cox.) acetabulum diseased.
293	Leisrink's ta. 157.	Thaden, V., Germany.	Germany.	Germany.	F. 12	.....	1865.	....	Ch. arthritis (morb. cox.)
294	Ashhurst's ta. 54.	Corbett, R., Newberry, Southgate.	England.	England.	?	.....	Before 1865.	....	Ch. arthritis (morb. cox.)
295	Butler's Compd. Pt. y., 1870; Good's ta. 34.	Sedillot, C., Strassburg, Germany.	Germany.	Germany.	M. 9	.....	1865.	....	Suppurative chronic arthritis (morb. cox.); from blow; superficial caries of acetabulum.
296	Good's ta. 31.	Gosselin, Paris, France.	France.	France. "Exhausted."	M. 40	Far adv. standing.	1865.	....	Ch. arthritis (morb. cox.) caries of acetabulum.
297	Good's ta. 32.	Simon, Rostock, Germany.	Germany.	Germany. "Great exhaustion."	M. 6	.....	1865.	....	Ch. arthritis (morb. cox.) caries of articulation; dislocation.
298	Good's ta. 33.	Blasius, Halle, Germany.	Germany.	Germany.	M. 9	.....	1865.	....	Ch. arthritis (morb. cox.) suppurating joint; acetabulum not carious.
299	Good's ta. 35.	Giraldes, Paris, France.	France.	France. "Great exhaustion."	F. 8	Far adv. standing.	1865.	....	Ch. arthritis (morb. cox.) caries of acetabulum; head of femur detached

of Hip for Disease ond Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
284	∩	Head of femur.	Recovered.	.....	"Useful."	10	States that morbus coxarius always begins in the synovial membrane (including the sub-synovial tissue) or the bone, and never in the cartilage, the round ligament, or acetabular fat. See Braith. Retro. part 47, p. 106.
285	∩	Uncertain.	Recovered.	?	"Useful; walked either with or without support."	?	
286	∩	Head of femur and floor of acetabulum.	Recovered.	?	"Useful; walked either with or without support and gained abduction, adduction and flexion of member, as well as a movable joint."	Several years.	March 26, 1875. See also Holmes' Syst. Surgery, vol. v. p. 687, Lond., 1871, for extent of excision and result; this authority added after the conclusions had been drawn.
287	∩	Uncertain.	Died, exhaustion and rectal abscess.				
288	∪	Head, neck, and trochanter major; acetabulum perforated.	Recovered, 6 months.	¼	"Good."	84	
289	I	Small remnant of head and an oblique portion of the shaft leaving the trochanter.	Recovered.	1	"This patient has grown into an active healthy young man."	84	
290	.....	Head of femur.	Doing well.	.....	"Doing well."	?	
291	?	Head of femur; acetabulum gouged.	Died, 2 years, albuminuria.				
292	?	Head of femur; acetabulum gouged.	Died, 16 days, pyæmia.				
293	?	Femur below lesser trochanter.	Died, 9 months.				
294	?	Not stated.	Recovered.				
295	I	Head and neck of femur; acetabulum gouged.	Recovered.	3	"1869 has all the motions of limb excepting abduction; walks and runs on tip-toe with great freedom."	48	
296	?	Below lesser trochanter.	Died, exhausted, some time after operation.				
297	?	Head of femur.	Recovered.	1½	"Cured; perfect use of limb."	?	
298	?	Head of femur.	Died, 16 days, exhaustion.				
299	?	Femur to below great trochanter.	Died, 4 days, hemorrhage.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
300	Buffalo Med. & Surg. Jour., Feb. 1866; Ashhurst's ta. 157; Letter, 1872, 1873; Lyster's ta. 30.	Miner, J. F., Buffalo, New York.	Buffalo General Hospital.	Frederick, Mary, United States. "Great emaciation."	F. 8	3½ years' standing.	Jan. 3, 1866.	....	Ch. arthritis (morb. cox.); caries; profuse discharge.
301	Lancet, p. 569, 1871.	Gant, F. J., see Case 236.	Royal Free Hospital.	R——, Catherine, England. Advanced hectic; scrofulous.	F. 5	20 mos. standing.	Admitt'd Oct. 31, 1866.	....	Ch. arthritis (morb. cox.); caries; head and neck destroyed; caries of acetabulum; abscess and dislocation; traumatic origin.
302	Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Delaney, L., 611 E. 14th St. New York, "Very great emaciation."	F. 11	5 years' standing.	July 27, 1866.	....	Ch. arthritis (morb. cox.); acetabulum diseased; large abscess; 4 sinuses; no cause known.
303	Letter, 1872.	Potter, Hazard A., Geneva, New York.	At Patient's Home, Geneva, New York.	Sexton, Nathaniel. "A lumberman; system feeble, but improved by use of tonics, etc."	M. 58	5 years before.	Sept. 10, 1866.	....	Ch. arthritis (morb. cox.); extensive abscesses about hip and in lumbar region; caries of acetabulum and head of femur; from lifting; profuse discharge; destruction of ligaments and cartilages of joint.
304	Letter, 1872.	Post, Alfred C., 291 Madison Ave. New York.	Private Practice.	Golden, Chas. New York.	M. 10	?	Oct. 10, 1866.	....	Ch. arthritis (morb. cox.); caries and necrosis of head of femur.
305	Med. Record, New York, i. 441.	Hamilton, F. H., 43 W. 32d St., New York.	Bellevue Hospital, New York.	Demnia, Clarence, New York. "Emaciated from pain and discharge."	M. 30	A reaccession of disease at 7 mos.	Oct. 12, 1866.	....	Ch. arthritis (morb. cox.); swelling; suppuration; sinuses; head bone partly absorbed and in situ, and anchylosed to acetabulum; latter perforated; a sequestrum in neck; no known cause; periostitis; endostitis; ostitis; softening of bone.
306	Lyster's ta. 4.	Simon, Rostock, Germany.	Germany.	Germany. "Very weak from suppuration."	M. 8	.....	Oct. 31, 1866.	....	Ch. arthritis (morb. cox.); caries of the joint; suppuration.
307	Good's ta. 36.	Shrimpton, Paris.	France.	France.	F. 17	10 mos. standing.	1866.	....	Suppurative chronic arthritis (morb. cox.); sub-luxation; acetabulum diseased.
308	Good's ta. 37.	Lee.	?	?	M. 8	?	1866.	...	Ch. arthritis (morb. cox.) head luxated and greatly diseased.
309	Good's ta. 38.	Giraldes, Paris, France.	France.	France.	F. 9	Far advanced standing.	.....	....	Ch. arthritis (morb. cox.) caries of acetabulum; fistulæ.
310	Good's ta. 39.	Giraldes, Paris, France.	France.	France. "Last degree of marasmus."	F. 12	?	1866.	....	Ch. arthritis (morb. cox.) caries of acetabulum.
311	Good's ta. 40.	Giraldes, Paris, France.	France.	France. Exhausted.	M. 10½	?	1866.	....	Ch. arthritis (morb. cox.) fistulæ; caries of acetabulum.
312	St. George's Hosp. Repts. i. 408; Ashhurst's ta. 239.	?	St. George's Hospital, London.	England.	M. 14	.....	Before 1866.	....	Ch. arthritis (morb. cox.).
313	St. George's Hosp. Reports, i. 408; Ashhurst's ta. 240.	?	St. George's Hospital, London.	England.	F. 6	.....	Before 1866.	....	Ch. arthritis (morb. cox.)

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
300	L	"Head, neck, and part of trochanter major."	Recovered.	?	"Walks nicely without cane or crutch; uses cane occasionally."	30	Lyster gives the age of this case 11 years.
301	T	Femur below trochanter major.	Recovered, 3 months.	.....	"Useful limb and movable joint."	3	Left side.
302	⌣	Head, neck, and trochanter major; acetabulum perforated.	Recovered. ?	.....	"No motion of joint; sinus remained open four years; can walk on limb."	54	Was strong, healthy, and temperate when injured.
303	Γ posterior.	Head of femur and portion of acetabulum.	Recovered, 3 years and 10 months.	4	Can bear his whole weight on limb, and move about freely at home without crutches; thigh muscles very much wasted; limb swells on too much use, and daily improving in strength; uses crutches on the street.	84	Recovery retarded by a succession of abscesses about hip and in back.
304	I	Head and neck of femur.	Recovered.	?	"Good motion; very useful."	60	
305	?	4 inches of upper end of femur; acetabulum gouged.	Doing well at 11 days.	.....	.....	11 days.	He had some disease of the right thigh when 11 years of age, which resulted in bony anchylosis.
306	?	Head of femur.	Died, 13 days, exhaustion.				
307	?	Head of femur; acetabulum not touched.	Died, 6 months.	.....	"Formation of new joint but little advanced."		
308	?	Head of femur.	Recovered.	2	"Walks without support; perfect mobility of hip; excellent health."	32	
309	?	Femur below great trochanter; acetabulum gouged.	Died, 15 days, of purulent infection.				
310	?	Femur below trochanter major.	Died, exhaustion, soon after operation.				
311	?	"Femur below trochanter major."	Died, 3 months, of purulent infiltration of the pelvis.				
312	?	Partial excision.	Recovered.	.....	"Useful."		
313	?	Partial excision.	Doing well.	.....	"Doing well."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
314	Leisrink's ta. 134.	Knorre, Hamburg.	Germany.	Germany. Exhausted.	M. 4	.....	1866.	....	Ch. arthritis (morb. cox.).
315	Ashhurst's ta. 27.	Bergmann.	?	?	?	.....	Before 1866.	....	Ch. arthritis (morb. cox.).
316	Ashhurst's ta. 28.	Bergmann.	?	?	?	.....	Before 1866.	....	Ch. arthritis (morb. cox.).
317	Ashhurst's ta. 30.	Blackman.	?	?	M. 23	.....	Before 1866.	....	Ch. arthritis (morb. cox.); acetabulum healthy.
318	Ashhurst's ta. 31.	Boeckel, E., Strasburg.	?	?	?	.....	Before 1866.	....	Ch. arthritis (morb. cox.).
319	Ashhurst's ta. 184.	Sarazin.	?	?	M. 9	.....	1866.	....	Ch. arthritis (morb. cox.).
320	Brit. and For. Med.-Chir. Rev. Jan. 1867; and Ashhurst's ta. 237.	?	?	?	?	.....	Before 1867.	....	Ch. arthritis (morb. cox.).
321	Brit. and For. Med.-Chir. Rev. Jan. 1867; and Ashhurst's ta. 238.	?	?	?	?	.....	Before 1867.	....	Ch. arthritis (morb. cox.).
322	St. George's Hosp. Reports, ii. 429; Ashhurst's ta. 241.	?	St. George's Hospital, London.	England.	M. 8	.....	Before 1867.	....	Ch. arthritis (morb. cox.).
323	Letter, 1872.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Penna.	At Parents' Home.	Young, Geo., Allegheny City, Penna.	M. 3	3 years' standing.	Feb. 22, 1867.	....	Ch. arthritis (morb. cox.) caries of head of femu and acetabulum; latte perforated.
324	Lyster's ta. 6; Boston City Hosp. Reports, 1870, pp. 104 and 96; Ashhurst's ta. 44.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	S——, Martha United States. "Very unfavorable subject; scrofulous cachexia."	F. 6	1 year's standing.	Feb. 23, 1867.	....	Ch. arthritis (morb. cox.) luxation; no apparent ab scesses; 2 drachms of pu in joint; no sinuses; hea denuded; acetabulum fill ed with granulations bu not carious.
325	Penna. Hosp. Reports, vol. ii.; Ashhurst's Surgery; Am. Jour. Med. Sci. N. S., Oct. 1871, p. 434; Letter, 1872.	Ashhurst, J., Jr., 2000 W. Delancey Place, Philadelphia.	Episcopal Hospital, Philadelphia, Pa.	Elliot, Wm., Philadelphia, Penna. "Very anæmic and much exhausted; much pain."	M. 5	11 mos. standing.	Feb. 27, 1867.	....	Ch. arthritis (morb. cox.) free suppuration.
326	Lyster's ta. 5.	Miner, J. F., Buffalo, New York.	Buffalo City Hospital.	New York. "Very delicate."	F. 2	14 mos. standing.	Feb. 1867.	....	Ch. arthritis (morb. cox. profuse suppuration; sev ral openings.
327	Lancet, 1871, p. 568.	Gant, F. J., see Case 236.	Royal Free Hospital, London.	L——, Jane, England. "Health good."	F. 5	3 years' standing.	Admit'd Mar. 4, 1867.	....	Ch. arthritis (morb. cox. caries of head, neck (d stroyed), and acetabulu from injury.
328	Letter, 1872; Boston City Hosp. Reports, p. 104; Ashhurst's ta. 41.	Buckingham, Charles E., Boston, Mass.	Boston City Hospital.	T——, Frank P., Boston, Mass. "Extreme exhaustion."	M. 14	4 mos. standing.	Mar. 15, 1867.	....	Ch. arthritis (morb. cox. caries; sinus; suppur tion; necrosed fragmen
329	Lyster's ta. 7.	Bogue, R. G., Chicago, Ill.	Cook Co. Hospital, Chicago.	Illinois.	M. 26	9 mos. standing.	Mar. 29, 1867.	....	Ch. arthritis (morb. cox necrosis of head, neck, a 2 inches of shaft of femu caries of acetabulum; f tula.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
314	?	Head of femur only.	Died, 14 days, of erysipelas and amyloid degeneration.				
315	?	.....	Died.	?	.....	?	
316	?	.....	Died.				
317	?	.....	Recovered.	.....	"Useful."		
318	?	.....	?	.....	"Result not stated."		
319	.....	Partial excision.	Not stated.	.....	"Doing well."		
320	.....	Partial excision.	?	.....	?		
321	.....	Partial excision.	Died.	.....	?		
322	.....	Partial excision.	Recovered.	.....	?		
323	⌣	Head, neck, and trochanter; acetabulum gouged.	Died, 2 months.	.....	The general system and parts improved for a month, when parents went to Philadelphia.		
324	V	Femur below trochanter major.	Recovered, 3 months.	1½	"Walks freely with slight limp and without cane; a sinus still open at 18 months."	28	
325	⟨) ⟩	Head and neck of femur only.	Recovered, 14 months.	2¾	"Perfect use of limb; walks without any aid."	50	
326	I	Upper third of femur.	Recovered, 6 months.	Very much	"Wound healed; grew healthy; utility not known; patient lost sight of."	After 6	
327	T	Below great trochanter femur.	Recovered, 4 months.	?	"Movable joint and useful limb."	36	Right side.
328	V	Femur below trochanter major.	Recovered, 35 weeks.	?	"Walks well with cane."	60	
329	I	Head, neck, and 2 in. of shaft; acetabulum slightly gouged.	Died, 4 months, dysentery.	.....	"Doing well until took dysentery."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
330	Letter, 1872.	Walter, A. G., see Case 323.	At Parents' Home.	McDermott, John, Lawrenceville, Pittsburg, Pa.	M 13	3 years' standing.	April 30, 1867.	....	Ch. arthritis (morb. cox.); caries of head, neck, right femur, and acetabulum.
331	Letter, 1872.	Walter, A. G., see Case 323.	At Parents' Home.	Grover, Emilie, Allegheny City, Pa. "Greatly emaciated; irritative fever."	F. 6	2 years' standing.	May 13, 1867.	....	Ch. arthritis (morb. cox.); caries of head of right femur; fistulæ.
332	Letter, 1872.	Dickerson, Estaing D., Kansas City, Missouri.	Kansas City, Missouri.	Walker, Thos. Kansas City, Missouri.	M. 29	10 years' standing.	June, 1867.	....	Ch. arthritis (morb. cox.); caries; acetabulum healthy.
333	Lyster's ta. 44; Lancet, 1869, p. 98.	Pick, Thos. T. 7 South Eaton Place, S. W. London.	Belgrave Hospital for Children, London.	B——, Maude, England. "Health deteriorated."	F. 11	6 years' standing.	Aug. 12, 1867.	....	Ch. arthritis (morb. cox.); abscesses and fistulæ for 2 years; discharging; followed scarlatina; head separated; acetabulum healthy.
334	Lyster's ta. 9.	Hill, J. D., 17 Guilford St., Russell Sq., W. C. London.	Royal Free Hospital, London.	England. "Exhausted; failing; diarrhœa; night sweats."	M. 15	6 years' standing.	Aug. 12, 1867.	....	Ch. arthritis (morb. cox.); profuse suppuration; sinuses; acetabulum perforated; sinuses communicating with pelvis; dislocation.
335	Letter, 1874; Med. and Surg. Report'r, Phila. vol. xvii. p. 339.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Devine, L., 447 4th Ave., New York, "Greatly emaciated; left lung very extensively tuberculous, but not softened."	F. 6	18 mos. standing.	Oct. 9, 1867.	....	Ch. arthritis (morb. cox.); caries of head of femur and acetabulum; several sinuses; caused by fall on hip.
336	Lyster's ta. 11.	Andrews, E., Chicago, Ill.	United States.	United States. "Greatly exhausted."	M. 25	18 mos. standing.	Oct. 28, 1867.	....	Ch. arthritis (morb. cox.).
337	Letter, 1872; Med. and Surg. Report'r, Phila. vol. xviii. p. 54.	Sayre, L. A., see Case 39.	Private House.	Field, M. D., Southwick, Mass. Emaciated to a skeleton; greatly distorted.	M. 14½	4 mos. standing.	Dec. 22, 1867.	....	Acute arthritis (morb. cox.); luxation; 9 sinuses abscesses; acetabulum healthy; from a blow.
338	Lyster's ta. 8; Letter Prof. Andrews, 1874.	Sherman, J. S. Chicago, Ill.	?	United States. "Exhausted; failing."	M. 18	3 years' standing.	1867.	....	Ch. arthritis (morb. cox.) caries.
339	Report Boston City Hospital, 1870, p. 104; Lyster's ta.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	M——, John G., Boston, Mass.	M. 25	39 mos. standing.	1867.	....	Ch. arthritis (morb. cox.) sinuses about and free suppuration in joint; caries of head; abscesses
340	Leisrink's ta. 142.	Knorre, Hamburg.	Germany.	Germany.	M. 10	.....	1867.	....	Ch. arthritis (morb. cox.
341	Leisrink's ta. 143.	Knorre, Hamburg.	Germany.	Germany.	M. 9	.....	1867.	....	Ch. arthritis (morb. cox.
342	Leisrink's ta. 158.	Thaden, V., Germany.	Germany.	Germany.	M. 9	.....	1867.	....	Ch. arthritis (morb. cox.
343	Leisrink's ta. 160.	Salzer.	?	?	M. 24	.....	1867.	....	Ch. arthritis (morb. cox.
344	Leisrink's ta. 161.	Salzer.	?	?	F. 11	.....	1867.	....	Ch. arthritis (morb. cox.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
330	⌣	"Femur below trochanter major; acetabulum gouged."	Died, 10 weeks, pyæmia.	.....	"Doing well at six weeks, when passed from operator's care."	.....	The patient withdrew from operator's attention at six weeks.
331	I	Head and trochanter major.	Recovered.	1	"Anchylosis at hip; walks with comfort and ease."	30	Recovery was uninterrupted.
332	⌣	3 inches of femur, including head and neck.	Recovered.	?	"Very good."	12	
333	I	Femur below great trochanter; separated head.	Recovered, 12 months.	1	"At 12 months walked 2 miles without support; mobility in new joint perfect."	After 12	
334	∩	Femur through cervix.	Recovered.	2½	"Wound healed November 26; flexion and extension; no circumduction; walks well with high heel; scarcely limps."	After 1½	
335	I	Head, neck, and trochanter major; acetabulum perforated.	Recovered, 6 months.	¼	Wound nearly healed in 8 weeks; left hospital much improved in flesh, and in 6 months walked with a high-heeled boot.	18	Great deformity; died in 1869 of phthisis.
336	?	Not stated; "resected."	Died, 5 days, exhaustion.				
337	I	Femur to 3 in. below trochanter minor.	Recovered, 4 months.	4	"Good joint; walks well with high-heeled boot."	48	No extension was made in this case after operation.
338	?	"Head of femur."	Died, 4 months, exhaustion.				
339	V	Head of femur.	Died, 42 days, of Bright's disease.	?	"Partial recovery."	After 1¼	
340	?	Femur at lesser trochanter.	Died, 6 months, amyloid degeneration.				
341	?	Femur at greater trochanter.	Died, 8 days, septicæmia.				
342	?	Head and neck.	Died, 9 months, albuminuria.				
343	?	1 inch below great trochanter.	Died, 3 weeks, pyæmia.				
344	?	Below greater trochanter.	Recovered.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
345	Leisrink's ta. 162.	Salzer.	?	?	F. 49	.....	1867.	....	Ch. arthritis (morb. cox.).
346	Leisrink's (not tabul'd) "B." 8.	Knorre, Hamburg.	Germany.	Germany.	M. 10	.....	1867.	....	Ch. arthritis (morb. cox.).
347	Ashhurst's ta. 130.	Hulke, J. W., 10 Old Burlington Street, W. London.	London.	England.	F. 10	.....	1867.	....	Ch. arthritis (morb. cox.); acetabulum diseased.
348	Ashhurst's ta. 131.	Hulke, J. W,, 10 Old Burlington Street, W. London.	London.	England.	M. 10	.....	1867.	....	Ch. arthritis (morb. cox.).
349	Good's ta. 41.	Ried, Fr., Jena.	Germany.	Germany.	M. 19	.....	1867.	....	Ch. arthritis (morb. cox.); abscess and caries of joint; border and posterior portion of acetabulum carious.
350	Good's ta. 42.	Küchler, Darmstadt, Germany.	Germany.	Germany. Exhausted.	F. 34	.....	1867.	....	Ch. arthritis (morb. cox.); caries and spontaneous luxation; acetabulum slightly diseased.
351	Good's ta. 43.	Giraldes, Paris, France.	France.	France.	M. 9	.....	1867.	....	Ch. arthritis (morb. cox.); spontaneous luxation; acetabulum healthy.
352	Lyster's ta. 12.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	United States.	M. 15	.....	Jan. 1868.	....	Ch. arthritis (morb. cox.); free motion of the head, but it is not dislocated; acetabulum diseased.
353	Letter, 1872.	Walter, A. G., see Case 323.	Parents' Home.	Kunoff, Peter, Lawrenceville, Pa.	M. 11	3 years before.	Feb. 12, 1868.	....	Ch. arthritis (morb. cox.); caries of left acetabulum and head of femur.
354	Boston City Hosp. Reports, 1870, p. 106 and 83; Lyster's ta. 13; Ashhurst's ta. 46.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	D——, Mary, United States. "Very feeble state, and child scrofulous."	F. 6	6 mos. standing.	Feb. 1868.	....	Ch. arthritis (morb. cox.) severe pain; only three drachms of pus escaped acetabulum carious.
355	Boston City Hosp. Reports, 1870, p. 46; Lancet, p. 98, 1869.	Pick, Thos. T. see Case 333.	Belgrave Hospital for Children, England.	H——, Henry, England. "Fairly nourished."	M. 5	18 mos. before.	April 16, 1868.	....	Ch. arthritis (morb. cox.) abscesses; acetabulum diseased on left side; from fall; right knee swollen and leg flexed; left hip fixed, with luxation.
356	Hosp. Records tabulated by Surgeon Gray, U. S. A., 1872.	Probably Peters, Geo. A., 12 W. 29th St., N. York.	New York Hospital.	Mott, Jas. H., New York.	M. 47	"Yr's standing."	May 11, 1868.	....	Ch. arthritis (morb. cox.) result of injury; acetabulum diseased.
357	Letter, 1874.	Sayre, L. A., see Case 39.	Private House.	Jacqueth, S., Rochester, New York.	F. 18	6 years' standing.	May 24, 1868.	....	Ch. arthritis (morb. cox.) from jump and fall.
358	Lyster's ta. 14.	Huter, Rostock, Germany.	Rostock Hospital, Germany.	Germany. "Condition good."	M. 30	9 mos. standing.	May 30, 1868.	....	Ch. arthritis (morb. cox.)
359	Letter, 1872; Lyster's ta. 15.	Beech, J. H., Coldwater, Branch Co., Michigan.	Private House.	Clark, L. H., Coldwater, Michigan. "A carpenter; great emaciation; pus largely expectorated."	M. 37	6 years' standing.	July 12, 1868.	....	Ch. arthritis (morb. cox.) done to relieve great pain in moving, and with faint hope of permanent benefit profuse suppuration.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
345	?	Below greater trochanter.	Died, 19 days, chills.				
346	?	Not stated.	?	.....	"Not yet recovered."		
347	?	Complete excision; acetabulum gouged.	Recovered.	.... .	"Useful."		
348	.....	"Excision."	Recovered.	.....	"Promises useful limb."		
349	Subcutaneous punct. abscess	Head of femur and border of acetabulum.	Died, 21 days, phthisis.	.....	.....	.....	Patches of diphtheritic membrane on ulcer.
350	?	Head of femur.	Died, 13 days, from pulmonary disease and exhaustion.				
351	?	"Resection of femur."	Died, 6 months, exhaustion.	.....	.....	.....	This probably refers to portions of femur of head and neck.
352	V	Head, neck, and portion of trochanter major; acetabulum not touched.	Recovered, 18 months.	1¼	About on crutches in three weeks; 3 months stood alone; at 18 months every way improved; still a little serous discharge.	18	
353	I	To through trochanter major, which was rounded off by bone-nippers; the cavity of acetabulum cleared of cartilage and false membrane.	Recovered, 9 months.	1	"Anchylosis of hip; no impediment during locomotion; wound completely closed in 9 months.	36	
354	V	Femur below trochanter major; acetabulum not touched.	Recovered, 18 months.	?	"Walked with a crutch; sinuses not closed; very unfavorable subject."	18	
355	I	Uncertain; "affected portions."	Recovered.	1	"Mobility in every direction; uses crutches, as had morb. cox. of opposite knee."	?	
356	I	Head, neck, and shaft of femur; 4 inches; roughened points of acetabulum gouged.	Recovered, 3½ months.	.....	Limb probably anchylosed in straight position; discharged cured.	3½	
357	U	Femur to trochanter minor.	Died, 40 days, "sunstroke."	.....	Went home; wound nearly healed; was exposed to sun and died suddenly and unexpectedly.		
358	I	Not stated.	Died, 48 days, tuberculosis.				
359	I	5 inches of upper end of femur.	Died, 57 days, pyæmia.	?	The operation gave great relief from suffering, and the discharge became less offensive and free after operation		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
360	Trans. N. York State Med. Soc., 1869, p. 140.	Wheeler, William G., Chelsea, Mass.	Private Practice.	United States. "Reduced in flesh and strength."	M. 6	12 mos. standing.	July 1868.	....	Ch. arthritis (morb. cox.); abscess; capsular ligament partly destroyed; caries of head and neck femur, and part of acetabulum; subluxation from slight blow.
361	Lyster's ta. 16.	Huter, Rostock, Germany.	Rostock Hospital, Germany.	Germany. "In fair condition."	F. 16	.....	Nov. 15, 1868.	....	Acute arthritis (morb. cox.).
362	Letter, 1874.	Sayre, L. A., see Case 39.	Private House.	Rosenberg, H. 244 E. 53d St., New York.	M. 8	6 years' standing.	Dec. 3, 1868.	....	Ch. arthritis (morb. cox.); acetabulum diseased; head and neck absorbed; from fall on bricks in yard.
363	Lyster's ta. 17. Bost. City Hosp. Reports, 1870. p. 106; Ashhurst's ta. 45.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	C——, Thos., United States. "Of very feeble constitution."	M. 6	12 mos. standing.	1868.	....	Ch. arthritis (morb. cox.); no sinuses; head carious and cartilage eroded; drachm ij of pus in joint.
364	Good's ta. 45.	Vermeuil, Paris, France.	France.	France.	M. 23	2 years before.	1868.	....	Ch. arthritis (morb. cox.); suppuration free; acetabulum diseased; sub-luxation.
365	Leisrink's ta. 154.	Wilde.	?	?	M. 10	.....	1868.	....	Ch. arthritis (morb. cox.); acetabulum diseased.
366	Leisrink's ta. 159.	Thaden, V., Germany.	Germany.	Germany.	M. 36	.....	1868.	....	Ch. arthritis (morb. cox.).
367	Leisrink, "A," 7.	Knorre, Hamburg.	Germany.	Germany.	M. 10	.....	1868.	....	Ch. arthritis (morb. cox.).
368	Leisrink, "B," 9.	Esmarch, F., Keil.	Denmark.	Denmark.	F. 8	.....	1868.	....	Ch. arthritis (morb. cox.).
369	Leisrink, "C," 10.	Billroth, Th., Vienna.	Austria.	Austria.	F. 7	.....	1868.	....	Ch. arthritis (morb. cox.).
370	Surgical Dis. Childhood, Holmes, p. 454; Ashhurst's ta. 113.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	England.	M. 5	?	Before 1869.	....	Ch. arthritis (morb. cox.).
371	Surgical Dis. Childhood, p. 454; Ashhurst's ta. 114.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	England.	F. 6	?	Before 1869.	....	Ch. arthritis (morb. cox.).
372	Surgical Dis. Childhood, p. 454; Ashhurst's ta. 115.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Davis, Alfred, England.	M. ch.	.....	Before 1869.	....	Ch. arthritis (morb. cox.).
373	Surgical Dis. Childhood, p. 454; Ashhurst's ta. 121.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Smith, Lydia, England.	F. ch.	.....	Before 1869.	....	Ch. arthritis (morb. cox.).
374	Surgical Dis. Childhood, p. 454; Ashhurst's ta. 123.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Punter, Geo.	M. ch.	.....	Before 1869.	....	Ch. arthritis (morb. cox.).
375	Surgical Dis. Childhood, p. 458.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Plestead, Elizabeth, England.	F. 11	2 years' standing.	Before 1869.	....	Ch. arthritis (morb. cox.) necrosis of neck, in which was a round sequestrum round ligament destroyed articular surface healthy joint had been full of pus
376	Surgical Dis. Childhood, p. 461 and 454.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	Bygrave, Lydia, England. Exhausted.	F. ch.	.....	Before 1869.	....	Ch. arthritis (morb. cox.) sequestrum in neck; too scarlatina; caries followed in the bone.
377	Surgical Dis. Childhood, p. 453.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	England.	? ch.	.....	Before 1869.	....	Ch. arthritis (morb. cox.).

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
360	V	Femur 1½ inches below head.	Recovered.	2½	"Sufficient mobility in hip to enable him to walk with considerable ease."	7	
361	?	"Head of femur."	Died, "had cystic degeneration of the ovary."				
362	(	Remains of femur to above trochanter minor; acetabulum perforated.	Died, 21 days, exhaustion.				
363	V	Femur below trochanter major.	Recovered.	.....	At five months motion of joint free and almost painless.	5	Left hospital and lost sight of.
364	?	Superior portion of femur; superior portion of acetabulum cauterized.	Died, 14 days, of diffused abscess of foot and groin with œdema.				
365	?	Head, neck, and acetabulum.	Died, 4 months, exhaustion and phthisis.				
366	?	Below lesser trochanter.	Died, 21 days, dysentery.				
367	?	Not stated.	Recovered.	.....	Recovered "with fistulæ."		
368	?	Not stated.	.....	.....	Not yet recovered.		
369	?	Not stated.	.....	.....	"Not cured."		
370	?	?	Died, 4½ months, abscess of brain after amputation.	?	Amputated at the hip for chronic osteomyelitis of the femur; recovered from this rapidly.	.....	Had brain symptoms before amputation.
371	?	?	Died, pyæmia.	?	"Amputated at the hip 1 week after excision; from acute osteomyelitis of femur."		
372	?	?	"Will probably die."	?	"In an incurable condition."		
373	?	?	"Will ultimately recover."	?	"Will recover with much deformity of the limb."		
374	?	?	"Will recover."	.....	?		
375	?	Femur to below trochanter major.	Died, pyæmia.				
376	?	Head and neck.	Recovered.	.....	"Ultimately satisfactory; sores nearly healed, and limb very useful."		
377	?	?	Died, pyæmia.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
378	Surgical Dis. Childhood, p. 453.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	England.	? ch.	.....	Before 1869.	....	Ch. arthritis (morb. cox.).
379	Surgical Dis. Childhood, p. 453.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	England.	? ch.	.....	Before 1869.	....	Ch. arthritis (morb. cox.).
380	Surgical Dis. Childhood, p. 453.	Holmes, T., see Case 203.	Hospital for Sick Children, London.	England.	? ch.	.....	Before 1869.	....	Ch. arthritis (morb. cox.).
381	Boston City Hosp. Report, 1870, pp. 106 and 90; Lyster's ta. 19.	Cheever, D. W., see Case 324.	Boston City Hospital.	D——, Honora Boston. "Very poor and emaciated; phthisical tendency; pain."	F. 8	2 years before.	Jan. 1869.	....	Ch. arthritis (morb. cox.); grating on motion; from fall.
382	Lyster's ta. 20; Boston City Hosp. Report, 1870, pp. 88 and 106.	Cheever, D. W., see Case 324.	Boston City Hospital.	B——, Maggie Boston. Emaciated and debilitated.	F. 7	4 years before.	Jan. 1869.	....	Ch. arthritis (morb. cox.); abscesses; caries; neck of femur denuded; sinuses; suppuration; no cause given; acetabulum partly ulcerated and eroded; some new bone formed.
383	Lyster's ta. 21; Med. Record, New York, vol. v. 162.	Hutchinson, J. C., Brooklyn, New York.	Brooklyn City Hospital.	"Emaciated and confined to bed; somewhat improved by treatment."	M. 19	16 years' standing.	Jan. 1869.	....	Ch. arthritis (morb. cox.) sinuses; head of bone discharged in fragments; abscesses; shaft of femur diseased, and ilium extensively; leg adducted and flexed.
384	Lyster's ta. 22.	McGraw, I. W., Detroit, Michigan.	St. Mary's Hospital, Detroit.	United States. "Night pain."	M. 8	?	Feb. 4, 1869.	....	Ch. arthritis (morb. cox.) marked flexion of thigh on abdomen; sinuses; caries of acetabulum; head and neck of femur necrosed.
385	Hosp. Records by Surg. Gray, U. S. Army; Lyster's ta. 23.	Sands, H. B., New York.	New York Hospital.	Mahony, Ed., United States. "Emaciated; illy fed."	M. 8	26 mos. standing.	Feb. 20, 1869.	....	Ch. arthritis (morb. cox.) abscess; free suppuration caries of femur and acetabulum.
386	Boston City Hosp. Report, 1870, pp. 86 and 106; Lyster's ta. 18.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	C——, And., United States. "Extreme emaciation."	M. 8	3 years' standing.	Feb. 1869.	....	Ch. arthritis (morb. cox.) caries of head of femur and acetabulum; former partly absorbed; profuse suppuration; abscesses extensive; acetabulum perforated; sinus on front of thigh.
387	Letter, 1872.	Walter, A. G., Pittsburg, Pa.	Parents' Home.	Tracy, James, Birmingham, Allegheny Co., Pa.	M. 15	4 years' standing.	April 9, 1869.	....	Ch. arthritis (morb. cox.) caries of head of left femur; acetabulum denuded of cartilage.
388	Letter, 1872.	Post, Alfred C. see Case 304.	St. Luke's Hospital, New York.	Dixon, Jas., New York.	M. 18	?	April 15, 1869.	....	Ch. arthritis (morb. cox.) caries of head of femur.
389	Lyster, letter, 1872; Lyster's ta. 25.	Lyster, Henry F., Detroit, Michigan.	Private House, Detroit.	Hawkins, Sylvester, United States. "In good condition; fat."	M. 5	2 years' standing.	May 15, 1869.	....	Ch. arthritis (morb. cox.) abscess; sinuses; marked flexion of limb on abdomen; free suppuration head, neck, and trochanter necrosed, acetabulum carious.
390	Lancet, 1870, p. 36; Lyster's ta. 27.	Rooke, T., Morley, Cheltenham, England.	Dreadnaught Hospital Ship.	S——, Jos., "Emaciated and debilitated."	M. 18	5 years' standing.	May 21, 1869.	....	Ch. arthritis (morb. cox.) from exposure to cold; necrosis of head, neck, and trochanter; acetabulum denuded of cartilage.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
378	?	?	Died, pyæmia.				
379	?	?	Died, pyæmia.				
380	?	?	Died, gangrene of the wound.				
381	V	Head of femur.	Died, 10 weeks, tubercular meningitis.	.....	"There was improvement until the 10th week in strength, etc., but the wound was indolent in healing; she had abscesses after operation."		
382	V	Femur through trochanter major.	Recovered, 9 months.	.....	"Trochanter tended to ride out through the wound early in case; excellent recovery."	9	
383	I	Large portion of external table ilium with diploe; 4 in. of shaft from extremity of trochanter major.	Recovered.	6½	"Leg in proper position; walks with a cane and stirrup; able to pursue the avocation of cook."	?	
384	T	"Femur below trochanter major; acetabulum gouged."	Recovered.	½	"Partial motion at hip; no pain; walks well."	?	
385	I	Head of femur.	Died, 7 months, peritonitis.	.....	"Limb much swollen at times; worthless; amputation by Dr. Markoe, Sept. 16, 1869; traumatic peritonitis on Sept. 20."	.....	Considerable hemorrhage from bone.
386	V	Femur below trochanter major.	Recovered.	.....	"Motion of limb free and voluntary; sinus still open; gaining in flesh; good prospects."	6	Seaton passed through sinus.
387	⌣	Head of femur below trochanter major.	Recovered, 10 months.	.....	"All fistulæ closed; anchylosis of hip; walks comfortably and can even run."	36	
388	I	"Head and neck of femur."	Died, 12 days, pyæmia.				
389	I	Head, neck, and trochanters, and half inch of shaft below lesser trochanter; acetabulum gouged.	Recovered, 1 year.	1½	"Walks with a limp; perfectly useful limb; upon it all day with aid of a thick-soled shoe; perfectly well."	33	
390	I	Head, neck, and great trochanter; acetabulum gouged.	Died, 3½ months, pyæmia.	.....	"Wound did not do well; excessive suppuration."	.....	"Autopsy showed perforation of acetabulum; pelvic abscess and miliary tubercles in lungs."

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
391	Letter, 1874.	Sayre, L. A., see Case 39.	Private House, New York.	Sutherland, G., St. Catherine, Canada.	M. 6	3½ years' standing.	Feb. 24, 1869.	....	Ch. arthritis (morb. cox.); head and neck of femur absorbed; from fall from swing.
392	Lyster's ta. 28.	Konig, F., Rostock, Germany.	Rostock Hospital.	Germany. "Fever with accessions; very weak."	M. 17	?	June 17, 1869.	....	Ch. arthritis (morb. cox.).
393	Letter, 1872.	Hart, B. F., Marietta, Ohio.	Private patient.	Rudig, Chas., United States.	M. 15	?	July 6, 1869.	....	Ch. arthritis (morb. cox.); caries of head and neck of femur.
394	Lyster's ta. 29.	Hill, J. D., see Case 334.	Royal Free Hospital, London.	England. Exhausted.	M. 7	2 years' standing.	July 10, 1869.	....	Ch. arthritis (morb. cox.) sinuses, one above Poupart's ligament; dislocation on dorsum ilii; neck of femur carious; head absorbed; body of pubes necrosed; acetabulum filled with fibrous substance.
395	Leisrink's ta. 151.	Esmarch, F., Kiel.	Denmark.	Denmark.	M. 11	.....	1869.	....	Ch. arthritis (morb. cox.) acetabulum not diseased.
396	Leisrink's ta. 152.	Billroth, Th., Vienna.	Austria.	Austria.	M. 8	.....	1869.	....	Ch. arthritis (morb. cox.).
397	Leisrink, "B," 10.	Knorre, Hamburg.	Germany.	Germany.	F. 8	.....	1869.	....	Ch. arthritis (morb. cox.)
398	Leisrink, "B," 11.	Knoore, Hamburg.	Germany.	Germany.	M. 9	.....	1869.	....	Ch. arthritis (morb. cox.)
399	Lancet, 1869, p. 489.	Hancock, Henry, see Case 48.	Charing-Cross Hospital, London.	England.	F. 10	?	1869.	....	Ch. arthritis (morb. cox. acetabulum diseased; head dislocated on to pubes.
400	Lancet, 1869; p. 490.	Canton, Ed., 30 Montague Place, W. C. London.	Charing-Cross Hospital, London.	England.	M. 12	.....	1869.	....	Ch. arthritis (morb. cox. disease of acetabulum.
401	Boston City Hosp. Report, 1870, p. 106; Lyster's ta. 26.	Thaxter, D. Mc Bean, S. Boston, Mass.	Boston City Hospital.	L——, Emmet Boston, Mass. "Enfeebled by intemperance; œdema of feet."	M. 20	5 mos. standing.	1869.	....	Ch. arthritis (morb. cox. joint full of pus; he and acetabulum carious
402	Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Williams, L., New York. Bellevue Hospital. Much exhausted; fatty liver, and probably waxy kidneys.	M. 28	6 years' standing.	Jan. 19, 1870.	....	Ch. arthritis (morb. cox acetabulum diseased; cause unknown.
403	Lyster's ta. 31.	Ferrand, D.O. Detroit, Mich.	Detroit, Michigan	United States. "Scrofulous; recently had pertussis."	M. 9	5 years' standing.	April 1870.	....	Ch. arthritis (morb. cox necrosis of head, neck, trochanter; caries of tabulum; much deform from fall.
404	Trans. Mich. State Med. Soc., 1870; Lyster's ta. 32.	Lyster, H. F., Detroit, Mich.	Detroit, Michigan	Youngblood, George, Michigan. "General state improving."	M. 7½	12 years before.	May 15, 1870.	....	Ch. arthritis (morb. co abscesses; necrosis of head, neck, great troch ter, and 4 inches of sh caries of acetabulum; from fall.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
391	⌣	Upper and posterior border of acetabulum removed, and latter perforated; head and neck already absorbed.	Recovered, 4 months.	Short	Anchylosis; joint acquired such motion at the sacro-lumbar articulation as to compensate for the loss of the acetabulæ.	.....	Had hip disease of the opposite side; recovered with angular contraction of that side; also (I understand), this side not operated on; shortening of the two limbs about equal.
392	I	Head of femur.	Died, 75 days, of acute miliary tuberculosis.	?	Operation had no influence on fever.		
393	)	5 inches of femur, including head and neck.	Recovered.	?	"Tolerably useful limb; walks very well; joint movable; grocery keeper."	31	
394	⌣	Remaining portion of neck of femur.	Doing well.	.....	Case progressing without bad symptoms; wound filling up by granulation.		
395	?	2¼ inches of femur.	Died, 1½ months, anasarca and thrombosis.				
396	?	Head of femur only.	Died, 12 days, pyæmia and osteomyelitis.				
397	?	Not stated.	Not yet recovered.				
398	?	Not stated.	Not yet recovered.				
399	?	Head of femur.	Uncertain.	?	Nothing stated.	?	
400	.....	Head and through neck.	Uncertain.	.....	Nothing stated.		
401	?	Head of femur through neck.	Died, 10 weeks, exhaustion.				
402	⌣	Femur to below trochanter minor; acetabulum perforated.	Died, 1 year, of fatty degeneration of liver and kidneys.	.....	"Wound nearly healed; 3 inches of new bone formed."		
403	?	Head, neck, and trochanter; acetabulum gouged.	Died, 10 days, exhaustion.	.....	.....	.....	Operator considers the operation deferred too long.
404	I	"Femur to 2½ inches below lesser trochanter; periosteum preserved; acetabulum gouged."	Recovered.	1½	Limb not used without crutch; of no service; caries of pelvis continuing; scrofulous cachexia.	40	When last heard from his health was good; small sinuses with slight discharge; could walk across room without crutch, still had to use crutch.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
405	Med. Times, Phila. Nov. 1, 1871, p. 55.	Ashhurst, John, Jr., 2000 W. Delancey Place, Philada., Pa.	Children's Hospital, Phila, Pa.	Maxwell, Thomas, United States.	M. 9	.....	Oct. 14, 1870.	....	Ch. arthritis (morb. cox.); acetabulum diseased; greater portion of head absorbed.
406	Med. Record, N. York, vi. 15; Ib. vii. 303.	Sands, H. B., New York.	Private Practice.	Arthur, L.	M. 9	1 year's standing.	Oct. 20, 1870.	....	Ch. arthritis (morb. cox.) abscesses; hip and thigh dislocation; portion of head remaining; acetabulum carious and partly absorbed; from rheumatism capsular ligament ruptured.
407	Letter, 1872.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Pa.	Parents' Home.	Conner, Geo., Allegheny City, Pa.	M. 9	5 years before.	Nov. 10, 1870.	....	Ch. arthritis (morb. cox.) caries of right hip-joint.
408	Letter, 1872; Med. Times, Phila. Sept. 13, 1873, p. 787.	Maury, F. F., 1218 Walnut St., Philadelphia, Pa.	Phila. Hospital.	Taggert, Lizzie, Philadelphia. "Bursal suppuration over left elbow; greatly weakened and depressed."	F. 9½	20 mos. standing.	Dec. 10, 1870.	....	Ch. arthritis (morb. cox.) thigh flexed on pelvis abscess; sinuses; free suppuration; atrophy of thigh; head nearly absorbed; acetabulum carious.
409	Letter, 1872.	Keen, W. W., 1729 Chestnut St., Philadelphia, Pa.	St. Mary's Hospital, Phila.	Zurn, Mary, Philadelphia.	F. 11½	.....	Jan. 11, 1871.	....	Ch. arthritis (morb. cox.)
410	Letter, 1872.	Hodge, H. Lenox, 903 Walnut St., Philadelphia.	Children's Hospital, Phila.	Lombardy, Clinton A., Philadelphia.	M. 5	.....	Jan. 28, 1871.	....	Ch. arthritis (morb. cox.)
411	Letter, 1874.	Sayre, L. A., see Case 39.	Child's Hospital, Randall's Island.	Woods, W.	M. 3¼	.....	Feb. 7, 1871.	....	Ch. arthritis (morb. cox. cause unknown.
412	Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Storch, B., Hudson City, New Jersey.	M. 9½	4 years' standing.	Feb. 24, 1871.	....	Ch. arthritis (morb. cox. from fall.
413	Letter, 1872; "Clinic," Cincinnati, Ohio, Dec. 30, 1871.	Karns, C., Covington, Kentucky.	Saint Elizabeth Hospital, Covingt'n Kentucky	Hammer, Leo, United States.	M. 12	2 years' standing.	April 1, 1871.	....	Ch. arthritis (morb. cox. came on gradually; no known injury; thought have been rheumatism first.
414	Letter, 1874; Med. Record, New York, vi. 281.	Sayre, L. A., see Case 39.	Private Practice, New York.	Zettel, F., 222 E. 62d St., New York.	M. 4½	2 years' standing.	April 23, 1871.	....	Ch. arthritis (morb. cox. head loose; from a fall
415	Letter, 1872.	Hodge, H. Lenox, 903 Walnut St., Philadelphia.	Children's Hospital, Phila.	Shields, Elizabeth, Philadelphia. "Great emaciation and weakness; amyloid liver; diarrhœa."	F. 5	.....	May 20, 1871.	....	Ch. arthritis (morb. cox. pelvic abscess.
416	Med. Record, New York, vi. 424.	Mason, Erskine, New York.	Colored Home, New York.	United States. "Colored patient."	M. 10	8 mos. before.	July 22, 1871.	....	Ch. arthritis (morb. cox. abscess of thigh ab hip, and of leg; sinus deformity; periosteo detached from fem necrosis of acetabul from wagon wheel pass over hip.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
405	⟨) ⟩	Remains of head, neck, trochanters, and rim of acetabulum.	Died, 11½ months, phthisis.				
406	I	Head of femur and portion of carious acetabulum; latter gouged.	Recovered, 16 months.	Considerable.	"Walks with aid of cane; considerable motion in joint."	16	Case complicated with abscesses about hip.
407	⟨	"Through trochanter major; acetabulum gouged."	Recovered, 12 months.	1¼	"Semi-anchylosis; can perform all the motions of the hip-joint, yet in a limited degree."	24	
408	S	Remaining portion of head and trochanter major; acetabulum gouged.	Recovered.	2½	"Most excellent; walks with ease."	26	October 11, 1871, this patient had her left elbow excised successfully.
409	⟨	Head and half of great trochanter.	Died, 6 months, exhaustion.				
410	)	Femur below trochanters.	Recovered, 9 months.	.....	"With a thick-soled shoe he could run and play and also even climb into a basement window; general health perfectly restored."	9	Operator says he has been told boy since died of smallpox.
411	⟨	"Head, neck, and trochanter major."	Recovered.	?	"Good."	12	
412	⟨	Head, neck, and trochanter major.	Recovered, 8 months.	1¼	"Perfect."	12	
413	I	12 inches, including head of femur.	Recovered, 9 months.	5	"Can perform abduction and adduction and extension with limb; free motion of joint; walks very well with a high stirrup."	32	
414	⟨	Loosened head and diseased neck.	Recovered, 6 months.	¼	"Perfect."	12	
415	)	"Below trochanters."	Died, 1½ months, of exhaustion from diarrhœa, amyloid liver, and pelvic abscess.	.....	"Remained very feeble; could walk along side of bed leaning on it."		
416	.....	Femur to little way below trochanter major; acetabulum gouged.	Died, 2 months, Bright's disease.	.....	.....	.....	The Bright's disease came up after operation.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
417	Letter, 1872.	Ashhurst, John, Jr., 2000 W. Delancey Place, Philadelphia, Pa.	Children's Hospital, Phila.	Gillis, Chas., Philadelphia. "Emaciated, anæmic, and quite hysterical: health suffering."	M. 11	8 mos. standing.	Sept. 9, 1872.	....	Ch. arthritis (morb. cox.); of both hips; left side only, operated on at this date.
418	Letter, 1872; Letter, E. Andrews, 1874.	Senn, N., Ashford, Wis.	Theresa, Dodge Co. Wis.	Conoran, L., Wisconsin. "Emaciated; vigor weak."	M. 10	6 mos. standing.	Sept. 11, 1871.	....	Ch. arthritis (morb. cox.); of traumatic (fall) origin; abscess about hip; portions of head came away; periosteum separated.
419	Letter, 1872; Lancet and Observer, Cincinnati, July, 1871.	Smith, T. Curtis, Middleport, Ohio.	At her home.	Biddle, Eliza, United States. "Greatly reduced from suppuration."	F. 7½	Long standing.	Sept. 18, 1871.	....	Ch. arthritis (morb. cox.); acetabulum carious; free suppuration.
420	Letter, 1872.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Pa.	Parents' home.	Meick, David, Lawrenceville, Pittsburg, Pa.	M. 10	2 years' standing.	Oct. 22, 1871, and May 12, 1872.	....	1st. Ch. arthritis (morb cox.); caries of head, neck and trochanter of right femur. 2d, for osteomyelitis of femur.
421	Letter, 1872; Med. Times, Phila., Sept. 13, 1873, p. 788.	Maury, F. F., 1218 Walnut St., Phila.	Phila. Hospital.	Thomas, Geo. United States. "Much emaciated; strumous."	M. 9½	2 years' standing.	Nov. 1, 1871.	....	Ch. arthritis (morb. cox.) following a fever; sinuses profuse discharge; dislocation; partial absorption of head.
422	Trans. Am. Med. Assoc., xxiii. 531.	Peck, W. F., Keokuk, Iowa.	Clinic of Medical Dept. of Iowa State University.	M——, A., Iowa. "Constitution greatly impaired."	M. 6	3 years' standing.	Nov. 10, 1871.	....	Ch. arthritis (morb. cox.) caries and necrosis of acetabulum; diseased superficially.
423	Letter, 1872.	Harvey, H. M., Evansville, Ind.	At home,	Synder, Amelia, Evansville, Ind. "Mere skeleton."	F. 12	4 years before.	Nov. 1871.	....	Ch. arthritis (morb. cox. necrosis; from injury; l flexed on thigh; suppur tion; acetabulum disease
424	Lancet, ——; Med. Times, Phila., iii. 750.	Croft, John, 61 Brook St., W. London.	?	England.	M. 7	.....	Dec. 1871.	....	Ch. arthritis (morb. cox. from a fall; large absce of thigh below joint.
425	Rank. Abst., Pt. 52, p. 232.	Wood, John, 68 Wimpole St., W. Lond.	King's College Hospital, London.	England. "A child; emaciated."	? 6	Long standing.	1871.	....	Ch. arthritis (morb. cox with pelvic abscess.
426	Letter, 1872 and 1873.	Stockwell, C. M., Port Huron, Mich.	Port Huron, Michigan	Prushee, Mrs. Mary, Port Huron, Mich. "Confined to bed over a year."	F. 37	Over 26 years' standing.	Feb. 15, 1872.	....	Ch. arthritis (morb. cox caries of head, neck, a great trochanter of left mur; motion of joint tremely painful; head partly absorbed; fron fall on ice.
427	Letter, 1873; Phila. Med. Times, iii. 804.	Maury, F. F. 1218 Walnut St., Phila.	Phila. Hospital.	McKenna, Charles, Philadelphia. "Pale, thin, and anæmic."	M. 23	15 years' standing.	April 17, 1872.	....	Ch. arthritis (morb. cox joint quite firmly anc losed; 8 sinuses discha ing slightly; head of mur separated from ne and firmly lodged by b anchylosis in the aceta lum; neck dislocated; caries and necrosis of neck, trochanter ma and portions of ilium.
428	Med. Record, N. York, vii. 303; Letter, Operator, Nov. 29, 1873.	Post, Alfred C., see Case 304.	New York.	Little girl, Bergen, Anastatia, New York.	F. 3½	1 year's standing.	April 25, 1872.	....	Ch. arthritis (morb. co abscesses numerous al hip; distortion of li sinuses; caries of h mostly destroyed; fro fall on hip.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
417	⟨) ⟩	Head, neck, and trochanters of femur; small sequestrum from femur.	Recovered, 7 months.	.....	"Doing well; now well so far as this hip is concerned."	7	First case of double hip disease in which both hips operated on in same subject. See case No. 456.
418	⌐	6 inches of femur.	Recovered, 4 months.	1¼	"At 4 months can rest his whole weight on limb; wound entirely healed; firm union at hip."	4	
419	T	Head, neck, and trochanters; acetabulum gouged.	Died, 4 months, pneumonia.	.....	"Doing well; limb nearly healed; able to ride out without injury; system slowly improving."	.....	The operator says operation deferred too long.
420	⌣ I	1st. Head, neck, and shaft below trochanters; acetabulum gouged. 2d. ⅔ of femur enucleated out of periosteum with the newly formed head.	Recovered.	½	"Extension kept up; doing well; wound healed; only 2 small sinuses which discharge but little."	6	Upper ⅔ of femur removed.
421	S	4¾ inches of femur.	Recovered, 5 months.	3	"Walks well with aid of a cane; recovery retarded by an attack of typhoid fever."	15	
422	?	4½ inches of femur.	Recovered.	3½	"Walks with a cane."	17	
423	⌣	Head, neck, and 2½ inches of shaft; acetabulum gouged.	Died, 23 days, exhaustion.	.....	.....	.....	"Operation delayed too long."
424	)	Femur just below the lesser trochanter; included 2 in. of shaft; several sequestra from acetabulum.	Recovered.	⅛	"Health perfect; motion of joint; nothing further."	18	This was a sub-periosteal excision.
425	T	Head, neck, trochanter, and 1 inch of shaft of femur.	Uncertain.	?	?	?	Operator preserves all the periosteum and perichondrium and removes the bone piecemeal by gouge.
426	I	Remains of head; neck and to the lesser trochanter.	Recovered, 3 months.	4	"Good motion at hip; uses limb freely; depends on crutch or cane because of shortening; does a large portion of her household duties; is hearty."	10	Was injured when 11 years old by a sled striking the hip; in time she recovered with shortening; one year before operation fell on the hip.
427	I	Femur below trochanter, and new bone and head of femur.	Recovered, 4 months.	.....	With a cane able to walk with slight difficulty; health improved after operation.	4	Died some time after of Bright's disease of the kidneys.
428	Sinuses enlarged.	Remains of head and 1 inch of neck.	Doubtful.	.....	"Suppuration had been free and was diminishing; general health improving; plaster Paris bandage applied; able to stand beside crib without inconvenience; here lost sight of patient."	.....	Last heard from October 13, 1872; operator does not think she recovered, but believes life was prolonged.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
429	Am. Jour. Med. Sci. N. S. Oct. 1873, p. 551.	Langenbeck, B., Berlin, Germany.	Jewish Hospital, Berlin.	Germany. "Hectic; bed-sores."	M. 22	2 years' standing.	April 1872.	....	Ch. arthritis (morb. cox.); abscess; caries of head and acetabulum; head mostly absorbed; from gonorrhœa originally.
430	Letter of operator to Professor Lyster, 1873.	Wilkinson, W. H., Lakeville, Mich.	Parents' Home.	Name omitted.	M. 6	27 mos. standing.	May 7, 1872.	....	Ch. arthritis (morb. cox.); abscess above sacrum; sinuses; traumatic.
431	Letter, 1872.	Hodge, H. Lenox, 903 Walnut St., Phila., Pa.	Children's Hospital, Phila.	Crabtree, Lewis, Philadelphia.	M. 7	Over 1 year's standing.	May 25, 1872.	....	Ch. arthritis (morb. cox.); third stage.
432	Buffalo Med. and Surg. Jour. March, 1873, p. 286.	Miner, J. F., Buffalo, N. Y.	.....	Bowles, Edw. Lancaster, New York. "Pale, anæmic, emaciated; pulse 120."	M. 20	.....	June 13, 1872.	....	Ch. arthritis (morb. cox.); sinuses; free discharge; dislocation; caries; bone denuded; periosteum at upper part of shaft (right side).
433	Letter, 1872.	Hodge, H. Lenox, 903 Walnut St., Phila., Pa.	Children's Hospital, Phila.	Galan, Catherine, Philadelphia. "Great weakness and emaciation."	F. 7	Over 1 year's standing.	June 27, 1872.	....	Ch. arthritis (morb. cox.).
434	Letter, 1872.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Pa.	Parents' Home.	Hogel, Caroline, Birmingham, Pittsburg, Pa.	F. 5	3 years before.	July 14, 1872.	....	Ch. arthritis (morb. cox.); caries of neck; head nearly absorbed; upper part of shaft necrosed.
435	Med. Record, New York, viii. 108.	Bramble, D. D., Cincinnati Ohio.	Cincinnati.	United States.	M. 21	5 years' standing.	Oct. 1872.	....	Ch. arthritis (morb. cox.); disease of acetabulum.
436	Phila. Med. Times, iii. 805; Letter, 1872.	Maury, F. F., 1218 Walnut St., Phila.	Phila. Hospital.	T——, R., Philadelphia.	M. 8	Several mos. standing.	Nov. 1872.	....	Ch. arthritis (morb. cox.); from a fall; caries of head and acetabulum; sinuses; anchylosis.
437	N. York Med. Record, viii. 211; Letter, 1874.	Sayre, L. A., see Case 39.	226 E. 37th St., New York.	O'Farrell, Mathew. Greatly emaciated; profuse discharge; sinuses; great deformity.	M. 9	4 years before.	Dec. 22, 1872.	....	Ch. arthritis (morb. cox.); struck in groin 4 years before and again in November, 1871.
438	Lancet, 1872, p. 548.	Smith, H., see Case 10.	King's College Hospital.	England. "Emaciated; life imperilled by the disease."	F. 4	?	1872.	....	Ch. arthritis (morb. cox.); leg flexed and much adducted; abscesses about joint and over abdomen; caries of head and trochanter; acetabulum healthy.
439	Lancet, 1872, p. 549.	Fergusson, Sir Wm., see Case 7.	King's College Hospital.	England.	M. 10	.....	1872.	....	Ch. arthritis (morb. cox.) of both hips; right improving; left disease more active; limb much wasted; discharge free; abscesses.
440	Bi-An. Retro. Syd. Soc. 1871–72, p. 220.	Annandale, T. Edinburgh.	Scotland.	Scotland.	?	?	1872.	....	Ch. arthritis (morb. cox.); acetabulum diseased.

of Hip for Disease and Injuries.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
429	I	Remains of head.	Recovered, 8 months.	1½	"New callus thrown out about the acetabulum; motion in joint impaired but considerable; with aid of a high heel could walk for hours at a time without difficulty."	12	On account of bed-sores after-treatment conducted with the patient lying on belly.
430	I	To one inch below trochanter major.	Recovered, 18 months.	1	"Wound healed except small sinus in 3 months, at which time took scarlet fever; in a year could bear most of his weight on limb; at 18 months joins in the sports of his schoolmates without crutch or cane."	18	Uses a cork sole 1 inch thick.
431	)	Below trochanters.	Recovered, 9 months.	.....	"Walks across room with aid of high-heeled shoe without any artificial support."	15½	
432	?	Head, neck, and upper 3 inches of shaft.	Died, 3 months, exhaustion.	.....	.....	.....	Operation done only to prolong life; not expected to effect a cure.
433	)	Below trochanters.	Recovered, 4 months.	.....	With aid of a thick-soled shoe walks about without assistance.	14½	
434	⌣	Head, neck, trochanters, and 2 in. of shaft.	Recovered, 4 months.	¾	"Improves slowly; one fistula remains with very little discharge; anchylosis of hip. July 28, 1873; perfectly well; can run and jump as well as her companions."	12	
435	?	3 inches of upper end of femur and nearly all of acetabulum.					
436	S	Head, neck, and portion of shaft of femur.	Recovered.	.....	Recovery retarded by inguinal abscess; general health improved; with crutches walks without difficulty.	July 25, 1873.	
437	⌣	Head of femur.	Recovered.	1½	Walking with crutches; wound healed, but still a slight discharge from another sinus leading to portion of crest of ilium; can't touch dead bone.	.....	Under observation.
438	⌣ I	Head and part of trochanter.	Not stated.	.....	?		
439	⌣ I	Head of femur of left side.	Uncertain.	.....	Not doing well, a few weeks after abscesses for which incisions were made over hip.	Several months.	Double hip-joint disease.
440	?	At least head.	Died, about 2 months, dropsy.	.....	.....	.....	At post mortem the cartilage of acetabulum was found destroyed.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
441	Bi-An. Retro. Syd. Soc. 1871–72, p. 220.	Gay, John, 10 Finsbury Place, South E. C. London.	England.	England.	? 7	.....	1872.	....	Ch. arthritis (morb. cox.).
442	Bi-An. Retro. Syd. Soc. 1871–72, p. 220.	Gay, John, 10 Finsbury Place, South E. C. London.	England.	England.	? 7	.....	1872.	....	Ch. arthritis (morb. cox.).
443	Bi-An. Retro. Syd. Soc. 1871–72, p. 220.	Gay, John, 10 Finsbury Place, South E. C. London.	England.	England.	? 11	.....	1872.	....	Ch. arthritis (morb. cox.).
444	Bi-An. Retro. Syd. Soc. 1871–72, p. 220.	Gay, John, 10 Finsbury Place, South E. C. London.	England.	England.	? 27	.....	1872.	....	Ch. arthritis (morb. cox.).
445	Bi-An. Retro. Syd. Soc. 1871–72, p. 221.	Jackson, T. Carr, 3 Weymouth St., W. London.	England.	England.	?	.....	1872.	....	Ch. arthritis (morb. cox.).
446	Letter Prof. Andrews, 1874.	Brainard, Daniel.	United States.	United States.	? 8	.....	?	....	Ch. arthritis (morb. cox.); caries.
447	Letter Prof. Andrews, 1874.	Ownes, E.	?	? "Vigor weak."	?	.....	?	....	Ch. arthritis (morb. cox.).
448	N. York Med. Record, viii. 481.	Maxwell, G. Troupe.	?	United States.	M. 35	18 years' standing.	Before 1872.	....	Ch. arthritis (morb. cox.); tuberculosis of right hip-joint.
449	N. York Med. Record, viii. 211; Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Ward, Martin, Manhattanville, N. Y.	M. 5	2 years before.	Jan. 22, 1873.	....	Ch. arthritis (morb. cox.); from fall; head and neck of femur entirely destroyed; carious abscess of trochanter major; acetabulum perforated.
450	N. York Med. Record, viii. 377; Letter, 1874.	Sayre, L. A., see Case 39.	237 East 33d St., New York.	Maiden, W.P. A physician from Alpena, Michigan.	M. 42	19 years' standing.	Jan. 26, 1873.	....	Ch. arthritis (morb. cox.); from a fall originally; bony anchylosis resulted; limb distorted; by an accident fresh inflammation ensued and abscess of the joint; head naked, rough, and carious; acetabulum perforated; 8 inches shortening.
451	N. York Med. Record, viii. 377; Letter, 1874.	Sayre, L. A., see Case 39.	United States.	Lawson, Geo. New York. "Extremely exhausted; great pain."	M. 16	6 mos. standing.	Jan. 29, 1873.	....	Ch. arthritis (morb. cox.); acetabulum perforated; lower portion of femur necrosed; from injury.
452	N. York Med. Record, viii. 211; Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	McCafferty, United States.	M. 9	6 years' standing.	Feb. 12, 1873.	....	Ch. arthritis (morb. cox.); from fall; abscess behind trochanter major; whole head and most of neck absorbed; acetabulum perforated; abscess inside of ilium.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
441	?	At least head.	Recovered.	.....	Recovered with useful limb.	.....	Olliers' views relate to this excision. See London Lancet, 1862, p. 659, Am. ed., that irritation of diaphysis elongates the bone, while irritation of the conjugate cartilages arrests growth; also as to the unequal part played by the conjugate cartilages; the femur grows especially through the lower conjugate cartilage, hence, in this excision the bone may be removed more freely.
442		At least head,	Recovered.	.....	Recovered with useful limb.		
443	?	At least head	Recovered.	.....	Recovered with useful limb.		
444	?	At least head.	Died.				
445	?	At least head.	?	.....	"Limb subsequently amputated."		
446	?	Head of femur.	Recovered.	.....	"Walks well."		
447	?	"Of hip-joint."	Recovered.	.....	"Not stated."		
448	?	"Excision of hip-joint; uncertain."	Recovered.	Slight	"Has now a comparatively useful limb, but with little motion in the joint, befiting him for employment in many vocations."	Uncertain.	Case completed.
449	U	Trochanter major gouged, and carious abscess opened in its structure.	Recovered, 6 months.	Very little.	"Perfectly well, with good motion; can walk well with a very slight halt; can run without the halt."	11	
450	U	Head of femur; and trochanter major gouged.	Recovered, 4 months.	3	Wound healed at 4 months except very slight discharge; left city in May, 1873; has a movable and useful joint, and is practising his profession as a physician.	12	Says this is the oldest patient he has operated upon for this excision.
451	U	Head, neck, and trochanter major.	Died, 3 weeks, of amyloid degeneration of kidneys.	.....	Wound nearly healed about hip; abscess formed in thigh below after operation.		
452	U	Femur to just above trochanter minor.	Recovered, 9 months.	1	Tolerable motion, and can bear his weight on limb; March, 1874, all discharge dried up."	13	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
453	N. York Med. Record, viii. 211; Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Murphy, Malinda.	F. 13	10½ years' standing.	Feb. 12, 1873.	....	Ch. arthritis (morb. cox.); from fall; limb adducted, flexed, and fixed; sinus near groin discharging; head of femur and neck nearly absorbed; acetabulum filled with new bone; a new facet formed on which end of femur rested.
454	N. York Med. Record, viii. 378; Letter, 1874.	Sayre, L. A., see Case 39.	Coleman House, Broadway, New York.	Gregory, R. S. Houston, Texas.	M. 4	25 mos. before.	Feb. 17, 1873.	....	Ch. arthritis (morb. cox.); from fall; head and neck of bone destroyed; abscess about hip; acetabulum perforated slightly.
455	N. York Med. Record, viii. 377.	Hamilton, F. H., 43 W. 32d St., N. York.	Bellevue Hospital, New York.	United States.	M. 7	.....	April 12, 1873.	....	Ch. arthritis (morb. cox.); 3d stage.
456	Letter, 1873.	Ashhurst, John, Jr., 2000 W. Delancey Place, Phila.	Children's Hospital, Phila.	Gillis, Chas., Philadelphia. "General condition moderately good."	M. 12	15 mos. before.	April 23, 1873.	....	Ch. arthritis (morb. cox.); of right side; 2d stage; abscess of thigh; acetabulum healthy.
457	Letter, 1873.	Hodge, H. Lenox, 903 Walnut St.; Philadelphia.	Children's Hospital, Phila.	Marley, John. "Delicate."	M. 11	Over 1 year before.	May 14, 1873.	....	Ch. arthritis (morb. cox.); no definite cause.
458	Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Hudgins, Maud, Hampton, Va.	F. 4	10 mos. before.	May 28, 1873.	....	Ch. arthritis (morb. cox.); 3d stage; from blow from stone; extensive abscesses in outer part of thigh; acetabulum perforated.
459	Letter, 1874; Med. Record.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Soden, John. Head waxy; kidneys and fatty liver and dropsy.	M. 13	8 years' standing.	June 18, 1873.	....	Ch. arthritis (morb. cox.); 3d stage; from fall down stairs; acetabulum gouged.
460	Med. Times, Phila. iii. 683; Letter, 1873.	Hodge, H., Lenox, 903 Walnut St., Philadelphia.	Children's Hospital, Phila.	Miller, Lewis E., Philada. "Delicate."	M. 8	3 years' standing.	June 12, 1873.	....	Ch. arthritis (morb. cox.); head and neck almost entirely absorbed; bands of cartilage binding femur to acetabulum; no cause given.
461	Clinic, Dec. 27, 1873.	Wylie, J. L., Ripley, Ohio.	Patient's Home.	A young man, near Ripley, O. "Emaciation, patient in extremis; night sweats."	M. 22	5½ mos. standing.	About Oct. 15, 1873.	....	Ch. arthritis (morb. cox.); abscesses joint; free suppuration; absorption of neck; destruction of trochanter major; separation of neck; head in situ.
462	Letter, 1874.	Sayre, L. A., see Case 39.	Charity Hospital.	Burke, Bridget, Ireland.	F. 12	3 years' standing.	Oct. 1, 1873.	....	Ch. arthritis (morb. cox., 3d stage); from fall down stairs.
463	Lancet, i. 102, 1874.	Bellamy, E., London, England.	Royal Infirmary Waterloo Road, England.	M——, Anne.	F. 9	2 years' standing. No cause stated	Sept. 27, 1873.	....	Ch. arthritis (morb. cox.) cartilage head destroyed; acetabulum widened; ligamentum teres destroyed; some disease of bone.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
453	U	Remains of head and neck of femur.	Recovered, 1 year.	1¼	March 4, 1874, now well; no discharge; small pieces of bone exfoliated after which she improved; motion in joint good; can walk without crutch or cane.	13	
454	⌣	Femur to above trochanter minor.	Recovered, 8 months.	¾	"February 4, 1874, can ride on horseback and walk well."	11½	
455	?	Head, neck, and trochanter major.	Not stated.	.....	Doing well.	1 month.	
456	⟨) ⟩	Head and neck and both trochanters.	Recovered.	.....	October 10 doing well; up walking about on crutches.	5	The left hip was excised for hip disease in Sept. 1872, in this case; this is the first instance that this operation has been done on the right and left side in same subject. (See Case No. 417.)
457	)	Head, neck, and trochanters.	Recovered.	1½	Can walk a few steps without cane or crutch, and is continually improving.	5	
458	⌣ Incis'n on outer part thigh extended nearly to outer condyle	Femur to just above trochanter minor; portions of necrosed bone from acetabulum.	Recovered, under treatment.	¾	"Not yet entirely well; March 4, 1874, walks with extension splint without cane or crutch."	9	
459	⌣	Femur to just above trochanter minor.	Recovered, 3 months.	2	"Movable joint; able to bear entire weight on limb and runs around; anasarca removed; health vastly improved; cheeks ruddy."	7	"This case operated upon with no prospect of success, as he had waxy liver and kidney, which no doubt still exist, but he has been made comfortable and his hip is well."
460	)	Remains of the head and neck and trochanters.	Recovered.	1½	"Walks a few steps without crutch or cane. Is continually improving."	5	
461	I	Remaining ¾ head, and 1 in. shaft; neck and trochanter major destroyed.	Died, 42 hours, exhaustion.	.....	"Reacted fairly."	.....	"Operation delayed too long."
462	⌣	Femur to just above trochanter minor; acetabulum gouged.	Recovered.	.....	"Every prospect of useful joint." March 4th, 1874.	5	
463	I	Head of femur and remains of diseased bone.	Recovered.	.....	Got up October 19th much improved in health; walking about ward on crutches; very little distorsion; has a singular amount of power and control over the limb.	1	"This was a subperiosteal excision, the attachment of the muscles being preserved. The incision was only 2 in. long."

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
461	Letter, 1874.	Sayre, L. A., see Case 39.	Charity Hospital, New York.	Anderson, Martin.	M. 8	21 mos. standing.	Dec. 10, 1873.	S.	Ch. arthritis (morb. cox., 3d stage); head and neck destroyed; cause not known.
435	Boston Med. and Surg. Jour. xc. 130.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	Has hectic and has been bed-ridden for 18 months.	F. 37	3 years' standing. from fall and spr'n.	Jan. 17, 1874.	S.	Ch. arthritis (morb. cox.); abscesses; pain; sinuses; caries; limb wasted, shortened, and everted; head of femur absorbed, and to relieve pain, and not to obtain useful joint.
463	Med. Record, ix. 213; Letter, 1874.	Sayre, L. A., see Case 39.	Bellevue Hospital, New York.	Kirkbride, Sarah, 193 Charlton St., New York. Terribly emaciated.	F. 10	5 years' before.	Jan. 21, 1874.	....	Ch. arthritis (morb. cox., 3d stage); acetabulum perforated; head and neck absorbed; several sinuses discharging pus; greatly distorted; from fall down stairs.
467	Boston Med. and Surg. Jour. xc. 177.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	"Has hectic."	M. 7	3 mos. standing.	Feb. 6, 1874.	S.	Ch. arthritis (morb. cox.) caries; sinus abscess joint head eroded and partially absorbed; acetabulum slightly carious at margin
438	Letter, 1874; Med. Record, ix. 213.	Sayre, L. A., see Case 39.	Bellevue Hospital.	Brown, Louisa T., 485 Boyed Ave., Brooklyn, New York. Greatly emaciated.	F. 4½	21 mos. standing.	Feb. 11, 1874.	....	Ch. arthritis (morb. cox.) head and neck absorbed acetabulum perforated; limb strongly flexed and abducted; two large abscesses; from a fall down stairs,
469	Boston Med. and Surg. Jour. xc. 222.	Cheever, D. W., see Case 324.	Boston City Hospital.	.....	? 6	6 mos. standing.	Feb. 20, 1874.	....	Ch. arthritis (morb. cox.) abscesses; sinuses; caries erosion of head and partial erosion of acetabulum; pain; abscess of thigh.
470	Axline, J. H., present at operation.	Maclean, McDonald, Ann Arbor, Mich.	College Clinic Univ. of Michigan.	Striker, S. E., Ann Arbor. "Fair state, but thin."	M. 25	4 years' standing.	Feb. 28, 1874.	S.	Chronic arthritis; sinuses discharging; caries; head separated, left side; nearly all neck destroyed, and also trochanter major.
471	Ashhurst's ta. 151.	Lyon, F. W., Peter-Culter, Scotland.	Scotland.	Scotland.	?	.....	Before 1865.	....	Ch. arthritis (morb. cox.)
472	Letter, 1874.	Poore, C. T., 427 4th Ave., New York.	St. Mary's Free Hospital, New York.	Gillen, Martin New York.	M. 63	6 years before.	May 30, 1873.	S.	Caries head of femur; acetabulum perforated; four sinuses.

REMARK.—Six of Prof. Erichsen's twelve cases of excision of this joint do not appear in this table, as we do not find the details of these in any authority at our command.

of Hip for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
464	⌣	Femur just above trochanter minor.	Recovered, 6¾ months.	¼	"Almost perfect motion." April 20th, 1874.	6¾	
465	V	3 in. femur and some fragments from acetabulum.	?	.....	?	.....	Disease existed from childhood; became latent and was re-excited by a fall or sprain.
466	⌣	Femur to 3 in. below trochanter minor; acetabulum gouged.	Died, 76th day, exhaustion.	.....	.....	.....	Post-mortem.—End femur rounded off, and enlarged, fitting into acetabulum, which was covered with fibro cartilage, and the femur and ilium held together with firm ligamentous bands; nearly 3 in. of femur below incision was necrosed in ⅓ of the circumference of bone, which kept up the discharge.
467	V	Femur at surgical neck.	?	.....	?		
468	⌣	Below trochanter minor; acetabulum gouged.	Recovered, 68 days.	.....	April 20, 1874. Walking on long splint; wound nearly healed; health perfect; left hospital.	2¼	This is Prof. Sayre's 48th Case, and 47th appearing in this report.
469	V	Femur below great trochanter.	?	?	?	?	
470	I	Separated head, the remains neck and trochanter, and 4 inches shaft of femur.	Recovered.	.....	April 2, 1875. "Patient in good health and has acquired some use of the affected limb."	5	
471	?	Not stated.	Uncertain.	.....	"Doing well."	.....	This case was added after the table was numbered.
472	Str'ght over trochanter	To just above trochanter minor.	Recovered.	2	Can flex and extend thigh on pelvis; some power of abduction; can walk without cane.	10	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Braith. Retro. Pt. 19, p. 116, from Cooper's Surg. Dict'nary; Lancet, vii. 81, 1848; Sayre's ta. 2; Braith. Retro. Pt. 24, p. 184.	White, Anthony, London.	Westminster Hospital.	West, John, Westminster, England. "Delicate; scrofulous; much emaciated; great exhaustion; bed-sores."	M. 9	4½ years' standing.	April 1822.	....	Ch. arthritis (morb. cox.) superficial caries of head neck, and trochanters; had been exfoliations from ramus, pubes, and ischium dislocation on dorsum ilii sinuses; some discharge acetabulum obliterated limb fixed over opposite thigh; fibrous union of head to ilium; acute pain on attempting to move limb; lying on his side three years; from a fall.
2	Sayre's ta. 11; Hodges' Exc. p. 97.	Maisonneuve, Paris.	Hôpital Cochin, Paris, France.	France.	M. 18	Long standing.	1847.	....	Bony anchylosis with deformity, from chronic arthritis.
3	Letter, Nov. 1873.	Post, Alfred C., 291 Madison Avenue, New York.	Presbyterian Hospital, New York.	Polhemus, Minie B. Last 3 or 4 years has gone about improved in health; general health pretty good.	F. 16	7 years' standing.	June 12, 1873.	....	Anchylosis and deformity of the left hip and limb result of chronic arthritis (morb. cox.); from exposure to cold; subject to recurring abscesses of hip adduction and internal rotation of limb; almost entire loss of motion at hip limb crossing sound one as almost to occlude genitals; head absorbed.

Tabular Statement of Extractio

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Hodges, p. 90; Lancet, vii. 384, 1848; Am. Jour. Med. Sci. N. S. ix. 487.	Schlichting, John Daniel.	Germany.	?	F. 14	Long standing.	1730.	....	Ch. arthritis (morb. cox. caries of head of femur and abscess of joint; head of bone separated from neck of femur; fistula.
2	Winne's ta. 6; Hodges, p. 105; Am. Jour. Med. Sci. N. S. ix. 488; Cir. No. 2, 1869, Surg. Gen. Off. p. 8.	Vogel.	Germany.	Germany. "A young girl."	F. ?	?	1771.	....	Ch. arthritis (morb. cox. caries of head of femur separated by diseases fistulæ.
3	Hodges, p. 105; Exc. Hip, Cir. No. 2, 1869, p. 8.	Kirtland, London.	England.	England.	?	.....	1780.	....	Ch. arthritis (morb. cox. separation of head of mur.
4	Hodges, p. 105: Exc. Hip, Cir. No. 2, 1869, p. 8.	Hoffman.	Germany.	Germany.	?	.....	1782.	....	Ch. arthritis (morb. cox separation of head of mur.
5	Winne's ta. 7; Heyfeld. ta. 17; Cir. No. 2, 1869, Surg. Gen. Off.	Kluge.	Germany.	Germany.	?	?	1816.	....	Ch. arthritis (morb. cox caries.
6	Hodges, p. 91; Lancet, vii. 384, 1848; Am. Jour. Med. Sci. N. S. ix. 487; Sayre's ta. 1; Cir. No. 2, 1869, S. G. O. p. 8.	Schmalz, H. T., Pirna, Saxony.	Germany.	?	M. 6	.....	1817.	....	Ch. arthritis (morb. cox caries of head of fem which had separated.

of Hip for Deformity.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1		Head and neck to below trochanter minor.	Recovered, 12 months.	Much	"Could walk several miles with aid of a high stirrup; false joint formed."	60	Died five years after operation, of phthisis pulmonalis.
2	Single transverse.	Bone sawn through, but no efforts with chisel or gouge could dislodge the head of the femur from acetabulum.	Recovered.	.....	Recovered with partial usefulness.	18	Hodges states that this operation resolved itself into Barton's for deformity; there must have been a portion of bone removed with the gouge and chisel.
3	?	The remains of the neck and trochanter.	Recovered, 5 months.	.....	Discharged Nov. 7, 1873; substantially cured; the adduction of the limb entirely overcome; result very gratifying, and the occlusion of the genitals was overcome.	5	The object in this operation was to restore the parallelism of the limbs and to overcome the adduction; and also to remove the occlusion of the genitals.

of Bone from Hip-Joint.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	Dilated a fistula; no incis'ns made.	Separated head of femur.	Recovered, 6 weeks.	?	"Able to walk freely with a little halt."	?	
2	None made; fistula dilated.	Separated head of femur.	Recovered, 3 months.	.....	?	3	
3	?	Separated head of femur.	Recovered.				
4	?	Separated head of femur.	Recovered.				
5	?	Separated head of femur.	Died, 2 days.	.....	.....	.....	The case of Joseph Brandish, 1783, was a spontaneous exfoliation of bone. See Hodges' Excisions, p. 98.
6	.....	Head separated from femur.	Recovered, 3 years.	?	Was cured after a lapse of 3 years; a new joint was formed by the trochanter major; he was enabled to walk.	36	White, Charles, of Manchester, England, executed this operation on the dead subject before 1769, and proposed that it might be done on the living subject.

Tabular Statement of Extraction

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
7	Hodges, p. 105; Am. Med. Month., N. Y., ii. 319.	Batchelder, S. P., New York.	New York.	United States.	?	.....	1839.	....	Ch. arthritis (morb. cox.); head separated.
8	Hodges, p. 105; N. York Med. and Surg. Jour. Jan. 10, 1846; Trans. Am. Med. Assoc. xiii. 535.	Batchelder, S. P., New York.	New York.	Young man. United States.	M. ad't	.....	1845.	....	Ch. arthritis (morb. cox.); fistulæ; free discharge; necrosis and separation of head of femur; from a kick by a horse.
9	Hodges' Exc. p. 105.	Carlisle.	?	?	?	.....	?	....	Ch. arthritis (morb. cox.); separation of head.
10	Heyfeld. ta. 94; Hodges' ta. 105; Sayre's ta. 41.	Kuehn, Leipzig, Germany.	Germany.	Germany. "Had phthisis."	M. 11	?	1854.	S.	Ch. arthritis (morb. cox.); caries of head of femur separated; caries of sacrum and ischium.
11	Heyfeld. ta. 48; Winne's ta. 31; Hodges, p. 105 and 97.	Shaw, Alex., 40 Abbey Rd., W. Kilburn, N. W.	England	England.	M. 18	?	1856.	S.	Rheumatic chronic arthritis; dislocation on dorsum ilii; caries; cartilage absorbed from acetabulum; head of femur separated from neck.
12	Reported by J. J. Steinriede, Benton, Yazoo Co., Miss.; Letter.	Mussey, W. W., Cincinnati, Ohio.	Cincinnati.	Wessel, Ohio.	M. 12	Several mos. before.	1860.	....	Ch. arthritis (morb. cox.); with necrosis of portion of head and neck femur; from fracture of neck, which had been set and broken over again by a previous attendant; abscesses.
13	Hodges' ta. p. 105.	Huntington, United States.	United States.	United States.	?	.....	?	....	Ch. arthritis (morb. cox.); separated head of femur.
14	Hodges, p. 105; Winne's ta. 47.	Ried, Fr., Jena.	Germany.	Germany.	M. ?	.....	?	....	Ch. arthritis (morb. cox.); abscess; head and neck separated.
15	Hodges' ta. p. 105.	Harris, United States.	United States.	United States.	?	.....	?	....	Ch. arthritis (morb. cox.); separation of head of femur.
16	Hodges, p. 105.	March.	United States.	United States.	?	.....	?	....	Ch. arthritis (morb. cox.); separation of head of femur.
17	Hodges, p. 105.	March.	United States.	United States.	?	.....	?	....	Ch. arthritis (morb. cox.); separation of head of femur.
18	Hodges' ta. p. 105, Excision of Joints.	Klinger.	Germany.	Germany.	?	?	?	....	Ch. arthritis (morb. cox.); head of bone separated.
19	Hodges' ta. p. 105, Excision of Joints.	Shubert.	?	?	?	.....	?	....	Ch. arthritis (morb. cox.); head of bone separated.
20	Hodges' ta. p. 105, Excision of Joints.	Ohle.	?	Exhausted.	?	.....	?	....	Ch. arthritis (morb. cox.); head of bone separated.
21	Hodges' ta. p. 105, Excision of Joints.	Ross.	?	?	?	.....	?	....	Ch. arthritis (morb. cox.); head of bone separated.
22	Good's ta. 14.	Clark, F. Le Gros, 14 St. Thomas St., London.	Saint Thomas' Hospital, London.	England. "Strumous."	M. 8	advan'd	1862.	....	Ch. arthritis (morb. cox.); luxation; head in two fragments in acetabulum.
23	Letter, 1872; Buffalo Med. Jour. iii. 8.	Miner, J. F., Buffalo. New York.	Patient's Home.	Cash, Evans.	M. 76	Jan. 28.	Jan. 29, 1864.	P.	Fracture of neck with dislocation of the head and neck into the groin beneath the femoral artery from an injury.
24	Boston City Hosp. Reports, p. 91, 106; Lyster's ta. 24.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	McD——, David, Boston Mass. "Debilitated; irritable; and confined to bed."	M. 4	2 years' standing.	Feb. 1869.	....	Ch. arthritis (morb. cox.); abscesses; sinus; suppuration; head in acetabulum spontaneously separated; adjacent extremity rounded and undergoing repair.

of Bone from Hip-Joint—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
7	?	Separated head.	Recovered.	?	"Perfectly successful."	?	
8	Dilated fistula with sponge tent.	Separated head; removed with forceps.	Recovered.				
9	?	Separated head of femur.	Recovered.				
0	?	Separated head of femur.	Died, 6 days.				
11	?	Head of femur spontaneously separated from rest of femur.	Recovered.	?	"Walked a mile afoot; result satisfactory; discharge continued."	?	
12	I	3 inches by 1 inch of the neck and head with other necrosed portions, by means of gouge and forceps.	Recovered.	.....	Recovery delayed by smallpox, which prevented extension; anchylosis.	120	
13	?	Separated head of femur.	Recovered.				
14	Some form incision	Separated neck and head of femur.	Died, 1 year, Bright's disease.				
15	?	Separated head of femur.	Recovered, 2 years.				
16	?	Separated head of femur.	Recovered.				
17	?	Separated head of femur.	Recovered.				
18	?	Separated head of femur.	Recovered.				
19	?	Separated head of femur.	Recovered.				
20	?	Separated head of femur.	Died, soon after, of hectic.				
21	?	Separated head of femur.	Died, 2 days, secondary hemorrhage				
22	?	Removal of loose sequestra from acetabulum.	Recovered.	.....	"Cured; ulcer healed; nothing said as regards usefulness in 3 different reports."		
23	Simple incision in femoral region.	Head and neck of femur.	Recovered, 3 months.	3½	"Walks without a cane, though he generally uses one; bone moves up when he walks; all motions of joint perfect; is active and healthy."	108	
24	V	Separated head.	Died, 57 days, tuberculosis.				

EXCISION OF THE KNEE-JOINT.

EXCISION OF THE KNEE-JOINT.

HISTORY.

Mr. Filkin, of Northwich, England, was the first to execute a *complete* excision of this joint for disease, August 23, 1762. His patient recovered in three months, and gained a useful limb.

The second operation of this character was executed July 2, 1781, for disease, by Mr. Henry Park, of Liverpool, England. This was also a complete excision.

Both of these surgeons familiarized themselves with the operation before performing it upon their patients, by executing its several steps upon the dead subject. It is probable also that Mr. Park did *the* operation without knowing that Mr. Filkin had preceded him in *its* execution nineteen years. Be this as it may, Mr. Park is entitled to the credit of presenting *this* excision to the profession as a formal conservative measure. It was, too, the publication of his case which served to develop the fact that Mr. Filkin had done a similar operation many years before. Mr. Park repeated his operation, for disease, June 22, 1789; and P. F. Moreau, of Bar, France, did the operation, for caries, September 17, 1792. The latter repeated the operation in 1802, and was the first to execute this excision in France. The next operator in this field was Mülder, of Groningen, Holland, who excised the joint, for disease, October 21, 1809. In 1811 the younger Moreau did the operation, for caries; and in 1816 Ph. J. Roux, of Paris, followed the practice in the removal of a diseased joint.

K. Textor, of Würzburg, did the operation for disease in 1821, and this is probably the first excision of this joint in Germany. P. Crampton, of Dublin, introduced the operation in Ireland in May, 1823; James Syme, of Edinburgh, in Scotland, December 7, 1829; H. Demme, of Berne, in Switzerland, in 1835; Lombardo, of Pavia, in Italy, in 1842; A. J. Wedderburn,[1] of New Orleans,

[1] It should be stated that this case has been reported as done for anchylosis. But as the record clearly shows that there was subacute disease in progress in

La., in the United States, in February, 1852, and before the operations of Quackenbos (1853), and R. A. Kinlock, of Charleston, South Carolina, 1856; Adelmann, of Dorpat, in Russia, in 1853; and F. Esmarch, of Kiel, in Denmark in 1858. These excisions were done for disease. A glance at sub-table No. 2, for this joint, will show that this excision has mainly been executed in England, France, Germany, and the United States.

The first *partial* excision, which we have recorded, for gunshot wound, was done by D. J. Larrey, at Benevento, Spain, in 1809; Others of like extent were done no later than 1831, for gunshot lesion, by V. Theden, of Germany, P. F. Percy and Laurent, of Paris, and L. Champion, of France, and which cases occurred in civil practice. J. T. Hodgen, of St. Louis, executed the first partial excision for gunshot injury of this joint, in the United States, in the fall of 1862.

The first *total* resection of this joint for gunshot wound, seems to have been done October 1, 1855, by J. H. Lakin, of Sutton-Colefield, England, upon an English soldier, wounded at Sevastopol. In the United States, E. S. Cooper, of San Francisco, Cal., was the first to execute the complete operation for this form of injury, in civil practice, in 1857, and the case, of which the specimen was contributed by A. A. Surgeon Bannister, U. S. A., done September 1, 1862, was the first executed in our country in military practice. The case of R. B. Bontecou, of Troy, N. Y., was done October 24, 1862. French, German, and American surgeons have mainly performed this operation for gunshot injury.

Our countryman, J. Rhea Barton, of Philadelphia, Pa., was the first to execute this excision for deformity or anchylosis, May 27, 1835. Gurdon Buck, of New York, modified Barton's operation materially in his excision of this joint, October 12, 1844, and in 1853 this surgeon still further changed his plan of remedying deformity of this joint. At the present day one or other of Dr. Buck's operations is, we believe, universally adopted, by surgeons, for the cure of bony or fibrous anchylosis of this articulation.

Surgeons have not adopted excision of this joint readily. It has required the unflinching support of such operators as Sir Wm. Fergusson, J. E. Erichsen, G. M. Jones, P. C. Price, and Henry Smith, of England; R. G. Butcher, of Ireland; B. Von Langen-

the joint at the time of the operation, and as the operation in its several steps is essentially like those performed in excision for disease of this articulation, we have classified this case as executed for "disease" rather than for "anchylosis."

beck, Fricke, Joeger, and Textor, of Germany; Syme, of Scotland; Barton, Pancoast, Mütter, Buck, and Kinlock, of the United States; to establish it as a truly reliable and valuable conservative measure. Although there are now parties who reject this excision for *injury*, the majority of surgeons advise a resort to it for the cure of *disease* of this joint in properly selected cases. As the several tables present a fair exhibit of the history of this excision, it seems unnecessary to say more on this subject here.

It should be remarked that in classifying this operation a "*partial excision*" is regarded as one in which either the patella or the articulating extremity of the tibia, or the femur, or of the tibia and fibula, have been removed: while a "*complete excision*" is considered as one, in which, the articulating ends of the femur and tibia, or of the femur, tibia, and fibula, is excised. But the removal of the head of the fibula and end of the femur (the tibia untouched) would constitute only a *partial* excision. Although the patella is not removed, yet we regard removal of the articular surfaces of the tibia and femur as a "*complete* excision," because the area of the inner surface of *this* bone is so limited as compared to the general joint-surface of the articulation. Operative interference with the patella will be separately considered.

SUBJECT NO. 1.— *Where treated.*

In the class of excisions for gunshot wounds 25 per 100 died in "private practice," and 87.5 per 100 in "hospital practice." In the operations done for "injuries," 25 per 100 died in "private," and 36.36 per 100 in "hospital practice." In excisions for "disease," the mortality in private practice is equal to 30.76 per 100, and in "hospital," 25 per 100. In those operations done for "deformity or anchylosis" none died in "private practice," and 12.5 per 100 were fatal among those performed in hospital.

Conclusion.—That in excisions done for gunshot wounds "injuries," and "deformity," the mortality is greater in hospital than in private practice: but this showing should not be wholly attributed to the influence of hospital agencies, but in part to the potency of other causes, especially the grave character of the lesions in these several classes of excision, and to the deleterious operation of such *violent* and *sudden* causes upon the body as those which form a feature in some of these cases. In the class of excision for "disease," the mortality is here shown to be less in hospital than in private practice. This may be reliable, but the cases of excision,

done in "private practice," are too few in number, to permit dependence upon this point.

Remark.—In these tables the mortality is estimated only upon those recovering and dying, the cases "uncertain as to life" not being included in the calculation.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
EXCISION FOR GUNSHOT WOUNDS.										
In private practice	2	1	1	4	1	..	..	..	..	25.
In hospital practice	1	11	..	5	31	..	..	..	..	87.5
Not stated as to subject	1	..	..	2	1	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....
EXCISION FOR INJURIES.										
In private practice	2	..	..	1	1	..	..	..	..	25.
In hospital practice	..	..	..	7	4	..	..	..	..	36.36
Not stated as to subject	6	4	..	1	2	..	..	..	..	.....
Total for subject	8	4	..	9	7	..	..	..	..	.....
EXCISION FOR DISEASE.										
In private practice	4	..	..	5	4	..	..	..	..	30.76
In hospital practice	3	1	1	249	83	4	..	..	..	25.00
Not stated as to subject	5	3	1	153	87	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....
EXCISION FOR DEFORMITY.										
In private practice	1	..	..	3	..	..	..	..	..	.0
In hospital practice	3	..	..	18	3	..	..	..	..	12.5
Not stated as to subject	8	2	..	13	2	..	..	..	..	.....
Total for subject	12	2	..	34	5	..	..	..	..	.....

SUBJECT No. 2.—*Country in which performed.*

For gunshot excisions the mortality is as follows as related to this subject:—

In England	50	per 100
" France	16.66	"
" Germany	76.19	"
" United States	88.88	"

In excisions for "injuries" the death-rate associated with this subject is:—

In England	30.00	per 100
" France	100.00	"
" Germany	33.33	"
" Scotland	66.66	"
" United States	None	"

In the class of excision for "disease," the mortality as connected with this subject is:—

In England	23.60 per 100
" France	57.14 "
" Germany	50.00 "
" Ireland	50.00 "
" Scotland	27.58 "
" Switzerland	58.33 "
" United States	19.23 "

In the class of excisions for "deformity" or "anchylosis," the mortality as related to this subject is:—

In England	20.00 per 100
" Germany	16.66 "
" United States	10.00 "

The excisions executed in other countries than those named will not be considered in this connection, as the cases are too few in number.

Conclusion.—As to the mortality attending gunshot excisions of this joint in the several countries named, the difference is too great in the death-rate shown in England and France to be attributed to the influence of climate in these countries, and that the minor disparity in the fatality here developed in Germany and United States cannot be referred to similarity of climatic agencies. It is, therefore, according to these data, questionable if the country in which this excision is executed, for gunshot wounds, exercises any *great influence* upon the mortality attending the operations so far as climate is concerned.

In excisions for "injuries," the mortality is about equal in Germany and England, and in France and Scotland, dissimilar and much greater. Whereas we would expect the converse of this, and hence it may be concluded that climate does not exercise a controlling agency upon the fatality of this operation when done for injury. As to excision for "disease," it will not be claimed that a mortality difference, of 57.14 per cent. in France, and 19.23 per cent. in the United States, of 58 per cent. in Switzerland, of 27.58 per cent. in Scotland, of 23.60 per cent. in England, and 50 per cent. in Germany and Ireland, can be accounted for through the influence exercised by climate, and the same may be said as to excisions for "deformity."

Finally, these statistics do not permit the conclusion that climate

exercises any great influence upon the mortality of this excision, although it is well known that such agencies do increase the fatality of major surgical operations.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
In England	..	.	..	1	1	..	..	..	..	50.	1	..	..	6	3	..	..	..	..	30.
" France	3	..	1	2	1	..	..	..	..	16.66	..	1	..	..	1	..	..	..	..	100.00
" Holland	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" Germany	1	7	..	4	9	..	..	..	..	76.19	3	1	..	1	1	..	..	..	..	33.33
" Ireland	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" Scotland	..	..	..	...	...	..	..	..	..	.....	1	1	..	..	1	..	..	..	..	66.66
" Switzerland	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" Italy	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" United States	..	5	..	3	17	..	..	..	..	88.88	2	..	..	2	..	..	..	..	..	0
" Russia	..	..	..	..	1	..	..	..	..	100.00	..	..	..	..	..	..	..	..	..	.....
" Denmark	..	..	..	...	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" Austria	..	..	..	...	2	..	..	..	..	100.00	..	..	..	..	..	..	..	..	..	.....
" Canada	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" Syria	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" India		..	..	...	1	..	..	..	..	100.00	..	..	..	..	..	..	..	..	..	.....
" Arabia	..	..	..	...	1	..	..	..	..	100.00	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	1	...	..	..	..	..	.....	1	1	..	..	1	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
In England	4	1	1	242	75	4	..	..	..	23.60	..	..	..	12	3	..	..	..	..	20.
" France	..	..	..	9	12	..	..	..	..	57.14	..	..	..	1	..	..	..	..	..	0.
" Holland	..	..	..	...	1	..	..	..	..	100.00	..	..	..	..	..	..	..	..	..	.....
" Germany	3	3	..	38	38	..	..	..	..	50.00	3	1	..	7	1	..	..	..	..	16.66
" Ireland	..	..	..	4	4	..	..	..	..	50.00	..	..	..	1	..	..	..	..	..	0.
" Scotland	..	..	..	21	8	..	..	..	..	27.58	..	..	..	..	..	..	..	..	..	.....
" Switzerland	..	..	..	5	7	..	..	..	..	58.33	..	..	..	2	..	..	..	..	..	0.
" Italy	..	..	..	2	2	..	..	..	..	50.00	..	..	..	..	..	..	..	..	..	.....
" United States	5	..	1	58	15	..	..	..	..	19.23	9	1	..	9	1	..	..	..	..	10.00
" Russia	..	..	..	1	1	..	..	..	..	50.	..	..	..	..	..	..	..	..	..	.....
" Denmark	..	..	..	4	3	..	..	..	..	42.85	..	..	..	..	..	..	..	..	..	.....
" Austria	..	..	..	...	1	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
" Canada	..	..	..	2	...	..	..	..	..	0.	..	..	..	..	..	..	..	..	..	.....
" Syria	..	..	..	...	...	..	..	..	..	.....	..	..	..	1	..	..	..	..	..	0.
" India	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" Arabia	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	21	7	..	..	..	..	.....	..	..	..	1	..	..	..	..	..	0.
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

SUBJECT No. 3.—*State of Constitution of Patients.*

In "gunshot excisions," the mortality of those regarded as "vigorous" is equivalent to 79.31 per 100; and in those considered "exhausted" the death-rate reaches 100 per cent.

In the class of excision for "injuries," the mortality of those classed as "vigorous" is 45.45 per 100; and in those estimated as "exhausted" no deaths are shown.

In excisions "for disease," the fatality in the "vigorous" is 16.66 per 100; and in the "exhausted" 29.54 per 100.

In excisions for "deformity," the mortality among the "vigorous" is 13.33 per 100; and in those classed as "exhausted" none died.

Conclusion.—That, in excisions for gunshot wounds and for "disease," an exhausted state of the system favors mortality after this operation; and that, in excisions for "injuries" and "deformity," the data here shown are not reliable, because almost all the patients suffering this operation, *for these causes,* were in a "vigorous" state when the measure was executed.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.									
"Vigorous"	1	2	..	5	21	..	..	..	..	79.31
"Exhausted"	..	1	..	...	3	..	..	..	..	100.
Not stated as to subject	3	9	1	6	9	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....
	EXCISION FOR INJURIES.									
"Vigorous"	4	2	..	2	3	..	..	..	..	45.45
"Exhausted"	..	..	..	3	..	..	..	..	..	0.
Not stated as to subject	4	2	..	4	4	..	..	..	..	.....
Total for subject	8	4	..	9	7	..	..	..	..	.....
	EXCISION FOR DISEASE.									
"Vigorous"	1	..	..	29	6	..	..	..	..	16.66
"Exhausted"	2	1	..	122	51	2	..	..	..	29.54
Not stated as to subject	9	3	2	256	117	2	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....
	EXCISION FOR DEFORMITY.									
"Vigorous"	3	..	..	10	2	..	..	..	..	13.33
"Exhausted"	..	..	..	1	..	..	..	..	..	0.
Not stated as to subject	9	2	..	23	3	..	..	..	..	.....
Total for subject	12	2	..	34	5	..	..	..	..	.....

SUBJECT No. 4.—*Of Sex.*

In gunshot excisions, as all who underwent this excision were males, no comparison can be drawn for this class as to sex.

In the excisions for "injury," 36.36 per 100 among the males, and 60.00 per 100 of the females, died.

In excisions "for disease," 25.07 per 100 among the "males," and 34.22 per 100 of the "females," died.

In the class of excisions for "deformity," 10.80 per 100 of the "males," and 16.66 of the "females," died.

Conclusion.—That, in excisions for "disease," "injuries," and "deformity," male patients endure this operation better than female.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Males	1	11	..	11	33	..	..	..	..	78.57	7	3	..	7	5	..	..	..	..	36.36
Females	..	..	..	...	...	..	..	..	..	.....	1	1	..	1	2	..	..	..	..	60.00
Not stated as to subject	3	1	1	...	...	..	..	..	..	.....	..	..	..	1	..	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Males	9	4	1	247	83	2	..	..	..	25.07	8	1	..	25	3	..	..	..	..	10.80
Females	3	..	..	120	64	1	..	..	..	34.22	..	..	..	5	1	..	..	..	..	16.66
Not stated as to subject	..	..	1	40	27	1	..	..	..	.....	4	1	..	4	2	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

SUBJECT No. 5.—*Of Age.*

In excisions for gunshot wounds, the mortality in those aged from 15–20 years is 57.14 per 100; in those aged 20–25 years, 66.66 per 100; in those from 25–30 years, 60.00 per 100; and in those aged from 30–40 years, all died. The youngest patient operated on and recovering was sixteen (16) years of age; the oldest patient who recovered from the operation was thirty (30) years of age; and the oldest patient undergoing this excision for gunshot wound was thirty-eight (38) years of age.

In excisions for "injuries," none died aged from 5–10 or 10–15 years; all died in those aged from 15–20; 50 per cent. succumbed in those aged from 20–25 years; 100 per cent. in those aged from 25–30; 16.66 per cent. in those aged from 30–40 years; 75 per cent. in those aged from 40–50; and 50 per cent. in those aged from 50–60 years. The *youngest* patient recovering and operated on was six (6) years of age, and the *oldest* operated upon and recovering was 60 years of age.

In excisions "for disease," the mortality in those aged from 1–5 years is 38.88 per 100; those from 5–10 years 16.19 per 100;

those from 10–15 years 17.17 per 100; those from 15–20 years 30.11 per 100; those from 20–25 years 39.39 per 100; those from 25–30 years 37.03 per 100; those from 30–40 years 41.55 per 100; those from 40–50 years 53.84 per 100; from 50–60 years 25 per 100; and in those aged over 60 it is 100 per cent. In this class, the youngest patient operated on was one and three-fourths years ($1\frac{3}{4}$) of age; the youngest patient recovering was three years old; the *oldest* patient operated on was eighty (80) years old; and the oldest recovering was sixty-two years of age.

In excisions for "deformity," no mortality is shown among those aged from 5–10, 10–15, 40–50, and from 50–60 years of age; while of those aged from 15–20 years 14.28 per cent died; and of those aged from 20–25, 8.33 per 100 perished; and of those aged from 30–40 years 25 per 100 died.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
From 1 to 5 years	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	..	..	..	..	..	..	..	..	..	.....	1	..	..	2	..	..	..	..	..	0.
" 10 " 15 "	..	..	..	..	..	..	..	..	..	.....	1	..	..	3	..	..	..	..	..	0.
" 15 " 20 "	..	..	..	3	4	..	..	..	..	57.14	..	1	..	..	2	..	..	..	..	100.
" 20 " 25 "	..	..	..	2	4	..	..	..	..	66.66	1	1	..	1	1	..	..	..	..	50.00
" 25 " 30 "	..	1	..	2	2	..	..	..	..	60.00	..	1	..	..	..	..	..	..	..	100.00
" 30 " 40 "	..	1	..	..	2	..	..	..	..	100.	4	1	..	1	..	..	..	..	..	16.66
" 40 " 50 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	1	3	..	..	..	..	75.
" 50 " 60 "	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	1	..	..	..	..	50.
" 60 " 70 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	..	..	..	..	..	..	..	.	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	4	10	1	4	21	..	..	..	..	.....	..	..	..	1	..	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
From 1 to 5 years	..	..	..	11	7	1	..	..	..	38.88	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	3	1	..	85	16	1	..	..	..	16.19	..	..	.	2	..	..	..	..	..	0.
" 10 " 15 "	2	2	..	79	16	..	..	..	..	17.17	..	..	..	4	..	..	..	..	..	0.
" 15 " 20 "	5	..	1	53	25	..	..	..	..	30.11	2	..	..	4	1	..	..	..	..	14.28
" 20 " 25 "	1	..	..	39	26	1	..	..	..	39.39	3	..	..	8	1	..	..	..	..	8.33
" 25 " 30 "	..	..	..	34	20	1	..	..	..	37.03	1	1	..	5	1	..	..	..	..	25.00
" 30 " 40 "	..	1	..	38	26	..	..	..	..	41.55	2	..	..	1	1	..	..	..	..	25.
" 40 " 50 "	..	..	..	6	7	..	..	..	..	53.84	..	..	..	2	..	..	..	..	..	0.
" 50 " 60 "	..	..	..	3	1	..	..	..	..	25.	..	..	..	2	..	..	..	..	..	0.
" 60 " 70 "	..	..	..	...	1	..	..	..	..	100.	.	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	..	..	..	...	1	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	1	..	1	59	28	..	..	..	..	.....	4	1	..	6	1	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

In this class, the youngest operated on and recovering was 8 years old; and the oldest operated on, and who recovered, was 57 years of age.

Conclusion.—That the most favorable age for the performance of this excision for gunshot wounds is from 15–20 years, and the most unpropitious period in those aged from 30–40 years. In excisions for "injuries," the most favorable period is from 5–15 years, and the most unfavorable in those aged from 40–50 years. In excisions for "disease," the most favorable period is in those aged from 5–10, and from 10–15 years; and the most unfavorable in those aged over 60 years; and the next less fatal in those aged from 40–50 years.

In excisions for "deformity," the periods from 5–10, 10–15, 40–50, and 50–60 seem to have been equally favorable; and the most unfavorable period appears to be in those aged from 30–40 years.

SUBJECT No. 6.—*Of the Duration of the Disease or Injury.*

In the class of excisions for gunshot wounds, as nearly all of the cases were operated upon within *one* month from the date the wound was received, this point will be considered under Subject No. 8, or "the period when the operation was done."

In the class of excisions for "injuries," no mortality is found in cases the standing of which was from 1–3 and from 3–6 months. When the standing was over 18 months, the mortality was 66.66 per cent.

In excisions for "disease," when the malady had existed, previous to the operation, from 1–3 months, the mortality was 28.57 per cent.; when from 3–6 months, 12.5 per cent.; when from 6–9 months, 50 per cent.; when from 9–12 months, 27.27 per cent.; when from 12–15 months, 100 per cent.; when from 15–18 months, 45.45 per cent.; and when over 18 months, 30.68 per cent.

In excisions for "deformity," the only mortality shown was in those who had had the affection for which the operation was done over 18 months.

Conclusion.—That a decision cannot be given on this subject, as to gunshot excisions, for the reason previously stated; that, in excisions for "injuries," the most favorable period for operation would seem to be at from 1–3 or from 3–6 months of the duration of the injury—but this inference should be received with great caution, as the table is incomplete on this point; that the most

favorable result in excisions for "disease" is found when "the standing" has been from 3–6 months, and most unfavorable when the period is from 15–18 months; and that early operations for "deformity or anchylosis" are not contraindicated, but, from the very nature of such operations, these are generally executed after the affection, for the removal of which they have been performed, has existed for 18 months, or for a lengthy period.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
From 1 to 3 months' standing	..	..	..	1	...	..	..	..	..	0.	..	..	..	5	..	..	..	..	..	0.
" 3 " 6 " "	..	..	..	...	1	..	..	..	..	100.	..	..	..	1	..	..	..	..	..	0.
" 6 " 9 " "	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 9 " 12 " "	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 12 " 15 " "	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 15 " 18 " "	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Over 18 months' standing	..	..	..	...	1	..	..	..	..	100.	1	1	..	..	1	..	..	..	..	66.66
Not stated as to subject	4	12	1	10	31	..	..	..	..	.....	7	3	..	3	6	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
From 1 to 3 months' standing	1	..	..	4	2	..	..	..	..	28.57	..	..	..	..	..	..	..	..	..	.....
" 3 " 6 " "	..	..	..	7	1	..	..	..	..	12.5	..	..	..	1	..	..	..	..	..	0.
" 6 " 9 " "	..	..	..	1	1	..	..	..	..	50.	..	..	..	..	..	..	..	..	..	.....
" 9 " 12 " "	1	..	..	15	6	..	..	..	..	27.27	1	..	..	..	..	..	..	..	..	0.
" 12 " 15 " "	..	1	..	...	1	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
" 15 " 18 " "	..	..	..	6	5	..	..	..	..	45.45	..	..	..	..	..	..	..	..	..	.....
Over 18 months' standing	5	..	..	117	40	..	..	..	..	30.68	3	..	..	16	3	..	..	..	..	13.63
Not stated as to subject	5	3	2	257	118	4	..	..	..	.....	8	2	..	17	2	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

SUBJECT No. 7.—*Season or month in which performed.*

We do not think it profitable to consider this subject as per months, but will divide the subject into two periods; 1st, operations performed in the "cold or cool months;" and 2d, those done in the "warm or hot months." Thus considered, the mortality in the first period in gunshot excisions is 76.92 per cent., and in the second 85.70 per cent.

In excisions for "injury," the death-rate for the first period equals 33.33 per 100, and for the second 25 per 100.

In excisions for disease, the fatality for the first period is equivalent to 19.62 per cent., and for the second 28.65 per cent.

In the last class the mortality for the first period is 21.65 per cent., and no deaths are reported under the second.

Conclusion.—That the mortality is less in the "cool or cold months," in excisions for gunshot wounds and for "disease," that the mortality is less in the "warm or hot months" in excisions for "deformity," and that the mortality should be greater in the "cool or cold months" in excisions for "injuries," is not to be depended upon, as the cases are too limited in number as presented in the table, and which were executed in the "cool or cold" months.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
January	..	1	..	...	1	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
February	..	..	..	...	1	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
March	..	..	..	1	...	..	..	..	..	0.	..	..	..	..	..	..	..	..	..	.....
April	..	..	..	...	2	..	..	..	..	100.	1	..	..	..	..	..	..	..	..	0.
May	..	1	..	...	8	..	..	..	..	100.	..	..	..	2	..	..	..	..	..	0.
June	..	..	..	...	1	..	..	..	..	100.	..	1	..	1	1	..	..	..	..	66.66
July	..	..	..	...	...	..	..	..	..	.....	1	..	..	2	..	.	..	..	..	0.
August	..	..	..	...	...	..	..	..	..	.....	1	..	..	..	1	..	..	..	..	50.
September	..	..	..	1	1	..	..	..	..	50.	..	..	..	1	..	..	..	..	..	0.
October	..	..	..	1	2	..	..	..	..	66.66	..	..	..	..	1	..	..	..	..	100.
November	..	..	..	...	2	..	..	..	..	100.	..	..	..	1	..	..	..	..	..	0.
December	..	..	..	1	3	..	..	..	..	75.00	1	..	..	..	..	..	..	..	..	0.
Not stated as to subject	4	10	1	7	12	..	..	..	..	.....	4	3	..	2	4	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.... :	8	4	..	9	7	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
January	1	..	..	20	8	..	..	..	..	27.58	..	..	..	4	..	..	..	..	..	0.
February	1	..	..	21	2	..	..	..	..	8.33	..	..	..	..	..	..	..	..	..	.....
March	1	..	..	22	4	..	..	..	..	14.81	..	..	..	1	..	..	..	..	..	0.
April	1	1	..	17	10	..	..	..	..	37.92	..	..	..	1	..	..	..	..	..	0.
May	..	..	..	34	11	..	..	..	..	24.44	1	..	..	1	..	..	..	..	..	0.
June	..	..	..	23	5	..	..	..	..	17.85	..	..	..	2	..	..	..	..	..	0.
July	..	..	..	26	8	1	..	..	..	23.52	..	..	..	2	..	..	..	..	..	0.
August	..	..	..	18	8	..	..	..	..	30.73	..	..	..	2	..	..	..	..	..	0.
September	..	..	..	8	8	1	..	..	..	50.00	..	..	..	3	..	..	..	..	..	0.
October	1	..	..	26	7	..	..	..	..	20.58	1	..	..	3	2	..	..	..	..	33.33
November	..	..	..	21	7	..	..	..	..	25.	1	..	..	2	1	..	..	..	..	25.00
December	1	..	..	12	3	..	..	..	..	18.75	1	..	..	2	1	..	..	..	..	25.
Not stated as to subject	6	3	2	159	93	2	..	..	..	.....	8	2	..	11	1	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

SUBJECT No. 8.—*Period when the Operations were done.*

In excisions for gunshot wounds, the "primary" operations denote a mortality of 72.22 per cent., the "secondary" of 70 per cent., and the "intermediate" of 69.23 per cent.

In excisions for "injuries," "primary" operations present a death-rate of 50 per 100, "secondary" of 36.36 per 100, and "intermediate" of 33.33 per 100. If these two classes be considered together, the mortality for "primary" excisions is 64.28 per 100, for the "secondary" 57.14 per 100, and for the "intermediate" 62 per 100.

In the class of excisions for "disease," all the cases are more nearly related to secondary operations, and the mortality is equivalent to 29.81 per 100.

In excisions for "deformity," the "primary" operations develop a mortality of 11.76 per 100, and the "secondary" present no mortality.

Conclusion.—That estimating excisions for gunshot wounds and injuries together, secondary operations are accompanied with the most favorable results as to life, and the intermediate with the most unfavorable; that the secondary operations for "disease" present a lower rate of mortality than the preceding classes; and that secondary excisions for "deformity," are to be preferred, though the primary operations in this class present a low death-rate.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
Primary	1	1	..	4	12	..	..	..	..	72.22	3	2	..	2	3	..	..	..	..	50.
Secondary	..	1	..	2	7	..	..	..	..	70.	1	2	..	6	2	..	..	..	..	36.36
Intermediate	..	2	..	4	7	..	..	..	..	69.23	1	..	..	1	1	..	..	..	..	33.33
Not stated as to subject	3	8	1	1	7	..	..	..	..	.....	3	..	..	..	1	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Primary	..	..	..	...	...	..	..	..	..	.....	12	2	..	32	5	..	..	..	..	11.76
Secondary	12	4	2	407	174	4	..	..	..	29 81	..	..	..	2	..	..	..	..	..	0.
Intermediate	..	..	..	..	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

SUBJECT No. 9.—*Nature of the Causes for which the Operations were performed.*

In gunshot wounds, all the cases being traumatic, the mortality relates to all the excisions, and is equal to 75 per 100; and the same may be said as to excisions for "injury," in which the death-rate is 39.28 per 100. Estimating these two classes together, the mortality is equivalent to 63.63 per cent.

In excisions for "disease" the mortality for the non-traumatic cases is 47.05 per 100; for the "malignant," 100 per 100; and for the "traumatic," 14.75 per 100.

In excisions for "deformity," the "non-traumatic" cases show a death-rate of 12.5 per 100; and the "traumatic," of 6.25 per 100.

Conclusion.—That traumatic influences greatly increase the mortality in excisions for disease and injuries, and that the death-rate is lower in excisions for "disease" and "deformity" of "*traumatic*" origin, and that the greater rate of mortality shown in the last-named classes of excisions, is to be referred to constitutional causes.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
Non-traumatic	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Malignant	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Traumatic	4	12	1	11	33	..	..	..	..	75.	8	4	..	9	7	..	..	..	..	39.28
Not stated as to cause	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Non-traumatic	..	..	..	9	8	..	..	..	..	47.05	1	..	..	6	1	..	..	..	..	12.5
Malignant	..	..	..	...	1	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
Traumatic	2	..	..	50	9	1	..	..	..	14.75	3	..	..	12	1	..	..	..	..	6.25
Not stated as to cause	10	4	2	348	156	3	..	..	..	.....	8	2	..	16	3	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

SUBJECT No. 10.—*Of Incisions.*

In excisions for gunshot wounds the mortality associated with the "+" and single transverse incisions, is equal to 100 per cent.;

with the "H" incision, 75 per cent.; and with the "U" incision, 60 per cent.

In the operations for "injuries," the death-rate accompanying the "H" incision is 40 per 100, in the transverse 50 per 100, and in the "U" incision 60 per 100.

In excisions for "disease" when the "+" incision was employed, the fatality was equal to 28.57 per 100; when the "H" incision, 29.89 per 100; when the "U" incision, 20.20 per 100; when the ○ incision, 30 per 100; when the transverse, 29.62 per 100; and when the "I" (single longitudinal), 57.14 per 100.

In excisions for deformity no deaths resulted where the "transverse," the "H," the "+," the "T," or the "V" (Barton's) incisions were resorted to in the operation.

SUBJECT.	Excision for gunshot wounds.										Excision for injuries.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
+ shaped incision	..	1	..	...	...	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
H " "	..	..	..	2	6	..	..	..	..	75.00	1	1	..	2	1	..	..	..	..	40.00
U " "	..	2	..	2	1	..	..	..	..	60.00	..	..	..	2	3	..	..	..	..	60.00
○ " "	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
+ " "	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
— (Transverse) incision	..	..	..	...	2	..	..	..	..	100.	..	..	..	1	1	..	..	..	..	50.
I shaped incision	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
○ " "	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
II " "	..	..	..	..	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
+ " "	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
V shaped (Barton's) incision	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
T shaped incision	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	4	9	1	7	24	..	..	..	..	.....	7	3	..	4	2	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....

	Excision for disease.										Excision for deformity.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
+ shaped incision	..	..	..	5	2	..	..	..	..	28.57	..	..	..	1	..	..	..	..	..	0.
H " "	..	..	..	68	29	3	..	..	..	29.89	2	..	..	5	..	..	..	..	..	0.
U " "	3	2	1	76	18	..	..	..	..	20.20	..	..	..	5	1	..	..	..	..	16.66
○ " "	..	..	..	7	3	..	..	..	..	30.00	..	..	..	..	..	..	..	..	..	.....
+ " "	..	..	..	1	...	..	..	..	..	0.	..	..	..	1	..	..	..	..	..	0.
— (Transverse) incision	1	..	..	37	16	..	..	..	..	29.62	..	..	..	1	..	..	..	..	..	0.
I shaped incision	2	..	..	4	8	..	..	..	..	57.14	..	..	..	..	..	..	..	..	..	.....
○ " "	..	..	..	...	1	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
II " "	..	..	..	1	...	..	..	..	..	0.	..	..	..	..	..	..	..	..	..	.....
+ " "	..	..	..	1	...	..	..	..	..	0.	..	..	..	..	..	..	..	..	..	.....
V shaped (Barton's) incision	..	..	..	...	...	..	..	..	..	.....	9	..	..	..	..	..	..	..	..	0.
T shaped incision	..	..	..	...	...	..	..	..	..	.....	..	..	..	2	..	..	..	..	..	0.
Not stated as to subject	6	2	1	207	97	1	..	..	..	.....	1	2	..	19	4	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

Conclusion.—The difference in the mortality shown as associated with the several forms of incisions cannot be attributed to the form of the cuts. Thus, the "H" and "U" incisions, while they do not differ in form so materially, develop a marked diversity in the mortality associated with their employment; in the excisions for gunshot wounds of 15 per cent., in those for "injuries" of 20 per cent., and in those for "disease" of 10 per cent. Again, while the "+" and "H" and the "transverse" incisions are essentially different in form, the mortality attending their use is nearly equal in excision for disease. From such considerations as these, it is concluded, that, although surgeons may prefer different forms of incisions upon anatomical grounds, or for the sake of facilitating the several steps of this operation, it cannot be shown that any form of external cuts contributes to increase the mortality of the excision.

SUBJECT NO. 11.—*The Extent of the Excisions.*

In "gunshot excisions," the "partial," as well as the "complete," are each attended with the same degree of mortality, viz., 75 per cent.

In excisions for "injuries," the mortality, associated with "partial," is 33.33 per 100; and with the "complete," 45 per 100.

In excisions for disease, the death-rate for the partial is 25 per 100; and for the complete, 29.94 per 100.

In excisions for "deformity," the mortality for the partial operations is 14.28 per 100; and for the "complete," 12.82 per 100.

The mortality attending "Barton's operation at the knee," is 14.28 per 100; and of Buck's operations for anchylosis or deformity at this joint, 12 82 per 100.

In 262 cases in which the patella was or was not interfered with, we find that in 190 cases in which this bone was removed, 138 recovered and 52 died, a mortality equal to 27.36 per 100; and in 47 cases in which this bone was not removed or interfered with, 36 recovered and 11 died, or a death-rate equal to 23.40 per 100; and in 25 cases, in which this bone was either pared, scraped, or gouged, 21 recovered and 4 died, or a fatality equal to 16 per 100.

The following is the mortality associated with the absolute amount of bone removed, based upon an approximate estimate as to the extent of bone excised.

		Recovered.	Died.	Per cent. deaths.
Removed,	½ inch.	25	7	25.00
"	¾ "	5	4	44.44
"	1 "	12	3	20.00
"	1¼ "	11	4	26.66
"	1½ "	15	4	21.05
"	1¾ "	11	3	21.42
"	2 "	17	3	15.00
"	2¼ "	11	2	15.38
"	2½ "	11	1	8.33
"	2¾ "	2	...	No.
"	3 "	4	2	33.33
"	3¼ "	2	...	No.
"	3½ "	3	...	No.
"	4 "	3	...	No.
" over	4 "	1	2	66.60
Total for the subject,		133	35	

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
"Partial"	4	12	1	...	...	..	..	..	..	75.	8	4	..	..	..	..	..	..	..	33.33
"Complete"	..	..	..	11	33	..	..	..	..	75.	..	..	..	9	7	..	..	..	..	45.00
Extent not stated	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
"Partial"	12	4	2	...	..	..	..	..	..	25.	12	2	..	..	..	..	..	..	..	14.28
"Complete"	..	..	..	407	174	4	..	..	..	29.94	..	..	..	34	5	..	..	..	..	12.82
Extent not stated	..	..	..	..	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....

Conclusion.—The mortality of "partial" and "complete" excisions for gunshot wounds of this joint is equal; that associated with excisions for "injuries," is greatest in the complete excisions; and that with excisions for "disease," is also greater in the "complete" operations. The fatality attending Buck's operations is about two per cent. less than that shown from Barton's operation. The mortality, estimated according to the amount of bone removed in inches, seems to decrease as the extent of bone excised increases.

There are some exceptions to this order, as when 3 inches were removed, but the general law seems to hold good. The fatality attending operations upon the patella would, according to the data shown, dictate as little interference with that bone as possible; if it is wholly diseased it should be entirely removed, if it is partially affected it should be gouged, scraped, or pared.

SUBJECT No. 12.—*Of the Mortality.*

In excisions for gunshot wounds, 42.22 per 100 died from the injury; 4.44 from the "operation;" and 15.55 per 100 from "other diseases."

In excisions for "injuries," 36.36 per 100 died from the "injury;" 36.66 from the "operation;" and none perished from "other diseases."

In excisions for disease, 20.24 per 100 died from the "disease;" 37.07 from the "operation;" and 28.65 per 100 from "other diseases."

In excisions for "deformity," 85.71 per 100 died from the "disease or injury;" and 14.29 per 100 from "other diseases."

In gunshot excisions the average period in which 24 patients died was $14\frac{1}{6}$ days; in excision for injuries, in 7 cases this period was $29\frac{2}{7}$ days; in excisions for disease, in 124 cases, this period was $58\frac{27}{31}$ days; and in excisions for "deformity," in 5 cases, this period was $18\frac{1}{5}$ days.

The following is a statement of the diseases of which the patients died, and the per cent. of mortality in 241 cases in which the disease is expressed in the tables.

	No. of cases.	Per cent. deaths.
Pyæmia.	66	27.38
Exhaustion	45	18.67
Tetanus.	4	1.65
Dysentery	3	1.24
Phlebitis	3	1.24
Phthisis	15	6.22
Cancer	1	.41
Hemorrhage	5	2.07
Peritonitis	1	.41
Erysipelas	3	1.24
Disease of liver	1	.41
Local and general—		
Irritation	2	.82
Shock	6	2.48
Delirium	1	.41
Chloroform	3	1.24
Anæmia	1	.41
Disease of kidneys	2	.82
Marasmus	1	.41
Diphtheria	1	.41
Meningitis	4	1.65
Gangrene of limb	3	1.24
Convulsions	1	.41
Bronchitis	1	.41
Pneumonia	1	.41
Diarrhœa	1	.41
Cause not stated	66	26.53
Total for subject	241	100.00

Conclusion.—That in excisions of this joint for gunshot wounds the deaths attributable to this excision are but limited, while the mortality is mainly to be referred to the character of the injuries sustained, and in a secondary degree to the supervention of "other diseases;" that in excisions for injuries, an equal number die from the injury and the operation; that in excisions for "disease," the greatest per cent. died from "the operation," a less per cent. from "other diseases," and the least per cent. from the "disease;" that in excisions for "deformity," the largest mortality is from the "disease" or "injury;" that the principal causes of death, following this operation, are pyæmia, exhaustion, and phthisis.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Died of the disease or injury	..	3	..	...	16	..	..	..	..	42.22	..	2	..	..	2	..	..	..	..	36.66
" " " operation	..	..	..	..	2	..	..	..	..	4.44	..	..	..	..	4	..	..	..	..	36.66
" " other diseases	..	1	..	...	6	..	..	..	..	15.55	..	..	..	..	..	..	..	..	..	.....
Cause of death not stated	..	8	..	...	9	..	..	..	..	37.79	..	2	..	..	1	..	..	..	..	26.68
Total for subject	..	12	..	...	33	..	..	..	..	100.00	..	4	..	..	7	..	..	..	..	100.00
Sum of days in which patients died	In 24 cases, 342 days.										In 7 cases, 205 days.									
Average number of days in which patients died	$14\frac{1}{6}$										$29\frac{2}{7}$									
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Died of the disease or injury	..	1	..	...	35	..	..	..	..	20.24	..	2	..	..	4	..	..	..	..	85.71
" " " operation	..	1	..	...	65	..	..	..	..	37.07	..	..	..	..	..	..	..	..	..	.....
" " other diseases	..	..	..	...	51	..	..	..	..	28.65	..	..	..	..	1	..	..	..	..	14.29
Cause of death not stated	..	2	..	...	23	..	..	..	..	14.04	..	..	..	..	..	..	..	..	..	.....
Total for subject	..	4	..	...	174	..	..	..	..	100.00	..	2	..	..	5	..	..	..	..	100.00
Sum of days in which patients died	In 124 cases, 7305 days.										In 5 cases (91 days).									
Average number of days in which patients died	$58\frac{27}{31}$										$18\frac{1}{5}$									

SUBJECT No. 13.—*Of Recovery.*

The recoveries from gunshot excisions constitute 25 per cent. of the cases; from excisions for "injuries," 60.72 per cent.; from excisions for "disease," 70.19 per cent.; and from excisions for "deformity," 86.80 per cent.

In 4 cases of excisions of the first class, the average *recovery-period* was $86\frac{1}{4}$ days; in the second, in 5 cases, $183\frac{4}{5}$ days; in the third, in 243 cases, $178\frac{3}{1}$ days; and in the fourth class, in 31 cases, $153\frac{2}{3}\frac{2}{1}$ days.

Conclusion.—By reference to the table of amputations at the knee-joint, by John H. Brinton (see Gross's *Surgery*, vol. ii. p. 1125), it will be seen that the mortality of this amputation for "injury" is 42.37 per cent.; and for pathological operations, the

mortality was only 22.58 per cent. At the same page it is stated by the author that the mortality of this amputation for gunshot wounds is about 50 per cent. From these data we may conclude that this excision for gunshot wounds is far more fatal than amputation at the knee-joint; that there is but little difference between excision of and amputation at this joint for "injury;" that excision is more fatal than amputation at this joint for disease; and that excision for "deformity" is less fatal than amputation at this joint. Without instituting any calculation, it is evident that recovery from the amputation will be more rapid than from excision of this joint, at least generally.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Recovered and died	4	12	1	11	33	..	..	..	..	75.	8	4	..	9	7	..	..	..	..	39.28
Not stated as to subject	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	4	12	1	11	33	..	..	..	..	.....	8	4	..	9	7	..	..	..	..	.....
Sum of days patients were recovering	In 4 cases, 337 days.										In 5 cases, 919 days.									
Average number of days patients were recovering	$86\frac{1}{4}$										$183\frac{4}{5}$									
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Recovered and died	12	4	2	407	174	4	..	..	..	29.81	12	2	..	34	5	..	..	..	..	13.20
Not stated as to subject	..	..	..	..	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	12	4	2	407	174	4	..	..	..	.....	12	2	..	34	5	..	..	..	..	.....
Sum of days patients were recovering	In 243 cases, 43,296 days.										In 31 cases, 4755 days.									
Average number of days patients were recovering	$178\frac{13}{81}$										$153\frac{12}{31}$									

SUBJECT No. 14.—*Usefulness of the Members.*

In excisions for gunshot lesions, in the cases recovering and in two that died, 58.82 per cent. gained useful members, and in 23.52 per cent. the limbs were worthless (amputated).

In excisions for "injuries," 17.64 per cent. secured "perfect limbs;" 64.70 "useful;" and in 11.76 per cent. the members were worthless (amputated) in 17 cases, which recovered.

In excisions for "disease," in 420 cases recovering and 11 dying, 14.38 per cent. gained "perfect," and 42.45 per cent. useful, limbs; and in 4.64 per cent. the limbs were "not useful;" and in 17.86 per cent. they were worthless through amputation.

In 46 cases of excision for deformity, and which recovered, 19.56 gained "perfect," and 67.82 per cent. "useful," limbs.

In 157 cases it is stated that the patella was or was not interfered with.

In 103 of these, 79 patients gained useful, and in 24 instances the members were "worthless," or a usefulness of 76.96 per cent.; in 35 cases in which the patella was not removed, 24 secured useful limbs, and in 11 cases the members were "worthless," or a usefulness of 31.42 per cent.; and in 19 cases in which this bone was scraped, gouged, or pared, 14 limbs were "useful" and 5 "worthless," or a usefulness of 26.31 per cent.

The following is a *résumé* of the usefulness resulting from the excision based on the approximative extent of bone removed:—

		No. useful.	No. worthless.	Per cent.
Removed,	½ inch.	15	6	28.57
"	¾ "	5	1	16.66
"	1 "	9	3	25.00
"	1¼ "	8	4	33.33
"	1½ "	13	2	13.33
"	1¾ "	9	3	25.00
"	2 inches.	14	2	12.5
"	2¼ "	8	3	27.27
"	2½ "	8	1	11.11
"	2¾ "	...	1	0.00
"	3 "	4	...	100.00
"	3¼ "	1	...	100.00
"	3½ "	3	...	100.00
"	4 "	3	...	100.00
"	over 4 "	1	...	100.00
	Total for the subject,	111	26	

The average shortening in excisions for "injury," in 4 cases, is $1\frac{7}{8}$ inches; in excisions for "disease," in 63 cases, is $2\frac{2}{3}\frac{2}{3}$ inches; and in excisions for "deformity," in 15 cases, is $2\frac{7}{15}$ inches.

In 84 cases in which the extent of shortening is expressed, but five patients are regarded as having useless limbs as a result of this excision *from shortening*.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Useful per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Useful per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
"Perfect"	..	..	..	...	...	..	..	..	:	.....	..	..	..	3	..	..	..	..	..	17.64
Simply "Useful"	3	..	..	7	...	..	..	..	..	58.82	7	..	..	4	..	..	..	..	..	64.70
Worthless { Not Useful	..	..	..	...	...	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Worthless { Amputated	..	..	..	2	2	..	..	..	..	23.52	1	..	..	1	..	..	..	..	..	11.76
Usefulness not stated	1	..	..	2	...	..	..	..	..	17.66	..	..	..	1	..	..	..	..	..	5.90
Total for subject	4	..	..	11	2	..	..	..	..	100.00	8	..	..	9	..	..	..	..	..	100.00
Average shortening limbs, inches	No average. (In 1 case, $1\frac{1}{2}$ inch).										In 4 cases ($7\frac{1}{2}$ in.), $1\frac{7}{18}$ in.									
Average period last heard from, months	In 5 cases ($81\frac{1}{2}$ mos.) $16\frac{3}{10}$ mos.										In 9 cases (267 mos.) $29\frac{2}{3}$ mos.									
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
"Perfect"	3	..	..	60	...	..	..	..	..	14.38	..	..	..	9	..	..	..	..	..	19.56
Simply "Useful"	4	..	..	179	...	..	..	..	..	42.45	8	..	..	23	..	..	..	..	..	67.82
Worthless { Not Useful	..	..	..	20	...	..	..	..	..	4.64	..	..	..	..	..	..	..	..	..	.....
Worthless { Amputated	3	1	1	62	11	..	..	..	..	17.86	..	..	..	..	..	..	..	..	..	.....
Usefulness not stated	2	..	..	86	...	..	..	..	..	20.67	4	..	..	2	..	..	..	..	..	12.62
Total for subject	12	1	1	407	11	..	..	..	..	100.00	12	..	..	34	..	..	..	..	..	100.00
Average shortening limbs, inches	In 63 cases (148 in.) $2\frac{2}{6}\frac{2}{3}$ in.										In 15 cases (37 in.) $2\frac{7}{15}$ in.									
Average period last heard from, months	In 233 cases 3901 mos. $16\frac{1}{2}\frac{6}{3}\frac{3}{3}$ mos.										27 cases (408 mos.) $15\frac{1}{9}$ mos.									

Conclusions.—That, so far as the subsequent usefulness of the limbs secured as a result of this operation is concerned, this excision for gunshot wounds is to be recommended. In excisions for injury the largest per cent. of usefulness is obtained, excepting in excisions for deformity, in which class all who recovered gained useful limbs. In excisions for disease, the results are more unfavorable as to usefulness of members, and in this class over one-half gained useful members (56.83 per cent.). The removal of the patella secures the greatest degree of usefulness, so far as interference with this bone is expressed. In a general ratio, the "usefulness" is shown not to decrease, as the extent of bone excised is greater; and it is also evident that the shortening expressed does not materially diminish the availability of the limbs for practical purposes.

The permanency of these results may be gathered from the fact that the average periods the patients were last heard from, after the gunshot excisions, was $16\frac{3}{10}$ months; after the excisions for "injury," $29\frac{2}{3}$ months; after excisions for "disease," $16\frac{6}{23}\frac{3}{3}$ months; and after excisions for "deformity," $15\frac{1}{9}$ months.

It should be remarked here that no cases of extraction of bone from this joint have been tabulated. Perhaps, by a rigid interpretation of the definition of excision, several cases might have been so reported, as the case by Larrey, in the partial excisions for gunshot wounds; but as these examples are so few in number, and as similar cases *have been* regarded as excisions of this joint, we have reported these as *excisions*, especially as the knee-joint was opened in such instances.

Remarks.

As to Treatment.

Gunshot Excisions—Complete.

Case 1. Here is cited the statement of M. Vallette (see *Histoire Médico-Chirurgicale de la Guerre de Crimée*, p. 155), that six patients, wounded at Inkermann and Alma, suffered amputation at the knee-joint, and death followed from purulent infection. Hence this operation, the nearest approach to a substitute for excision of this joint, may be followed by the most unfortunate result of excision of this articulation.

Case 3. In this case the opposite thigh was amputated at the same time the excision was performed, and no chloroform was given in the case.

Case 5. Here it is stated that Guthrie does not advocate this excision unless the circumstances are very favorable.

Case 17. This patient also suffered primary amputation at the lower third of the left (other) limb.

Case 28. Here are stated the views of Dr. C. A. Rice, late Surgeon C. S. A., now of Dallas, Texas. He does not recommend this excision, as he has seen such bad results from it, and thinks there is such a large surface of cancellated structure, that he would prefer amputation, especially seeing the excellent artificial limbs now supplied.

Case 38. Here it is stated that the operator regards this excision as unjustifiable in military surgery, except under the most favorable circumstances.

Excisions for Deformity or Anchylosis.

Case 4. This (Buck's operation of 1844) consisted in the removal of what once was the boundaries of this joint.

Case 15. This patient had hemorrhage on the thirteenth (13th) day—superficial femoral ligated.

Case 17. This is Buck's operation for fibrous anchylosis, in which the anchylosis is first broken up by flexion and cutting, and then the joint ends sawn off.

Case 18. During the course of this case hemorrhage was arrested by acupressure.

Case 27. At this case are stated M. Ollier's views as regards the unequal part played by the two conjugate cartilages in the development of the long bones. Thus the lower end of the femur grows mainly through the lower cartilage, and the tibia and fibula develop more from their upper cartilages. This is relative. The inference to be drawn is to take less from the femur, more from the tibia, and as little as possible from either bone in this excision. (See *Lancet*, Am. ed. 1872, p. 659.)

Case 44. Profuse bleeding occurred in this case, which styptics failed to arrest. A sponge was placed between the ends of the bones, and the limb secured in the straight position by the operator, E. A. Rawson, of Ireland. This succeeded. The sponge was removed the third day. The patient did well. In another and similar case the same surgeon arrested bleeding, in the same manner, by placing lint soaked in aluminate of iron between the ends of the bones.

Excisions for Disease and Injuries.

Case 2. Here it is stated that Sir A. Cooper preferred amputation to this excision.

Case 91. Operator, R. G. Butcher, of Ireland, claims that the patella should always be removed.

Case 121. In this case the bones could not be kept in apposition, and hence the amputation in this case.

Case 129. Langenbeck employed the single longitudinal incision to one side of the patella.

Case 144. In three hours after the operation hemorrhage occurred, which was arrested by the actual cautery and turpentine.

Case 206. Prof. Velpeau prefers amputation to excision of this joint, and thinks an artificial leg more useful than that resulting from excision of this joint.

Case 269. Patient had hemorrhage soon after operation, which was arrested with turpentine.

Case 352. Operator is particular to remove the diseased synovial membrane.

Case 380. In this case the bones were wired together.

Case 383. In this case there was at 3 months 2½ inches shortening, and in 15 months 3 inches. Operator, Dr. Holmes, thinks the operation more severe and immediately fatal than amputation. (See *Surg. Dis. Child. and Infancy*, p. 471.) Thinks the patella should always be removed, as it often becomes diseased after the operation if permitted to remain.

Case 437. The operator, Butcher, of Dublin, cuts away the pulpy synovial membrane.

Case 505. In this and the next case plaster of Paris dressings employed.

Case 510. In flexing the knee during the operation fracture at the epiphysis occurred.

Case 628. Esmarch's plan used in this case.

Case 629. The wire sutures uniting the bone did not come away in this case.

General Remarks.

Gunshot Excisions—Complete.

Case 15. In this case the ball passed near the popliteal artery, and may have injured that vessel and induced the formation of a clot, which obstructed the circulation of the leg.

Case 31. Death said to have been caused, in this case, from the complication of fracture of the opposite thigh, and his refusal to allow the use of any apparatus.

Excisions for Deformity or Anchylosis.

Case 1. This patient died from phthisis pulmonalis, induced by dissipation, six years after the operation.

Case 9. The other operation reported as executed by Prof. Warren, for anchylosis, is found at Case 191, table of excisions for "disease and injuries," as there was disease in progress at the time of the operation.

Case 23. At this case it is stated, that the excision executed by C. Heath, and reported by S. W. Gross as done for anchylosis, is classified as performed for "disease," as there was disease of the bones and joint in progress. See Case 240, table of excisions for "disease and injuries."

Case 141. This case is regarded, by Dr. Hodges, as a case of anchylosis, and so also is Case 153.

Excisions for Disease and Injuries.

Case 245. This case is included in his table for anchylosis, No. 3, by Dr. Hodges. There was osteitis present in the case, and hence it is reported in this table.

Case 461. This patient fractured femur two inches above knee after leaving the hospital, and regained a useful member afterwards.

Case 527. At the second operation in this case, a ligature was found which had been left in the wound at the first operation.

Dissections.

Gunshot Excisions—Complete.

Case 8. In this case the incisions healed, and the specimen "showed osseous deposits on end of femur and necrosis of upper end of leg bones."

Case 30. The autopsy showed there had been no bony repair.

Gunshot Excisions—Partial.

Case 8. Fahle states: "the cartilaginous investment of the tibia was separated in this case, and no doubt prevented healing. The end of the tibia should have been removed."

Excisions for Disease and Injuries.

Case 15. The second operation in this case revealed the periosteum of the femur denuded as far up as the finger could reach.

Case 40. This patient died of phthisis two years after the operation.

Case 71. Died two years after operation of some disease of the liver.

Case 97. Patient died one or two years after operation.

Case 123. Post-mortem showed parts doing well.

Case 164. Autopsy showed limited abscesses in end of femur.

Case 181. In this case the femoral vein was plugged by clot.

Case 189. The limb shown to have been improperly amputated. Solid union had taken place, and a loose piece of bone in each articular head of the tibia was present, which kept up the discharge.

Case 217. The specimen showed complete bony union.

Case 328. Died of phthisis at fifteen months.

Case 417. Specimen showed a flail-like union of the parts, inspection of which, after amputation, revealed fibrous union, and that a good result would probably have followed the excision.

Case 430. The necrosis of the tibia and femur attributed merely to displacement of the bones.

Case 442. Limb amputated for painful œdema of the foot. Specimen showed the knee admirably restored.

Case 543. Post-mortem showed diffuse suppuration in end of tibia and femur; abscesses in lungs, kidneys, and spleen.

Case 584. In this case wound sloughed slightly, but union took place by tags of lymph between the bones; pus was present around ends of bones.

Case 626. Section of the bones showed not the slightest attempt at union of the bones.*

SYNOPTIC TABLE OF EXCISIONS OF THE KNEE-JOINT.

Nature of the operation.	No. cases.
Excision for Gunshot wounds	61
" " Injury	28
" " Disease	603
" " Deformity	53
Total for the joint	745

ANATOMY.

Plates IV. V. and VI., it is thought, will serve to obviate the necessity of a lengthy anatomical description of this articulation, and to assist in refreshing the memory of the operator as to the several steps in excision of the knee-joint.

OPERATION.

The patient having been placed upon the back, anæsthetized, and the extremity bandaged by the method of Esmarch, an incision is made beginning at the insertion of the internal lateral ligament upon the inner condyle of the femur, and, passing immediately beneath the patella, is terminated at a corresponding point upon the outer aspect of the joint (Wood). This cut should enter the joint at once, dividing the skin and aponeurosis, the ligamentum patella, the anterior part of the capsular ligament, and the synovial membrane, but the articular arteries are not severed. The superior flap is then reflected upwards, the crucial and lateral ligaments divided (keeping close to the bone in the act), and the joint exposed by flexion of the limb. If the patella is diseased, the weight of authority is in favor of its removal. Having separated the soft parts from the extremity of the femur (preserving the periosteum as far as possible), ONLY to such an extent as may be necessary to excise the bone diseased, a portion of rubber cloth,[1] which has a small opening in its centre, is drawn over the end of

[1] Such as is used by dentists in filling teeth.

the femur, until the margins of *this opening* surround and closely embrace the extremity of the bone. The edges of this cloth are pressed upwards until the rubber is above the line of bone to be removed. Its lower edge will then serve as a guide for the course of the saw. The posterior free portion of the cloth is then folded upon itself several times, and thus folded is drawn backwards upon the synovial membrane and posterior ligament by an assistant, who also retracts the soft parts by elevating the remaining portion of the cloth. The epiphysis of the femur is then removed with an amputating saw, so far *only* as diseased. In the execution of this step of the operation, the following points should be remembered: 1st. That a greater portion may be removed from the *anterior* region of the condyles than from the posterior, as the epiphysis is of greater depth in front than behind (see Plate V. Fig. 1); 2d. That as much should be removed from the inner as from the outer condyle; and 3d, that it is desirable to obtain a surface of bone inclined as represented at C, B, Fig. 1, Plate VI., which should correspond with the section of the tibia shown at A, D, in the same figure. If such a section cannot be obtained, the extremity of the femur may be sawn off, as represented at C, D, and of the tibia C,′ D,′ in the same figure. If the excision of the bone is not too extensive, this latter plan will leave a portion of the tibial and femoral epiphysis intact. The diseased bone should be removed, as well as all spicula, and the opposing surfaces of the femur and tibia made to correspond. Often a section reveals points of the bone affected, these, if not extensive, should be gouged out, as experience has shown that often it is unnecessary to make a further section for this state of the bone.

The soft parts should now be separated from the head of the tibia (only so far as to effect the removal of the bone diseased), and retracted, and the structures protected behind the joint with the rubber cloth, as above described in resection of the femur. As much should be removed from the outer as from the inner portion of its head, that the natural inclination of the knee inwards may be preserved, experience having shown that there is a great tendency to *bowing outwards* of the limb after the performance of this excision. If the head of the fibula is affected, it should be removed to the extent diseased. The section of the tibia should correspond with that of the femur, the object being to secure the limb in an extended position when these surfaces are opposed. If this is not accomplished, a further osseous section should be made, preferably more

EXPLANATION OF PLATE IV.

REGION OF THE KNEE.

A. Section of the skin bounding the region.

B. Section of the subcutaneous fatty cellular tissue.

C. Superficial aponeurosis.

D. Tendon of the patella.

D′. Vertical section of the tendon of the patella.

E. Section of the triceps muscle.

E′. Tensor muscle of the articular synovial membrane of the knee.

F. Lower portion of the femur.

G. Serous bursa beneath the tendon of the patella.

H. Serous bursa in front of the patella.

I. Section of the articular synovial membrane.

I′. Fatty matter situated on the synovial membrane.

J. Condyles of the femur covered with their cartilage.

K. Vertical section of the patella.

1. Internal inferior articular artery.

2, 3. Superior branches of the internal inferior articular artery.

4. Ramifications of the superior articular artery.

5. Ascending branches of the superior articular artery.

6. Internal inferior articular vein.

7. Anastomoses of the inferior articular veins.

8. Superior external articular veins.

9, 10. Superior internal articular veins.

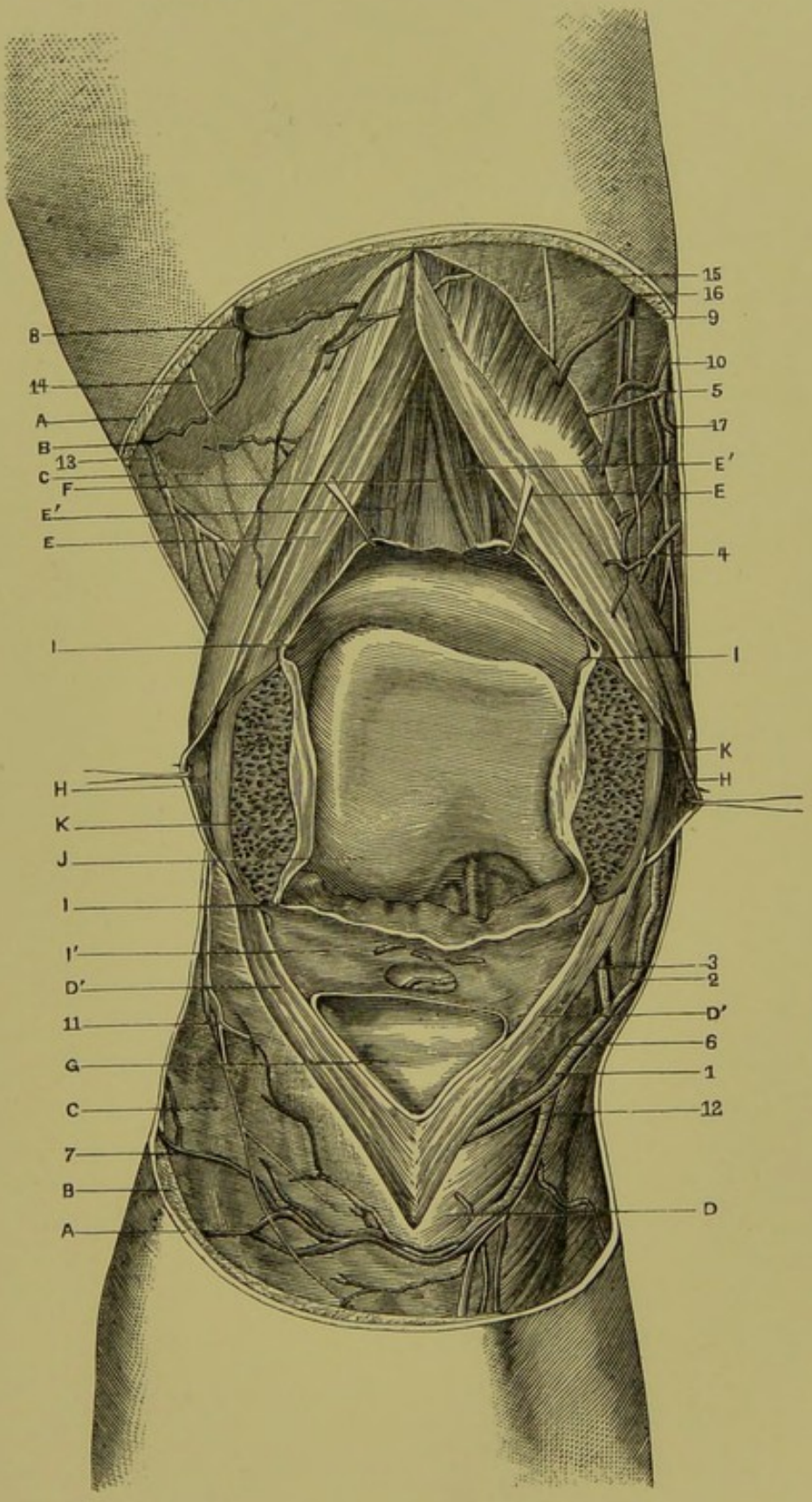
11. Cutaneous nerve coming from the sciatic nerve.

12. Cutaneous nerve coming from the crural nerve.

13, 14, 15, 16, 17. Cutaneous nerves distributed to the knee, coming from the sciatic, crural, and obturator nerves.

PLATE IV.

From Béraud, Anat. Chirurg.



EXPLANATION OF PLATE V.

FIG. 1. *Vertical antero-posterior section of the left knee-joint.*

1. Large sac beneath the quadriceps investing the lower circumference of the femur.

1′. An opening in the sac at its posterior aspect.

2, 2′. Ligamentum mucosum.

2′, 3. Subpatellar fat.

4. Bursa above the insertion of ligamentum patellæ.

5, 5′. Anterior crucial ligament.

6. Lower part of posterior ligament, the upper part of which is towards 2.

6′, 7. The spine of the tibia.

FIG. 2. *Anterior view of the bones and cartilages of the knee-joint.*

A. Femur.

B. Inner condyle.

C. Outer condyle.

D. Tibia.

E. Fibula.

F. Internal semilunar cartilage.

G. External semilunar cartilage.

H. Anterior crucial ligament.

J. Posterior crucial ligament.

K. Anterior superior tibio-fibular ligament.

PLATE V.

FIG. 1.

(From Quain's Anatomy. Swain.)

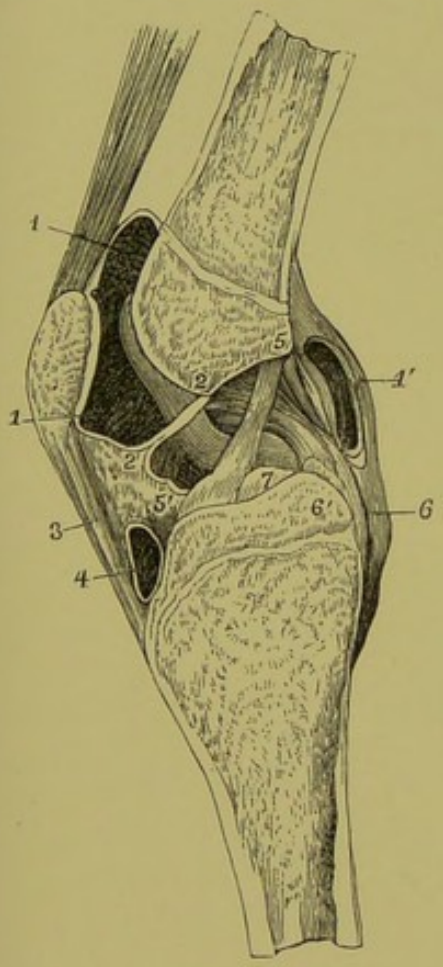
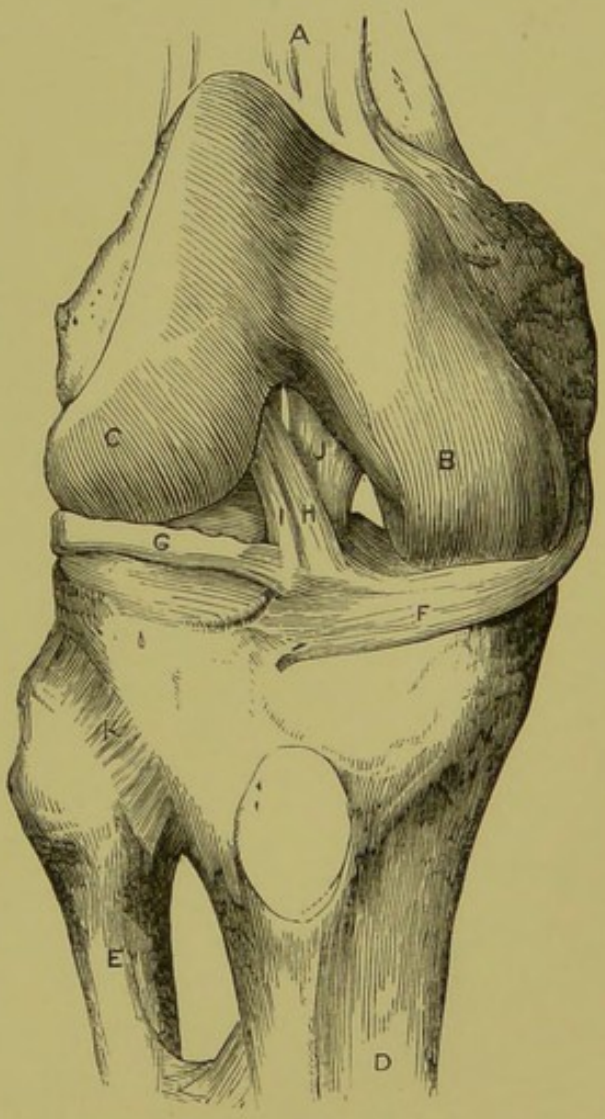


FIG. 2.

(From Gray's Anat.)



EXPLANATION OF PLATE VI.

This plate represents several modes of dividing the bones in excision of the knee-joint.

A, B, and the corresponding section A′, B′ (Billroth).

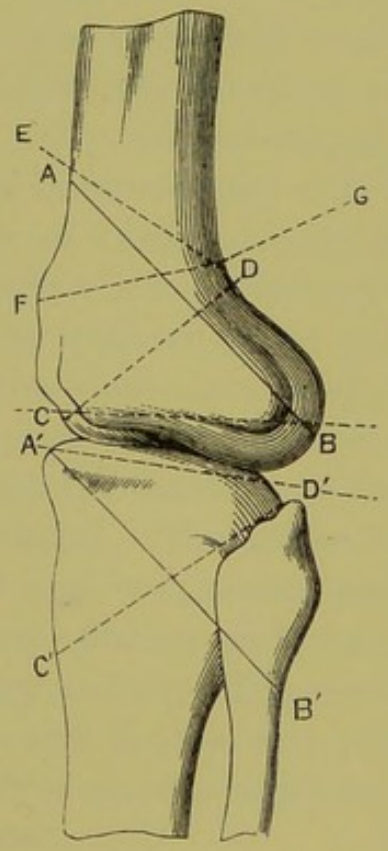
C, D, and the corresponding section C′, D′.

C, B, and the corresponding section A′, D′.

E, F, G, the mode of division of the femur in Barton's excision at the knee.

PLATE VI.

From O. Heyfelder, Trait. des Rés.



being removed from the epiphysis of the tibia than from that of the femur.[1] Some authorities, as Watson, have removed the diseased end of the femur in an angular manner, and hollowed out the head of the tibia to correspond with the section of the former bone, thus, ⩘ or ⩒.

If the contracted state of the flexor tendons prevent apposition of the sawn surfaces, these (tendons) should be divided subcutaneously. All the diseased synovial membrane should be removed. After bleeding has ceased, the bones should be wired together by as many sutures as may be necessary to maintain the apposition perfectly.

In Barton's operation for anchylosis of this joint, that surgeon made a V-shaped flap just above and in front of the knee. The base of this may be upon the inner or outer side of the limb. This flap is reverted and a wedged-shaped portion of the femur removed from its front, as represented at E, F, G, Plate VI.

In Buck's operation, of 1844, for bony anchylosis of the knee-joint, that surgeon made a crucial incision, and reflected the soft parts, and removed, by sections above and below the patella, a cuneiform portion of the consolidated joint, the base of which was in front. Care was taken that the apex of this wedge should not reach backward through the fused bone, that the popliteal structures might not be wounded. The section removed, the remaining posterior thin layer of bone was broken and smoothed up.

In Buck's operation for fibrous anchylosis (of 1853), the tendons are divided, if necessary, and the adhesions about the joint broken up by force, extension, and flexion, this process being sometimes aided by the knife. This accomplished, the excision is proceeded with in the usual manner.

Surgeons have advised a variety of incisions in the execution of this operation. Watson and Sanson employed the transverse cut, and Bégin the same; the latter added lateral incisions upwards and downwards as needed. Chassaignac and Langenbeck resorted to a longitudinal cut on the outer side of the patella. Syme made two semilunar cuts, one above, and the other below the patella, and which met on either side of the joint. O. Heyfelder proposed an oblique incision across the front of the joint from the external to the internal side and passing the lower margin of the patella, and, if necessary, he joined to this a vertical superior or inferior cut,

[1] See the views of M. Ollier.

thus forming a N-shaped incision. Park made a crucial incision in front of the joint. Moreau employed the H-shaped incision, as did Langenbeck, Fergusson, Butcher, Holmes, Schwartz, and Hamilton. Textor used the curved transverse cut. Jeffray and Sédillot preferred two lateral longitudinal incisions. Guepratt, Erichsen, Swain, Humphry, Gant, Gross, and Ashhurst advise the U-shaped incision falling below the patella. Bellamy prefers the simple semilunar, and Jones the H and U incisions.

TREATMENT.—The great object in the after-treatment of this excision is to secure bony union between the resected ends of the tibia and femur. It should be stated, however, that several cases have occurred in which a new articulation has been formed, and antero-posterior motion obtained as a result of this excision. Such a termination is not to be expected. The wound having been dressed, the lower angles of the incision left open to secure drainage, and the limb bandaged, the limb is placed in any form of apparatus which will secure immobility in the straight position. Packard's bracketed splint (see Fig. 315, Ashhurst's Surgery) fulfils all the indications. Other splints are advised, as Butcher's (see his Conser. Surg.), Price's splint (see Gross' Surgery), or Salter's apparatus may be employed. Or the limb may be placed in a splint upon which is laid a bed of plaster of Paris. But whatever appliance is preferred, this should not be removed until bony union is well advanced, when the limb may be secured in a plaster of Paris, starch, dextrine, or other form of inflexible bandage. It is not necessary to enter more fully into the after-treatment of this excision, as authorities give the details, and the reader is referred to the REMARKS, as to the treatment subsequent to the operation, pursued by several of the operators whose cases appear in the tables of excision of this joint.

In the preparation of these remarks, as to this operation and its treatment, the following works have been consulted.

Authorities.—Béraud, Gray's Anatomy, Bellamy, Smith, Stephen, Smith, Henry H., Oper. Surg., Heyfelder, O. Syme by Maclean, Velpeau, Butcher, Holmes' Surg. Diseases of Childhood and System of Surgery, Esmarch, Price by Smith, Guthrie, Comm, Swain, Gant's Surgery, Ashhurst's Surgery, Erichsen's Surgery, Liston's Surgery, and other medical works and journals.

TABULAR STATEMENT

OF

EXCISION OF KNEE-JOINT.

Tabular Statement of Total Excisions

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Macleod's Surg. Notes, p. 311; Smith's Price, p. 123; Swain, p. 124.	Lakin, J. H., Sutton-Colefield, Eng.	General Hospital, Crimea, Sevastopol.	Gribben, Henry, Pr. 77th English Regiment. "Health and constitution good."	M. 19	Sept. 8, 1855.	Oct. 1, 1855.	Int.	Penetrating gunshot wound of joint by musket ball; ball lodged in inner condyle; joint swollen; inflamed; cartilages detached; eroded; softened; suppuration of joint; abscess of thigh; small chip off head of tibia.
2	Pén. ta. No. 151; Lyon's ta. No. 7; Am. Med. Monthly, xvi. 368.	Cooper, E. S., San Francisco, Cal.	In civil practice, California	California.	M. 24	?	1857.	S.	Gunshot wound of joint; caries and necrosis of tibia and femur; sinuses and suppuration of joint.
3	Hodges, p. 129; Cir. No. 6, Surg. Gen. Off. p. 58; Pén. p. 99; Edin. Med. Jour. p. 320, Oct. 1860.	Brown.	India campaign 1857–1858 Alumbaugh, India.	A native soldier.	M. 30	Jan. 16, 1858.	Jan. 16, 1858.	P.	Compound fracture of patella and opposite thigh; shot away a bone; knee merely attached by skin.
4	Pén. p. 99; Gross, Statistics; Letter.	Neüdorfer, Vienna, Austria.	Italian war.	Soldier.	M. ?	?	1859.	?	Gunshot wound of joint.
5	Pén. p. 99; Gross, Statistics; Letter.	Neüdorfer, Vienna, Austria.	Italian war.	Soldier.	M. ?	?	1859.	?	Gunshot wound of joint.
6	Rank. Abst. No. 35, p. 182; Swain, p. 44.	Compton, W., Birmingham, England.	General Hospital, Birmingham.	W——, Geo., "Healthy."	M. 19	Dec. 26, 1860.	Dec. 26, 1860.	P.	"Penetrating gunshot wound of joint by bird shot; shot lodged in inner condyle, which was slightly fractured."
7	Lancet, ii. 34, 1861.	Hutchinson, F., 29 Woburn Place, W. C. London.	London Hospital.	England. Healthy.	M. 20	Feb. 13, 1861.	Feb. 13, 1861.	P.	Perforating gunshot wound of joint; from shot and wadding; comminuted fracture of condyles.
8	Cir. No. 6, Surg. Gen. Off. p. 60; Catalogue Army Med. Museum, Specimen, No. 600.	Unknown, specimen contributed by A. A. Surgeon Banister, U. S. A.	Fairfax Seminary Hospital, Alexandria, Va.	G——, C. F., Pr. 1st Pa. Reserves.	M. ?	Probably Aug. 30, 1862.	Sept. 15, 1862.	Int.	Gunshot wound of joint.
9	Cir. No. 6, Surg. Gen. Off. p. 58; Letter.	Bonticou, R. B., Troy, New York.	U. S. Gen. Hospital, Beaufort, S. Ca.	Rider, Alex., Pr. I, 77th Pa. Vols. In good health.	M. 25	Oct. 22, 1862.	Oct. 24, 1862.	Int.	Gunshot wound of joint; by lead canister ball.
10	Cir. No. 6, Surg. Gen. Off. p. 59.	Heller, Jas., A. A. Surgeon U. S. Army.	Branch No. 6, Field Hospital, Chattanooga, Tenn.	Derrell, Chas. Corpl. F, 74th Ind. Vols. (good health.)	M. 27	Nov. 25, 1863.	Nov. 26, 1863.	P.	Penetrating gunshot wound of joint by musket ball, which lodged in head of tibia; fracture of inner condyle.
11	Cir. No. 6, Surg. Gen. Off. p. 59.	Hinkle, F., A. A. Surgeon U. S. Army.	Jarvis, U. S. Gen. Hospital, Baltimore	Lewis, Gardener, Pr. B, 19th Ind. Vols. "Feverish; anxious; sleepless from pain."	M. 22	July 1, 1863.	Dec. 1, 1863.	S.	Penetrating musket ball wound of joint; ball lodged in internal condyle; joint disorganized and discharging pus.

of Knee-Joint for Gunshot Wounds.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	Patella, 1¾ inch femur, thin slice head of tibia.	Died of exhaustion from diarrhœa and vomiting, caused by eating apples.	?	Was doing well until he ate the apples.	.....	M. Vallete (See Histoire Médico-Chirurgicale de la Guerre de Crimée, p. 155) reports 6 cases, wounded at Alma and Inkermann, amputated at the knee-joint, and which resulted in death from purulent infection. Hence this, the nearest approach to a substitute for this excision, may be followed by the most unfortunate result of excision of this joint.
2	?	Patella, and 3 in. of articular surfaces.	Recovered, 10 weeks.	?	Engaged in business, and is quite well; bony union.	6	
3	H	Total excision.	Died next evening with symptoms of shock.	.....	"Said to have died of multiplicity of injuries."	.....	The opposite thigh was amputated at same time; no chloroform given.
4	?	Total excision.	Died.				
5	?	Total excision.	Died.	.....	.....	.....	Guthrie does not advocate this operation unless circumstances are very favorable.
6	U	Thin portion femur and tibia; nearly all internal condyle; patella saved.	Recovered, 6 weeks.	?	"Walks easily without aid of a stick; patella plays over end of femur laterally."	Over 3	
7	U	Patella; end femur and shaft to 1½ in.; thin slice tibia.	Died 10th day, from tetanus from injury of opposite posterior tibial nerve.	3½	"So far as knee, operation did well."		
8	H	Heads tibia and fibula, and condyles femur.	Died, exhaustion, Oct. 12, 1862.	?	Incisions healed; specimen shows osseous deposits on end of femur, and necrosis of upper end of leg bones.	?	
9	⌣	2 inches femur, and slight section of tibia.	Recovered.	?	Before he became paraplegic walked with a cane.	60	
10	H	Patella; ⅞ inch of femur; ¾ inch of tibia.	Died, exhaustion, Jan. 18, 1864.				
11	H	1 inch of femur; ? inch of tibia.	Died, pyæmia, Dec. 2?, 1863.	.....	Incisions healed.		

Tabular Statement of Total Excisions

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
12	Cir. No. 6, Surg. Gen. Off. p. 59.	Bentley, Ed., Surg. U. S. V.	3d Div. General Hospital, Alexandria, Va.	Miller, Jacob, "A" 3d Pa. Cavalry. "Prostrated."	M. 38	Nov. 27, 1863.	Dec. 7, 1863.	Int.	Compound comminuted fracture of patella, involving knee-joint; parts considerably swollen.
13	Cir. No. 6, Surg. Gen. Off. p. 59.	Bently, Ed., Surg. U. S. V.	3d Div. General Hospital, Alexandria, Va.	Sims, Jesse, Corpl. B, 4th Ohio Vols. "Greatly prostrated and anxious."	M. 23	Nov. 27, 1863.	Dec. 8, 1863.	S.	Gunshot fracture of opening of right knee-joint; parts much swollen.
14	Pénières, p. 102.	Verneuil, Prof Paris, France.	France.	"A preacher; health good."	M. 30	20 days before operation.	Near end of 1863.	Int.	Gunshot wound of joint, received while wrestling; fracture of patella; pus collected in leg, and to above condyles.
15	Cir. No. 6, p. 59.	Homans, John Jr., Asst. Surg. U. S. A.	General Hospital, Alexandria, D.C.	Clark, Thos., Pr. D, 2d N. Hamp. Cavl.	M. ?	May 4, 1864.	May 4, 1864.	P.	Gunshot wound of joint by musket ball, which entered behind, passed forwards and outwards, fracturing external condyle.
16	Cir. No. 6, p. 59.	Unknown.	3d Div. General Hospital, Alexandria, D.C.	Moore, H. J., Sergt. F, 7th Maine Vols.	M. 24	May 12, 1864.	May, 1864.	Int.	Gunshot wound of joint; from conoidal ball.
17	Cir. No. 6, p. 59.	Bonticou, R. B., Troy, New York.	Harwood General Hospital, Washington, D. C.	Hays, Geo. W. Corpl. K, 2d Mich. Vols.	M. 19	June 17, 1864.	June 24, 1864.	Int.	Musket ball; fractured patella; joint opened; tibia grooved.
18	Pénières, pp. 100 and 102.	Verneuil, Prof Paris, France.	France, occurred in civil practice.	France. "Fever."	M. 18	Sept. 18, 1864.	Sept. 23, 1864.	Int.	Penetrating gunshot wound by pistol ball; wound discharging.
19	Pén. p. 99, and Statistics S. W. Gross; Letter.	Neüdorfer, J., Vienna, Austria.	German-Danish War.	Soldier.	M. ?	?	1864.	?	Gunshot wound of knee-joint.
20	Pén. p. 99, and Statistics S. W. Gross; Letter.	Neüdorfer, J., Vienna, Austria.	German-Danish War.	Soldier.	M. ?	?	1864.	?	Gunshot wound of knee-joint.
21	Pén. p. 99, and Statistics S. W. Gross; Letter.	Langenbeck, B., Berlin.	German-Danish War.	Soldier.	M. ?	?	1864.	?	Gunshot wound of knee-joint.
22	Pén. p. 99, and Statistics S. W. Gross; Letter.	Löwenhardt.	German-Danish War.	Soldier.	M. ?	13 days before operation.	1864.	Int.	Gunshot wound of knee-joint.
23	Letter, 1872.	Reported by McGuire, Hunter, Richmond, Virginia.	Spotsylvania Ct. House Virginia, on field.	.....	M. ?	May, 1864.	.....	P.	Gunshot wound of joint.
24	Letter, 1872.	Reported by McGuire, Hunter, Richmond, Virginia.	Spotsylvania Ct. House Virginia, on field.	.....	M. ?	May, 1864.	.....	P.	Gunshot wound of joint.
25	Letter, 1872.	Reported by McGuire, Hunter, Richmond, Virginia.	Spotsylvania Ct. House Virginia, on field.	.....	M.	May, 1864	.....	P.	Gunshot wound of joint.

of Knee-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
12	?	Patella; ½ inch femur; ½ inch tibia.	Died, pyæmia, Dec. 18, 1863.	?	?	?	
13	?	1½ inch tibia and fibula; 1 in. femur.	Died, pyæmia, Dec. 13, 1863.	....	?	?	
14	?	Total excision, and patella.	Recovered, 3½ months.	?	Able to walk with crutches at 2½ months.	3½	
15	Single transverse.	2 inches condyles femur; ¼ in. head of tibia.	Died, 1 week.	.....	Next morning leg became cold, and no circulation could be detected in arteries below knee.	.....	Ball passed near the popliteal artery, and may have injured the vessel, and induced formation of a clot which obstructed circulation of leg.
16	Single transverse.	Total excision.	Died, May 25, 1864, from exhaustion, result of fatigue of transporting him to hospital.	.....	Wound nearly healed and discharging but little.		
17	H	Shattered patella; ⅔ condyles femur; articular surface tibia.	Died, exhaustion, July 2, 1864.	.....	.....	.....	Also suffered primary amputation at lower third of thigh (left) of other limb.
18	?	Total excision; patella saved.	Recovered, 4 months.	?	"Walks with facility."	9	
19	?	Total excision.	Died.				
20		Total excision.	Died.				
21	?	Total and subperiosteal excision.	Died, pyæmia.				
22	?	Total excision.	Recovered, after several months.	?	?		
23	.....	Total excision.	Died, within 3 days.				
24	.....	Total excision.	Died, within 3 days.				
25	.....	Total excision.	Died, within 3 days.				

Tabular Statement of Total Excisions

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
26	Letter, 1872.	Reported by McGuire, Hunter, Richmond, Virginia.	Spotsylvania Ct. House Virginia, on field.	.....	M.	May, 1864.	.....	P.	Gunshot wound of joint.
27	Letter, 1872.	Reported by McGuire, Hunter, Richmond, Virginia.	Spotsylvania Ct. House Virginia, on field.	.....	M.	May, 1864.	.....	P.	Gunshot wound of joint.
28	Letter. 1872.	Reported by McGuire, Hunter, Richmond, Virginia.	Spotsylvania Ct. House Virginia, on field.	.....	M.	May, 1864.	.....	P.	Gunshot wound of joint.
29	Letter, 1872.	Bonticou, R. B., Troy, New York.	Harwood General Hospital, Washington, D. C.	Northard, G. W., Sergt. G, 2d O. Cavl.	M. 23	April 1, 1865.	April 8, 1865.	Int.	Perforating gunshot wound of joint.
30	Cir. No. 6, p. 60.	Rush, D. G., Surg. 101st Pa. Vols.	General Hospital, Fortress Monroe,	R——, D. F., Pr. 49th Ga. Vols. C. S. A.	M. ?	April 2, 18 5.	April 18, 1865.	Int.	Conoidal musket ball wound of joint; fracture of patella and external condyle; joint acutely inflamed and painful.
31	Pén. p. 100.	Dauvé.	Civil practice.	An Arab. ?	M. 20	?	1865.	?	Gunshot wound of joint; also fracture of opposite femur.
32	Gross, S. W., Statistics; Letter.	Beck, B., Germany.	In Austro-Prussian War.	A soldier.	M. ?	?	1866.	?	Gunshot wound of joint.
33	Pacific Med. and Surg. Jour. p. 56, 1869; Letter.	Oatman, Ira T., Sacramento, Cal.	Sacramento, Cal.	G——, C., Yolo Co., Cal.	M. 16	Mar. 10, 1868.	May 21, 1868.	S.	Penetrating gunshot wound of joint; caries.
34	Pén. p. 100.	Thompson.	Civil practice.	?	M. 27	24 hours before operation.	1868.	P.	Gunshot wound involving joint.
35	Notes and Recollections Ambulance Surg., pp. 118, 119, 125, 130.	MacCormac, William, 13 Harley St., W. London.	Caserne d'Ashfi ld Sedan, France.	Soldier.	M. ?	In Sept. or Oct. 1870.	In Sept. or Oct. 1870.	S.	"Penetrating gunshot wound of knee-joint."
36	Am. Jour. Med. Sci., N. S., lxv., 270; Langenbeck's Arch., 1867 (9, 1).	König, F., Professor, Rostock, Germany.	Franco-Prussian War.	Soldier.	M. ?	?	1870.	?	Gunshot wound of joint; ball still embedded in shattered external condyle.
37	Letter, 1872.	Miner, J. S., Buffalo, N. Y.	Sisters of Charity Hospital, Buffalo.	Cobb, Thos. S. Buffalo, N. Y.	M. 35	Nov. 8, 1871.	Nov. 10, 1871.	P.	Gunshot wound; articulating surface of tibia; from pistol ball.

of Knee-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
26	.....	Total excision.	Died.	.....	"Amputation of limb to save life."		
27	.....	Total excision.	Died.	.....	"Amputation of limb to save life."		
28	.....	Total excision.	Died, 1 month, exhaustion.	.....	.....	.....	Dr. C. A. Rice, now of Dallas, Texas, does not recommend this excision, as he has seen such bad results from it, and thinks there is such a large surface of cancellated structure that he would prefer amputation, especially seeing the excellent artificial limbs supplied now.
29	H	Patella; condyles of femur and articular surface of tibia.	Died, exhaustion, April 22, 1865.	?			
30	?	Patella; 1 inch of femur; ½ inch of tibia.	Died, April 26, 1865, wound suppurated freely.	?	Autopsy showed had been no repair.		
31	?	Total excision.	Died, 20 days.	?	.....	.....	Death said to have been caused from the complication of fracture of opposite femur, and his refusal to allow any apparatus.
32	?	Total excision.	Died.	?			
33	H	Patella; head of tibia; fragments of fibula; condyles and surface of femur beneath patella.	Recovered.	?	Oct. 15, 1868, amputation of thigh for extension of caries of femur and bones of leg.		
34	?	Total excision.	Recovered.				
35	?	Total excision.	Died.	.....	"Was speedily fatal."	.....	Case, says operator, appeared very suitable for operation.
36	H	Four-fifth inches of tibia; about 1 inch of femur; shattered patella.	Recovered.	1½	"Some motion of joint; could move limb to 145°."	.....	Tabulated by Satterthwait; plaster dressings; transverse cut; sewed up; wound received near Aschaffenburg.
37	U	Both surfaces of joint.	Died, 15 days, pyæmia.				

Tabular Statement of Total Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
38	Med. Record, New York, ix., 236.	Beck, B., Germany.	Franco-Prussian War.	Soldier 14th Prussian Army Corps.	M.	.....	1870 to 1871.	P.	Shot wound of joint.
39	Med. Record, New York, ix., 236.	Beck, B., Germany.	Franco-Prussian War.	Soldier 14th Prussian Army Corps.	M.	.....	1870 to 1871.	P.	Shot wound of joint.
40 to 42	Med. Record, New York, ix., 236.	Beck, B., Germany.	Franco-Prussian War.	3 soldiers 14th Prussian Army Corps.	M.	.....	1870 to 1871.	P.	Shot wound of joint.
43 to 44	Med. Record, New York, ix., 236.	Beck, B., Germany.	Franco-Prussian War.	2 soldiers 14th Prussian Army Corps.	M.	.....	1870 to 1871.	S.	Shot wound of joint.

Tabular Statement of Partial Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Larrey's Surg. Memoirs, ii. 277.	Larrey, D. J., France.	Benevento, Spain.	Ibrahim, a Mameluke soldier.	M. ?	?	1809.	P.	Penetrating wound of kn joint, with crushing of tella from pistol ball.
2	Gross, Statistics and Letter.	Knorre, Hamburg.	Uncertain if in civil or military practice.	?	?	?	?	?	Gunshot wound of joint
3	Heyfelder, p. 114.	Thaden, V., Germany.	Civil practice.	?	?	?	?	?	Gunshot wound of joint
4	Heyfelder, p. 114.	Percy, P. F., Paris.	Civil practice.	France.	?	?	?	?	Gunshot wound of joint
5	Heyfelder, p. 114.	Laurent, Paris, France.	Civil practice.	France.	?	?	?	?	Gunshot wound of joint
6	Heyfelder, p. 112.	Champion, L., France.	Civil practice.	?	?	?	?	?	Caries following guns wound of joint.
7	Heyfelder's ta. Part, Excisions, No. 2.	Textor, K,, Sr., Würzburg Germany.	Military practice.	?	M. 37.	?	1847.	?	Gunshot wound of joint
8	Res. in Gunshot Injuries, Esmarch, p. 111.	Fahle, Germany.	Garrison Hospital, Rendsburg.	B——, a vol. of 2d Sleswick-Holstein Corps. "Lungs tuberculous."	M.	Dec. 31, 1850.	Jan. 3, 1851.	Int.	Penetrating gunshot wound of joint; joint sv len and painful; bu free in joint; portion clothing fixed in condy very small fracture of dyle.
9	Letter, 1872.	Hodgen, J.T., St. Louis, Mo.	City Gen. Hospital. St. Louis.	Soldier, United States.	M. ?	?	Fall, 1862.	S.	Transverse gunshot wo of head of tibia.
10	Pénières, p. 112.	Orchwadt, Germany.	German-Danish War.	Soldier.	M.	1 day before operation.	1864.	P.	Gunshot wound of k joint.
11	Cat. Army Med. Museum. Specimen, 1065.	Mosely, N. R., Surg. U. S. V.	General Hospital, Washington, D. C.	D——, O., Pr. I, 1st Me. H. Artillery.	M. 30	May 19, 1864.	May 23, 1864.	Int.	Gunshot fracture of pate
12	Pén. pp. 99 and 112; S. W. Gross, Statistics, Letter.	Langenbeck, B., Berlin.	German-Danish War.	Soldier.	M. ?	?	1864.	P.	Gunshot wound of join

of Knee-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
38	.....	"Excision of joint."	Recovered.	.....	"Had a pretty useful limb."	.....	Operator regards this operation as unjustifiable, in military surgery, except under the most favoring circumstances.
39	.....	"Excision of joint."	Recovered.	.....	Limb amputated.		
40 to 42	.....	"Excision of joint."	3 Died, pyæmia.				
43 to 44	.....	"Excision of joint."	2 Died, pyæmia.				

of Knee-Joint for Gunshot Wounds.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	Nearly all the loose and detached fragments of the patella.	Recovered.	.....	"Recovered entirely."		
2	?	2½ inches of tibia.	Recovered.	?	?		
3	?	Entire patella.	Died, gangrene.	?	?		
4	?	Entire patella.	Recovered.	?	Good use of member.		
5	?	Entire patella.	Recovered.	?	Good use of member.		
6	?	Resection of tibia alone.	Uncertain.	?	?		
7	U	Condyles of femur.	Died, in a few days, pyæmia.	?			
8	+	Patella; 1½ inches of femur; semilunar cartilages.	Died, 31 days, pyæmia and diarrhœa.	?	?	.....	The cartilaginous investment of the tibia separated, and no doubt prevented healing; end of tibia should have been removed.
9	U	1 inch of head of tibia, and tip of fibula.	Died, 3 days.				
10	?	2 inches of femur.	Died, several days after.	?			
11	?	Inner half of patella.	Died, 18 days.	?			
12	?	5 inches of femur and subperiosteal.	Died, 15 days after.	?			

Tabular Statement of Partial Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
13	Pén. p. 99; Statistics S. W. Gross, Letter.	Esmarch, Fred, Keil, Denmark.	German-Danish War.	Soldier.	M. ?	?	1864.	?	Gunshot wound of knee
14	Statistics S. W. Gross; Letter.	Beck, B., Germany.	Austro-Prussian War.	Soldier.	M. ?	?	1866.	?	Gunshot wound of tibia, involving joint.
15	Circular No. 6, S. G. O., p. 60.	Coale, R. W., Asst. Surg. U. S. A.	U. S. Army.	Soldier.	M. ?	?	?	?	Gunshot fracture of patella
16	Circular No. 6, S. G. O., p. 60.	Lindell, J. A., Surgeon U. S. Vols.	U. S. Army.	Soldier.	M. ?	?	?	?	Gunshot fracture of patella by musket ball.
17	Circular No. 6 S. G. O., p. 60.	Siebold, Theo. Asst. Surg. U. S. A.	U. S. Army.	Soldier.	M. ?	?	?	?	Gunshot fracture of patella and head of tibia; joint disorganized by inflammation.

Tabular Statement of Excisio

REMARKS.—The following numbers represent cases of excision for injuries includin those done for wounds other than gunshot, viz., Nos. 9, 25, 26, 37, 50, 65, 88, 117, 11

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Oper. and Cons. Surg., Butcher, p. 2; Heyfeld. ta. No. 1, and p. 86; Pénières, ta. No. 1.	Filkin, Northwich, England.	Northwich, England.	England. Scrofulous; gen'l health impaired.	M. 21	Several years. before.	Aug. 23, 1762.	S.	Tumor of the knee; cartilages and heads of bone diseased; caries; suppuration; fracture of patella operation immediately after the fracture.
2	Symes, Princ. Surg. p. 695; Cooper's Surg. Dict. i. 84; Butcher's Cons. Surg. p. 2; Smith's Price, p. 51; Lancet, London, ii. 97, 1859.	Park, Henry, Liverpool, England.	Liverpool Hospital, England.	McCagleen, Hector. "Scrofulous; health declining; naturally of strong constitution."	M. 33	10 years' standing.	July 2, 1781.	S.	Caries; partial anchylosis slightest motion and acute pain of joint.
3	Cooper's Surg. Dict. i. 84; Symes, Princ. Surg. p. 696.	Park, Henry, Liverpool, England.	?	Harrison, Charles. Unfitted for the operation.	M. 33	3 years' standing.	June 22, 1789.	S.	Disease of joint.
4	Butcher's Oper. and Cons. Surg. p. 3; London Lancet, ii. 97, 1859; Pén. ta. No. 4.	Moreau, P.F., Bar, France.	?	Clause, —— Chalons-sur-Marne, France.	M. 20	Over 1 year's standing.	Sept. 17, 1792.	S.	"Caries, and a swelling considerable size in the knee."
5	Butcher's Cons. Surg p. 3; Heyfeld. ta. No. 5.	Moreau, P.F., Bar, France.	?	.....	M. 18	?	1802.	S.	Caries of joint.
6	Smith's Price, p. 53; Cooper's Surg. Dict. i. 85; Heyfeld. ta. 6; Butcher's Surg. p. 7.	Mülder, Groningen, Holland.	Hospital at Groningen.	"Pregnant."	F. 34	Long standing.	Oct. 21, 1809.	S.	Caries.

of Knee-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
13	?	Partial excision.	Died.				
14	?	Articular surface of tibia.	Died.				
15	?	Patella.	Died, 12 days.				
16	"Layed openthe joint."	Fragments of patella.	Died, 10 days.				
17	"Made a free incision into joint."	Fragments of patella and head of tibia; semilunar cartilages; scraped articular cartilages from surface of tibia.	Died, 12 days.				

of Knee-Joint for Disease and Injuries.

204, 293, 296, 378, 380, 393, 407, 417, 463, 464, 490, 495, 496 534, 548, 577, 584, 588, 629. The other cases in this table are examples of excision for "Disease."

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	Patella; head of femur and portion of tibia.	Recovered, 3 months.	?	"Walked without difficulty; perfect and straight limb."	20 years after operation.	
2	Crucial	Patella; 2 inches of femur; 1 inch of tibia.	Recovered, 1 year.	Limb some flex'd	"Got a sound limb; went to sea; able to perform all the duties of a seaman."	8 years after operation.	Cooper preferred amputation to this excision.
3	Crucial	Probably complete (see remarks).	Died, of exhaustion, about 4 months after operation.	.....	?	?	Park advocated complete excision to favor anchylosis.
4	H	At least the ends of tibia and femur.	Died, of epidemic dysentery, 4½ months after operation.	?	At 3½ months consolidation complete; no apparatus required; moves limb about at pleasure while in bed.	?	J. Cloquet, in 18th vol. Dict. de Méd., gives this case to Moreau, Jr., but other authorities clearly credit it to Moreau, Sr., who proposed excision to "Academy," 1782.
5	H	Total excision.	Died, 4 months.	?	?	.....	Cloquet reports this case as performed by Moreau, Jr.
6	†	Probably total, as Mülder advocated the removal of the end of the bones in their connected state.	Died, of tetanus, after delivery, attributable to the labor.	?	Attacked with a fever 9th day after operation; reparation of joint had taken place to a certain extent at death.	?	

Tabular Statement of Excisions

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
7	Smith's Price, p. 53; Pén. ta. No. 6; Dict. de Méd. t. 18, p. 295, 1827.	Moreau, Jr., France.	France.	France.	M. 31	?	April 5, 1811.	S.	Caries; "considerable destruction of the joint."
8	Pén. ta. No. 7; Dict. de Méd. t. 18, p. 295.	Roux, Ph. J., Paris, France.	France.	France.	M. 32	?	1816.	S.	Caries.
9	Heyfeld. ta. Part. Exc. No. 1, and p. 106.	Jauson.	?	.....	M. 25	?	1821.	S.	Disease of bone and luxation of joint; result of a scythe wound.
10	Smith's Price, p. 54.	Textor, K., Würzburg.	In the Julinsspital, Würzberg.	? Germany.	?	?	1821.	S.	Disease of joint.
11	Smith's Price, pp. 54 and 58.	Textor, K., Würzburg.	In the Julinsspital Würzburg.	? Germany.	?	?	1822.	?	Not stated.
12	Smith's Price, p. 55; West. Med. and Phys. Jour. i. 355; Med.-Chir. Rev. i. 303, 1827.	Crampton, P., Dublin, Ireland.	Dublin General Hospital.	Conolly, Susan, Ireland. "Emaciated with open scrofulous sores."	F. 23	12 mos. standing.	May 7, 1823.	S.	Disease of joint; end of femur softened; diffuse strumous infiltration in ends of bones; joint flexed.
13	West. Med. and Phys. Jour. i. 356; Med.-Chir. Rev. i. 303, 1827; Syme, Surgical Works, p. 696; London Lancet, ii. 5, 1855; Smith's Price, p. 56.	Crampton, P., Dublin, Ireland.	Meath Hospital, Dublin.	Lynch, Ann, Ireland. "Scrofulous."	F. 22	?	Aug. 4, 1823.	S.	Caries.
14	Syme's Surg. Works, p. 699; Lancet, ii. 5, 1855.	Syme, James, Edinburgh, Scotland.	Surgical Hospital, Edinburgh.	Arnot, John, Scotland. "Health greatly broken."	M. 8	3 years' standing.	Dec. 7, 1829.	S.	Chronic arthritis: rectangular flexion; joint much enlarged; from fall on ice.
15	Syme's Surg. Works, p. 700.	Syme, James, Edinburgh, Scotland.	Surgical Hospital, Edinburgh.	Mackintosh, Annie, Scotland. "Thin, weak, and unhealthy looking."	F. 7	?	1st. Dec. 28, 1830. 2d, Jan. 6, 1831.	S.	Chronic arthritis; acute flexion of joint; disease of femur; sinuses.
16	Pén. ta. No. 12; Heyfeld. ta. 13; Smith's Price, p. 59.	Joeger, Mich., Berlin.	Germany.	? "A mason."	M. 20	?	Jan. 25, 1830.	S.	"Disorganization of the joint from disease."
17	Pén. ta. No. 13; Heyfeld. ta. 14.	Textor, K. Sr. Würzburg, Germany.	?	? Germany.	F. 26	?	1832.	S.	Chronic arthritis; caries.
18	Pén. ta. No. 14; Heyfeld. ta. 13; Smith's Price, p. 53.	Fricke, Hamburg, Germany.	Germany.	?	F. 8	?	1832.	S.	Ch. arthritis and caries.
19	Pén. ta. No. 15; Heyfeld. ta. 14.	Fricke, Hamburg, Germany.	Germany.	?	?	?	1832.	S.	Ch. arthritis and caries.
20	Pén. ta. No. 16; Heyfeld. ta. 15.	Fricke, Hamburg, Germany.	Germany.	?	?	?	1832.	S.	Ch. arthritis and caries.
21	Pén. ta. No. 17.	Demme, H., Berne, Switzerland.	Switzerland.	Switzerland.	M. 36	?	1835.	S.	Caries.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
7	H	Complete excision.	Recovered.	?	At 2½ years bones ununited but immovable; end of femur enlarged and projected on outside joint; walked only with crutches at 15 years; walked with great difficulty.	15 years after.	
8	?	Complete excision.	Died, 19 days, of ataxic complications.	?	.....	?	
9	?	Condyles of femur.	Died, exhaustion.	?	.....	?	
10	⌣	Total excision.	Died, pyæmia.	?	.....	?	
11	⌣	Total excision.	Died.	?	.....	?	
12	H	Patella; 4¼ inches of femur; ¼ inch of tibia.	Died, 3 years, exhaustion, from discharge of erysipelas and phthisis, July, 1826.	?	"Useless; bony union did not take place."	?	
13	H	Femur above condyles; articular surfaces of patella and tibia.	Recovered.	4	"At 3 years able to stand or walk the length of a day; wore sole 4 inches thick; bony union; limb bowed outwards; a fistula; afterwards this limb became flexed at right angle."	38	Patient gave limb to operator shortly before her death, as a testimony of the usefulness of the member during life.
14	○	Patella to above tuberosities of condyles of femur; head of tibia.	Recovered, 3 months.	2	"Stood, walked, and ran upon a firm limb without support."	In 1834.	Left limb.
15	○	Patella to above tuberosities; head of tibia · 2d operation 2 inches more of femur.	Died, 11 days, exhaustion, after 2d operation.	?	?	?	"Second operation revealed periosteum of femur denuded as far up as finger could reach."
16	‡	Total excision.	Recovered, 15 weeks.	?	"Could walk by the 15th week."	In 1841.	
17	⌣	Total excision.	Died.	?	?	?	
18	?	Total excision.	Recovered.	2	"Result good; a little atrophy."	?	
19	?	Total excision.	Died, pyæmia.				
20	?	Total excision.	Died, of hectic.				
21	?	Total excision.	Recovered, 4 months.	.....	"Result good."	4 mos. after oper.	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
22	Pén. ta. No. 18; Hodges' Exc. p. 141.	Fricke, Hamburg, Germany.	Germany.	?	F. 18	?	1836.	S.	Caries.
23	Heyfeld. ta. Part. Exc. No.3.	Textor, K. Sr. Würzburg, Germany.	Germany.	?	M. 8	?	1837.	S.	Caries.
24	Pén. ta. No. 19.	Textor, Jr., Würzburg, Germany.	Germany.	?	F. 32	?	1839.	S.	Chronic arthritis.
25	Hodges' Exc. p. 131; South's Chelius, iii. 741.	White, A., Liverpool, England.	England.	Burgess, Matthew, England. "Recovered from shock."	M. 7½	Aug. 2, 1839.	Aug. 2, 1839.	P.	Compound dislocation and projection of condyles of femur; joint opened; leg caught in a wheel.
26	Heyfeld. Part. Exc. ta. No. 2.	Textor, K. Sr. Würzburg, Germany.	Germany.	?	M. 40	?	1840.	Uncertain	"Injury of condyle."
27	Pén. ta. No. 20.	Lang.	?	?	M. 24	?	1840.	S.	Chronic arthritis.
28	Pén. ta. No. 21; Heyfeld. ta. No. 22; Smith's Price, p. 59.	Textor, K. Sr. Würzburg, Germany.	Germany.	?	F. 23	?	1842.	S.	Chronic arthritis and anchylosis.
29	Pén. ta. No. 22; Heyfeld. ta. 23.	Demme, H., Berne, Switzerland.	Switzerland.	Switzerland.	?	?	1842.	S.	Chronic arthritis.
30	Pén. ta. No. 23; Heyfeld. ta. 24.	Demme, H., Berne, Switzerland.	?	?	?	?	1842.	S.	Chronic arthritis.
31	Smith's Price, p. 60.	Lombardo, Pavia.	Italy.	Italy.	?	?	1842.	?	Probably for disease.
32	Smith's Price, p. 60.	Lombardo, Pavia, Italy.	Italy.	? Italy.	?	?	1842.	?	Probably for disease.
33	Heyfeld. ta. Part. Exc. 4.	Textor, K. Sr. Würzburg, Germany.	Germany.	Germany.	M. 8	?	1844.	S.	Necrosis.
34	Heyfeld. ta. 25.	Textor, K. Sr. Würzburg, Germany.	Germany.	Germany.	F. 44	?	1845.	S.	Caries and necrosis.
35	Pén. ta. No. 25.	Textor, Jr. Würzburg, Germany.	Germany.	Germany.	M. 29	?	1845.	S.	Chronic arthritis.
36	Heyfeld. p. 114.	Ried, Fr., Jena, Germany.	Germany.	Germany.	M. 12	?	?	S.	Caries; partial excision.
37	Heyfeld, p. 114.	Condyon.	?	?	F. 38	?	1845.	?	Fracture of patella; partial excision.
38	Smith's Price, pp. 60 and 118.	Heusser, F., Hombrechtikon, Canton Zurich.	Switzerland.	Frei, Johannes, Bubikon, Switzerland. A scrofulous tailor.	M. 20	5 years' standing.	July 18, 1848.	S.	Chronic arthritis.
39	Heyfeld. p. 114.	Textor, Jr., Würzburg, Germany.	Germany.	Germany.	M. 33	.....	1848.	S.	Caries; partial excision.
40	Smith's Price, pp. 60 and 118.	Heusser, F., see Case 38.	Germany.	Bossut, Jacob, Hombrechtikon, Canton Zurich.	M. 32	4 years' standing.	Jan. 20, 1849.	S.	Ulceration of medullary tissue.
41	Heyfeld. ta. 29; Pén. ta. No. 29; Smith's Price, pp. 60 and 118.	Heusser, F., see Case 38.	Germany.	Casper, Wezikon, Canton Zurich. "Has hectic."	M. 6	3 years' standing.	April 23, 1849.	S.	Chronic arthritis from local cause.
42	Heyfeld. ta. 30; Pén. ta. No. 30.	Heyfelder, J. F., Erlangen.	Germany.	?	M. 21	?	1849.	S.	Caries.
43	Heyfeld. ta. 31.	Textor, Jr., Würzburg, Germany.	Germany.	?	F. 29	?	1849.	S.	Caries and spontaneous luxation.
44	L. Lancet, x. 322, 1849; Pén. ta. No. 32; Heyfeld. ta. 32.	Maisonneuve, Paris, France.	Hôpital Cochin, Paris.	Young man.	M. 19	?	July 16, 1849.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
22	?	Total excision.	Recovered.	.....	"Walked with an apparatus; limb deformed."	24	
23	⌣	Partial excision; extremity of tibia and fibula.	Died, pyæmia.	?	....	?	
24	?	Total excision.	Died, 4 months, exhaustion.				
25	None.	Partial excision; femur above condyles.	Recovered, 18 months.	4	"Walked in eight months with aid of apparatus; bony anchylosis."	89	Bone removed through external wound: transverse in direction.
26	⌣	Partial excision; end of tibia alone.	Recovered.	.....	Amputation of thigh.	?	
27	?	Total excision.	Died, 2 months, pyæmia.	?	.....	?	
28	⌣	Total excision.	Recovered.	?	"Tolerable limb."	?	
29	?	Total excision.	Died, pyæmia.	?	.....	?	
30	?	Total excision.	Died, pyæmia.	?	.....	?	
31	?	Total excision.	Died.	?	.....	?	
32	?	Total excision.	Died.	?	.....	?	
33	⌣	Partial excision; end of tibia and fibula.	Recovered.	?	"Result perfect."	?	
34	⌣	Total excision.	Recovered.	?	Thigh amputated for false joint.	?	
35	?	Total excision.	Died, 6 weeks, pyæmia.	?	.....	?	
36	?	Patella entirely.	Recovered.	.....	Amputation in about two years.	after 24	
37	?	Nearly all of patella.	Recovered.	.....	Good use of member.	?	
38	?	Total; lower end of femur; upper end tibia and fibula.	Recovered, 18 weeks.	?	"Bony union; after 10 months walked 12 miles with little or no inconvenience to limb."	10	Recovery delayed by attack of typhus fever from 20th to 40th week.
39	?	Entire patella.	Died.				
40	?	Total; lower end of femur; upper part of tibia and fibula cleared.	Recovered, 26 weeks.	?	"False joint from the first; consolidation very late; fibrous union; walked without support."	24	Died of phthisis 2 years after operation.
41	?	Total; condyles of femur; end of tibia and fibula.	Recovered, 7 weeks.	?	"Perfect; complete bony union; left off all apparatus."	3	
42	?	Total excision.	Died, 15 days, pyæmia.	?	.....	?	
43	?	Total excision.	Died, 13 days, exhaustion.	?	.....	?	
44	?	Total; patella; head of tibia; articular surface of femur.	Recovered.	?	"Good result."	?	

Tabular Statement of Excisio

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
45	L. Lancet, i. 56, 1851.	Fergusson, William, 16 George St., W. London, England.	King's College Hospital, London.	England. "Appeared pretty healthy, but complained of great debility."	M. 21	3 years' standing.	July 20, 1850.	S.	"Ulceration of cartilage and synovial disease joint; caries; from fall knee."
6	Heyfeld. ta. 34; Smith's Price, p. 118.	Heusser, F., Hombrechtikon, Canton Zurich.	Switzerland.	Oppenfuss, Bernard, Albisreider, Canton Zurich. "Has hectic."	M. 26	5 years' standing.	July 17, 1850.	....	Chronic arthritis; fro local cause.
47	Heyfeld. ta. 35; Smith's Price, p. 119.	Heusser, F., Hombrechtikon, Canton Zurich.	Switzerland.	Diener, Regula, Hombrechtikon. Tuberculous.	F. 24	4 years' standing.	Aug. 5, 1850.	S.	Chronic arthritis.
48	Heyfeld. p. 114.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	M. 15	?	1851.	S.	Partial excision; caries.
49	Heyfeld. ta. 36; Smith's Price, p. 119.	Heusser, F., Hombrechtikon, Canton Zurich.	Switzerland.	Staker, Anna, Freinbach, Switzerland. "Tuberculous; very debilitated."	F. 18	9 years' standing.	Aug. 30, 1850.	S.	Chronic arthritis.
50	Pén. Rés du Genou. p. 104.	Rignaud, Strasbourg.	Germany.	?	F. 60	?	1850.	Uncertain	Fracture of lower end femur, with projection fragments; from an injur
51	Butch. Cons. Surg. p. 10; Braith. Retro. Part xxv. p.184; Heyfeld. and Pén. tables.	Jones, G. M., Jersey Island England.	Jersey Hospital, England, Channel.	Hansford, Sarah. "Growing thin; night sweats."	F. 25	14 years' standing.	Jan. 19, 1851.	S.	Ulceration of cartilage tibia, and fibula; joi much enlarged; from col
52	Butch. loc. cit. p. 10; Pén. ta. No. 38; Heyfeld. ta. 38; Lancet, i. 89, 1853.	Jones, G. M., Jersey Island England.	Jersey Hospital, England, Channel.	LeGros, John, England. "Emaciated and worn."	M. 11	?	April 27, 1851.	S.	Caries; acute flexion joint.
53	Butch. loc. cit. p. 10; Pén. ta. No. 39; Heyfeld. ta. 39; Rank. Abst. No. 16, p. 170.	Jones, G. M., Jersey Island England.	Jersey Hospital, England, Channel.	?	F. 30	?	Sept. 4, 1851.	S.	Chronic arthritis.
54	Smith's Price, p. 122; Heyfeld. ta. 47.	Roser, Prof., Marburg, Germany.	Germany.	Germany.	M. 21	10 years' standing.	1851.	S.	Disease of, with suppu tion of joint.
55	Smith's Price, p. 122; Heyfeld. ta. 46.	Roser, Prof., Marburg. Germany.	Germany.	Germany.	M. 17	?	1851.	S.	Traumatic suppuration joint and posterior lu tion.
56	Rank. Abst. No. xviii. p.171; Butch. Surg. p. 12; Pén. ta. 40.	Jones, G. M., Jersey Island England.	Jersey Hospital, Jersey Is. Eng. Chan	? "Emaciated and worn; night sweats."	M. 7	?	Jan. 25, 1852.	S.	Flexion; enlargement; ceration of bones, and c tilages of joint.
57	Rank. Abst. No. xviii. p. 175; Butch. Surg. p. 11; Braith. Retro. Part 41, p. 115.	Page, W. B., Carlisle, England.	Cumberland Hospital, Carlisle, England.	England. "No important constitutional disturbance."	M. 17	?	June 7, 1852.	S.	Chronic arthritis.
58	Smith's Price, p. 120.	Heusser, F., Hombrechtikon, Switzerland.	Switzerland.	Schlumpt, Joseph, Peterzell, Canton St. Gallen. "Has hectic."	M. 40	6 years' standing.	June 14, 1852.	S.	Chronic arthritis of b knee-joints; neglec case.
59	Smith's Price, p. 120.	Heusser, F., Hombrechtikon, Switzerland.	Switzerland.	Erin, Bernard Kappel, Cant. St. Gallen. "Has hectic."	M. 30	6 years' standing.	July 14, 1852.	S.	Chronic arthritis; fr local cause.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of inclsions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
45	?	Patella; 1¾ inches of femur; ¾ inch of tibia.	Died, 9 days, acute necrosis of femur.	?	.....	?	
46	?	Condyles of femur; ends of tibia and fibula.	Recovered, 5 months.	?	"Bony union; sinuses quite healed; walks all day."	In 1859.	At 3 weeks secondary hemorrhage.
47	?	Condyles of femur; ends of tibia and fibula.	Died, 9 months, phthisis.	?	No union of bones; parts inclined to unite for 10 weeks; tetanic attacks prevented use of apparatus, which favored progress of phthisis.		
48	?	Entire patella.	Died.	.....	Amputation.		
49	?	Condyles of femur; ends of tibia and fibula.	Died, 41 weeks.	?	Did well until 14th week; fibrous union not firm; limb useless, and amputated later; died 4 days after operation.		
50	?	Total excision.	Died.	?	.....	?	
51	H	Total; 4 inches of bone removed; also patella.	Recovered. 1 year.	3⅜	"Result good; anchylosis imperfect; required retaining apparatus; washes at tub for hours; moves about freely."	24	
52	H	Total; patella not removed; 2¼ inches of bone excised.	Recovered, 2 years.	4½	"Anchylosis; walked very well; ran and leaped."	48	
53	H	Total excision.	Died, 13 days, epidemic dysentery.				
54	?	Total excision.	Recovered, 8 months.	?	"Amputated; recovery after 8 months."	?	Pyæmia delayed recovery; amputation refused at first.
55	?	Total excision.	Died, phlebitis.	?	.....	.....	Amputation refused.
56	H	Patella; ends of femur and tibia; 4 in. of bone removed.	Recovered, 15 months.	2¾	Anchylosis; walks and runs; limb slightly bent forwards; wears sole 3 inches thick.	After operation 15	
57	?	Patella; ends of tibia and femur; 2¼ inches of bone removed.	Recovered, 1 year.	3	"Bony union; walks 6 or 7 miles without support; walks and stands all day as cotton factory hand; growth of the limb has kept pace with the sound one."	After operation 48	
58	?	Total excision; "the whole joint."	Died, 14 days, pyæmia.	?	?	?	
59	?	Total excision; "the whole joint."	Recovered, 26 weeks.	?	"Complete bony union; works all day, summer and winter, at wood-sawing."	60	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
60	Rank. Abst. No. xviii. p. 172; Pén. ta. No. 41; Heyfeld. ta. 41; Lancet. i. 160, 1854; Butch. Surg. p. 12.	Jones, G. M., Jersey Island England.	Jersey Hospital, Jersey Is. Eng. Chan	?	M. 20	?	Sept. 1852.	S.	Chronic arthritis; acut flexion of joint.
61	Lancet. i. 268, 1853; Ibid. ii. 68; Butch. Surg. p. 11; Smith's Price, p. 67.	Fergusson, Wm., 16 George St., W. London.	King's College Hospital, London.	G——, Annie, England.	F. 20	?	Oct. 30, 1852.	S.	Ulceration cartilages an thickening synovial mem brane of joint.
62	Smith's Price, p. 120.	Heusser, F., Hombrechtikon, Switzerland.	Switzerland.	Keller, Franziska, Schmerikon, St. Gallen.	F. 16	7 years' standing.	1st, Dec. 1852. 2d, May, 1853.	S.	1st, chronic arthritis; 2d re-excision for non-union
63	Pén. ta. No. 43; Heyfeld. ta. 44.	Paget, Sir Jas. Bart., 1 Harewood Place, W. London.	St. Bartholomew's Hospital, London.	?	M. 14	?	1852.	S.	Chronic arthritis.
64	Smith's Oper. Surg. ii. 722; Southern Med. Jour. viii. 442.	Wedderburn, A. J., New Orleans, La.	New Orleans, U. S.	Chandler, George, United States.	M. 18	?	Feb. 18, 1852.	S.	Fluctuating tumor of th knee; partial destructio of the cartilages; subacut disease joint; anchylosis
65	Heyfeld. ta. Par. Res. Hodges' Exc. p. 130.	Textor, Jr., Würzburg, Germany.	Germany.	?	M. 20	?	1852.	P.	Comminuted and complic ted fracture, with separ tion ligamentum patella
66	Smith's Price, p. 120.	Heusser, F., Hombrechtikon, Zurich.	Switzerland.	Fach, Barbara Amden, St. Gallen. "Spastic."	F. 28	6 years' standing.	Jan. 9, 1853.	S.	1st, chronic arthritis—loc cause; 2d, re-excision 20t week for non-union.
67	Butch. Surg. p. 13; Rank. Abst. No. 18, p. 174; Pén. ta. 44; Am. Jour. Med. Sci. N.S. xxviii. 254.	Mackenzie, R. J., Edinburgh Scotland.	Royal Infirmary Edinb'rgh Scotland.	Harrison, Wm Scotland. "Strumous."	M. 42	5 years' standing.	Feb. 5, 1853.	S.	Chronic strumous arthriti abscess of head of tibia.
68	Butch. Surg. p. 14; Pén. ta. 54.	Pritchard, Hunmanby, England.	Hunmanby Hosp. Yorkshire	?	M. 20	?	Mar. 16, 1853.	S.	Chronic arthritis.
69	Butch. Surg. p. 14; Heyfeld. ta. 58; Pén. ta. 56.	Thomas, Evan Manchester, England.	Manchester Work-House Hospital.	?	M. 12	?	Mar. 28, 1853.	S.	Chronic arthritis.
70	Rank. Abst. No. 18, p. 170; Braith. Retro. Pt. 27, pp. 113, 252.	Fergusson, William, 16 George St., W. London.	King's College Hospital, London.	Saville, Emma England. "Health declining."	F. 28	11 years' standing.	April 2, 1853.	S.	Caries and ulceration of th cartilages left knee; fro housemaid's knee.
71	Rank. Abst. No. 18, p. 172; Braith. Retro. Part 28, p. 155; Pén. ta. 58.	Jones, G. M., Jersey Isl'nd.	Jersey Hospital. English Channel.	Livermore, William.	M. 12	1 year's standing.	April 17, 1853.	S.	General arthritis and cari with pain of joint.
72	Smith's Price, p. 121.	Heusser, F., Hombrechtikon, Zurich.	Switzerland.	Rüegg, Augustin, Waldi St. Gallen. Tuberculous.	M. 18	8 years' standing.	April 30, 1853.	S.	Chronic arthritis.
73	Rank. Abst. No. 18, p. 174; Heyfeld. ta. 66; Butcher's Surg. p. 15.	Mackenzie, R. J., Edinburgh.	Royal Infirmary Edinb'rgh	Johnston, Isaac, Scotland. Losing flesh; strumous.	M. 28	10 mos. standing.	May 5, 1853.	S.	Chronic arthritis, wi suppuration of joint; assignable cause.
74	Smith's Price, p. 102.	Greenhow, T. Newcastle.	Newcastle Infirmary England.	?	? 31	?	June 14, 1853.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
60	U	Total; articulating ends of tibia and femur.	Recovered, 20 months.	1853, ½. 1853, 1¼	"Walked 6 miles; perfect result; limb straight."	36	
61	H	Patella; condyles of femur; heads of tibia and fibula.	Recovered, 6 months.	5½	Fibrous union; resumed her employment; walks well; under unusual fatigue wears an apparatus.	6	Had erysipelas limb.
62	?	"The whole joint; 2d, ends of bones."	Died, exhaustion, 35 weeks after 1st operation.	.....	No union after second operation.		
63	?	Patella; total excision.	Recovered, 1 year.	?	"Walked without a stick."	12	
64	H	A little more than one-half of the surfaces of the condyles of femur; the entire articulating surface of the tibia in front and on the sides.	Recovered.	?	Regained practical use of the member.	?	This case has been reported as executed for anchylosis, but as there was subacute disease at the date of operation we class it as done for disease.
65	?	Condyles of femur.	Died, pyæmia.	?	.....	?	Heyfelder says in the text, p. 107, of his work that this man died of gangrene.
66	?	1st, whole joint; 2d end of ununited bones.	Recovered, 26 weeks.	?	Violent cramp prevented dressing of limb; firm union in 6 weeks after the second operation.	6½	
67	U	Patella; femur on level condyles, 2½ in.; ½ inch tibia; head tibia (abscess) gouged.	Recovered in 6 months.	¾	Bony union; walked rapidly; limb slightly bowed outward.	12	Health robust when discharged.
68	?	Total; ¼ inch femur; articular surface of tibia.	Recovered, 3 months.	?	Anchylosis; result perfect; walks 5 miles.	20	
69	?	Total; articulating end of femur; ¼ in. of tibia.	Recovered, 10 weeks.	?	"Perfect use of limb; walks well."	20 after operation.	
70	H	Total; patella, condyles, and 1½ in. of shaft of femur; 1 in. tibia and head of fibula.	Died, septicæmia, 16th day,	?	.....	?	
71	H	Total; patella; 2 in. femur; external condyle gouged; ½ inch of tibia.	Recovered, 7 months.	?	Anchylosis; result good; knee inclines a little too much inward.	24	Two years after died of some disease of the liver.—Lancet, vol. i. p. 146, 1855.
72	?	Total; whole joint.	Died, phthisis, 34th week.	?	.....	?	
73	U	Total; 1½ in. femur; ¾ in. of tibia.	Recovered, 4 months.	?	"Result perfect; walked 3 miles a few days after his discharge."	4	
74	?	Total excision; patella saved.	Recovered.	?	Amputated, Sept. 27, 1853, for dislocation tibia and alarming hectic.	3	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
75	Lyon's ta. 1.	Quackenbos.	United States.	Emaciation and hectic. ?	F. 13	2½ years' standing.	June, 1853.	S.	Caries, sinuses, and much swelling of joint; from fall.
76	Braith. Retro. Part 30, p. 114; Butcher's Surg. p. 15.	Cotton, Chas., Norfolk.	West Norfolk Hospital, England.	England. "Health had suffered a good deal."	M. 9½	3 years' standing.	Oct. 5, 1853.	S.	Chronic arthritis; enlargement; disorganization and semi-flexion of joint; foot everted.
77	Butch. Surg. p. 16; Pén. ta. 55.	Gore, R. T., Queen St., Bath.	Bath Hospital, England.	England. "Scrofulous."	M. 14	3 years' standing.	Oct. 31, 1853.	S.	Chronic arthritis; joint greatly enlarged.
78	Butch. Surg. p. 18; Pén. ta. 61; Heyfeld. ta. 64.	Thomas, Evan Manchester.	Manchester Workhouse Hospital.	?	M. 16	?	Nov. 15, 1853.	S.	Chronic arthritis.
79	Smith's Price, p. 91; Rank. Abst. Pt. 19, p. 156; Pén. ta. 62; Barwell's Dis. Joints, pp. 447, 449.	Keith, Wm., Aberdeen.	Royal Infirmary Aberdeen.	Hay, John, Scotland. Scrofulous, but health pretty good; occasional diarrhœa.	M. 9	12 mos. standing.	Nov. 26, 1853.	S.	Ulceration of cartilages; chronic arthritis; enlargement and acute flexion of joint.
80	Smith's Price, p. 102; Pén. ta. 67.	Greenhow, T., Newcastle,	Newcastle Infirmary England.	England. "Greatly emaciated."	M. 8	?	Nov. 29, 1853.	S.	Softening ends of bones; suppuration and ulceration of cartilages of joint.
81	Am. Jour. Med. Sci. N.S. xxviii. 254; Butcher's Surg. p. 2d ta. Pén. ta. 63; Heyfeld. ta. 66.	Mackenzie, R. J. Edinburgh.	Royal Infirmary Edinburgh	Scotland. "Hectic; emaciated; much exhausted."	M. 18	?	Dec. 24, 1853.	S.	Acute ulceration cartilage and suppuration of joint.
82	Smith's Price, p. 121.	Heusser, F., Hombrechtikon, Zurich.	Switzerland.	Häfeli, Rosa, Niederuzwyl, St. Gallen. Tuberculous.	F. 26	4 years' standing.	1853.	S.	Chronic arthritis.
83	Pén. ta. 52; Heyfeld. ta. 55.	Bruns, Prof., Tübingen, Germany.	Germany.	Germany.	M. 49	?	1853.	?	Chronic arthritis.
84	Pén. ta. 53; Heyfeld. ta. 56.	Textor, Jr., Würzburg, Germany.	Germany.	Germany.	F. 23	?	1853.	S.	Chronic arthritis.
85	Rank. Abst. Part 18, p. 176; Pén. ta. 77; Butch. 2d tab.	Stewart, Belfast, Ireland.	Ireland.	.....	?	?	1853.	S.	Chronic arthritis.
86	Heyfeld. ta. 67.	Knorre, Hamburg.	Germany.	.....	?	?	1853.	S.	Caries of joint.
87	Heyfeld. ta. 68.	Knorre, Hamburg.	Germany.	?	?	?	1853.	S.	Caries of joint.
88	Heyfeld. p. 114.	Textor, Jr., Würzburg, Germany.	Germany.	Germany.	M. 36	?	1853.	S.	Partial excision; fractur
89	Heyfeld. p. 114.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	F. 14	?	1853.	S.	Partial excision; caries.
90	Heyfeld. ta. 69.	Adelmann, Dorpat, Russia.	Russia.	?	M. 16	?	1853.	S.	Caries.
91	Butcher's Surg. p. 22; Braith. Retro. Pt. xliii. p. 105; Pén. ta. 78.	Butcher, R. G., Dublin.	Mercer's Hospital, Dublin.	Game, John, Ireland. "Emaciation; night sweats; wasting hectic."	M. 33	29 years' standing.	Jan. 20, 1854.	S.	Caries of tibia and femu abscess near joint; l bent, with thigh rigi leg rotated outwards; fro sprain.
92	Butcher's Surg. p. 19; Braith. Retro. Pt. xxxii p. 109.	Pemberton, O., Birmingham.	General Hospital, Birmingham.	Fowl, Edwin, England. "Strumous; hectic; diarrhœa."	M. 12	4 mos. standing.	Feb. 8, 1854.	S.	Caries; sinuses; pulpy d generation synovial me brane, and rectangul flexion joint; acute pai

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
75	?	Total; patella; 2 in. articular surfaces; condyles nearly destroyed.	Recovered, 10 months.	1	Wound healed; bony anchylosis; runs rapidly driving hoop.	10	
76	H	Total; thin slice from ends of femur, tibia, and fibula.	Recovered, 10½ months.	?	Walks firmly; considerable power flexion at knee; attends school some distance from home; fibrous union; false joint.	10½	He moved his knee during the treatment.
77	?	Total; patella; 1 in. femur; thin slice of tibia.	Recovered, 2½ months.	1½	"Perfect result; able to run; moderate curvature outwards."	15	
78	?	Total; head of tibia and condyles of femur.	Recovered, 10 weeks.	?	Amputation of thigh for suppuration in sheaths tendons thigh and leg; from erysipelas.		
79	U	Total; face of the patella; condyles and head of tibia; 2 in. bone in all.	Recovered in 82 days.	7⅞	Walks perfectly; seems a mere appendage when compared to other limb.	84	
80	?	Uncertain.	Recovered.	?	Amputation thigh for non-union and suppuration.	?	
81	U	Total excision.	Died, exhaustion, from diarrhœa and phthisis, 24th day.	Moderate.	.....	?	
82	?	Total excision.	Died, phthisis, 30 weeks.	?	In six weeks external wound healed; no bony union followed.	?	
83	?	Total excision.	Died, pyæmia.	?	.....	?	
84	?	Total excision.	Recovered.	?	"Success complete."	?	
85	?	Total excision.	Died.	?	.....	?	
86	?	Total excision.	Recovered.	?	"Perfect result."	?	
87	?	Total excision.	Recovered.	?	"Perfect result."	?	
88	.....	Portions of fractured patella.	Recovered.	.....	"Movements of joint and limb preserved."	?	
89	.....	Entire patella.	Recovered.	.....	"Amputation."		
90	?	Total excision.	Died, 10 days, pyæmia.	?	.....	?	
91	H	Total; ends tibia and femur; 2 in. patella.	Recovered, 8 months.	?	"Walked 15 miles easily; the result perfect."	8	Says patella should always be removed. See Conservative Surgery, p. 169.
92	U	Total; patella scraped; 2½ in. femur; 1 inch tibia.	Recovered, 9 months.	9	"Atrophy entire limb; movable flail-like joint; firm cartilaginous union; with leather knee-cap walks, and works hard as boat builder."	68	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
93	Butch. Surg. p. 18; Pén. ta. 79; Heyfeld. ta. 81.	Erichsen, J. E., 6 Cavendish Place, W. London.	Univ. College Hospital, London.	?	M. 7	?	Feb. 15, 1854.	S.	Chronic arthritis.
94	Butch. Surg. p. 19; Pén. ta. 81; Heyfeld. ta. 83.	Mackenzie, R. J., Edinburgh	Royal Infirmary Edinb'rgh	Scotland. Extensive deposit miliary tubercles lungs.	M. 12	?	April 15, 1854.	S.	Caries ends tibia and femur.
95	Butch. Surg. p. 70; Pén. ta. 91; Hodges' ta. 31; Smith's Price.	Pirrie, Aberdeen.	Royal Infirmary Aberdeen	Scotland.	M. 10	?	May 17, 1854.	S.	Chronic arthritis.
96	Edinb. Med. and Surg. Jour. 1856; Rank. Abst. No. 23, p. 190; Pén. ta. 93.	Brotherston, P., Alloa, Scotland.	Alloa Hospital, Scotland.	Strang, Robt., Clackmannan Scotland. "Strumous, pale, and emaciated."	M. 10	2 years' standing.	May 19, 1854.	S.	Chronic arthritis, with pain and swelling of joint; sinuses.
97	Butcher's Surg. p. 19; Braith. Retro. Part 31, p. 108.	Keith, Wm., Aberdeen.	Royal Infirmary Aberdeen.	Reith, John, Scotland. "Very scrofulous; pulse 120."	M. 14½	6½ years' standing.	May 17, 1854.	S	Abscesses; sinuses; great enlargement and rectangular flexion of joint; wasting limb; from sprain.
98	Butcher's Surg. p. 20; Hodges' ta. 23; Pén. ta. 25; Heyfeld. 86.	Fergusson, William, 16 George St., W. London.	King's College Hospital, London.	England.	M. 10	Several years' standing.	July 29, 1854.	S.	Chronic arthritis, with disorganization joint.
99	Butcher's Surg. p. 20; Heyfeld. ta. 85.	Jones, G. M., Jersey Isl'nd.	Jersey Hospital, English Channel.	Jersey Island, English Channel. "Has lumbar abscess."	F. 18	?	July 1854.	S.	Caries of joint.
100	Butch. 2d ta.; Hodges' ta. 28; Pén. ta. 75; Heyfeld. ta. 78.	Holt, B. W., 14 Saville Row, W. London.	Westminster Hospital, London.	England. "Health suffered materially; grave constitutional symptoms."	M. 8	2 years' standing.	Aug. 7, 1854.	S.	Caries end of femur; pulpy degeneration of synovial membrane; great swelling knee; from blow by brick
101	Butch. 3d ta. No. 3; Hodges' ta. 33; Pén. ta. 70.	Fergusson, William, 16 George St., W. London	King's College Hospital, London.	England. "Anæmic and almost bloodless."	M. 10	?	Aug. 19, 1854.	S	Extensive disease of joint
102	Hodges' ta. 28; Pén. ta. 86; Heyfeld. ta. 87.	Statham, H. W., Woburn Place, London	Univ. College Hospital, London.	England.	F. 20	?	Aug. 26, 1854.	S.	Chronic arthritis, with large sinuses.
103	Butch. Surg. pp. 21 and 71.	Lansdown, P. F., Bristol, England.	Bristol Infirmary	England. Irritable and highly nervous.	F. 12	?	Sept. 26, 1854.	S.	Chronic arthritis.
104	Hodges' ta. 30; Butch. Surg. p. 21; Pén. ta. 88.	Erichsen, J. E. 6 Cavendish Place, W. London.	Univ. College Hospital, London.	England.	M. 6	2 years' standing.	Oct. 11, 1854.	S.	Caries tibia and patella.
105	Butch. Surg. p. 21; Smith's Price, p. 113; Pén. ta. 87.	Smith, Henry, 82 Whimpole St., W. London.	Westminster Hospital, London.	England. "Health much shaken."	M. 6	1 year's standing.	Oct. 18, 1854.	S.	Abscess, and circumscribed deposition of strumous matter in head of tibia joint flexed.
106	Butch. Surg. p. 71; Rank. Abst. No. 23, p. 188.	Humphry, C. M., Cambridge.	Addenbrooke, Hospital, Cambridge.	Hobbs, Eliza, England. "Strumous."	F. 20	?	Oct. 27, 1854.	S.	Chronic arthritis.
107	Butch. Surg. p. 72; Pén. ta. 73; Heyfeld. ta. 75.	Pirrie, Aberdeen.	Royal Infirmary Aberdeen	Scotland.	M. 14	?	Nov. 4, 1854.	S.	Chronic arthritis.
108	Butch. Surg. p. 73; Pén. ta. 74.	Hughes, R., Stafford, England.	Staffordshire Infirmary	England.	F. 27	?	Nov. 16, 1854.	S.	Chronic arthritis; abscess thigh leading into joint.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
93	⌣	Total; patella gouged; 2 inches femur; slice tibia; latter gouged.	Recovered, 1 year.	.....	Anchylosis; walked; not able to stand motionless.	12	
94	⌣	Total excision.	Died, 12 days, phthisis.	?	.....	?	
95	?	Total; patella gouged; 1¾ inches removed.	Recovered, 4 months.	?	Amputated in 3 weeks for hectic and suppurative fever.	4	
96	Single transverse.	Total; cartilage from inner surface patella; ¾ inch condyles; ½ in. tibia.	Recovered, 7 months.	1861 1¼	"Walked and ran in 18 months; may be seen walking the streets of Alloa every day, with but little impediment."	84	
97	U	Total; patella pared; 1⅝ inches femur; ⅝ in. tibia.	Recovered, 115 days.	2½	"Anchylosis; no uneasiness; walked a mile."	5	Died one or two years after operation.
98	H	Total; patella gouged; condyles and 1 inch shaft femur; articular surface tibia.	Recovered, 7 months.	?	"Not able to stand erect and motionless, but able to walk; eventually walked with little halt."	7	
99	H	Total excision.	Recovered, 10 months.	?	Amputation for necrosis and caries.	10	
100	+	Total; patella saved; 1 inch femur; ¾ in. tibia.	Recovered, 13 months.	?	"Anchylosis perfect; walks and runs without difficulty."	13	
101	H	Total excision.	Died, 5th day, exhaustion.	?	.....	?	
102	Lateral flaps.	Total; patella 1 in. from femur and tibia.	Recovered, 6 months.	?	Moves about with aid of chair; "joint healed."	6	
103	?	Total excision.	Recovered, 27 months.	6	Walked without crutch in house, with one out doors; protruded femur subsequently exfoliated.	27	Patient so restless that limb could not be kept in apposition.
104	⌣	Partial; patella gouged; tibia 1 in.; femur not touched.	Recovered, 4 months.	?	"Anchylosis; result good."	4	
105	⌣	Total excision; 2 in. removed.	Recovered, 6 months.	5	Head of tibia drawn back; wound healed; limb flexed at right angle; wears apparatus to walk; Smith says limb very useful.	62	
106	H	Total; patella; ¾ in. condyles; thin slice tibia.	Recovered, 10 months.	?	"Walked without support."	11	
107	?	Total; end bones, 2 inches.	Recovered, 6 weeks.	?	Amputation thigh, 9th day, for gangrene; from erysipelas.	1½	
108	H	Total; patella and ends bones.	Recovered, 1 year.	.....	"Walked 4 miles without fatigue; still a fistula; robust health."	17	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
109	Butch. Surg. p. 73; Pén. ta. 92.	Fergusson, William, 16 George St., W. London.	King's College Hospital, London.	England. "Strumous; yet health pretty good."	M. 4	?	Dec. 16, 1854.	S.	Caries head of tibia; chronic arthritis.
110	Pén. ta. 69; Hodges' ta. 111.	Piorry, England.	? England.	?	M. 10	?	1854.	S.	Chronic arthritis.
111	Hodges' ta. 73; Pén. ta. 75; Heyfeld. ta. 77.	Fergusson, William, see Case above.	King's College Hospital, London.	?	M. 8	?	1854.	S.	Chronic arthritis.
112	Pén. ta. 89.	Kemp, Arthur Exeter, England.	England.	?	F. 33	?	1854.	S.	Chronic arthritis.
113	Smith's Price, p. 101; Pén. ta. 90.	Heath, C., Newcastle.	Newcastle Infirmany England.	England.	M. 14	?	1854.	S.	Chronic arthritis.
114	Heyfeld.ta.Par. Res. No. 5.	Erichsen, J.E. see Case 93.	Univ. College Hospital, London.	England.	?	?	1854.	S.	Caries.
115	Butch. Surg. p. 74; Rank. Abst. No. 23, p. 191; Pén. ta.	Brotherston, P., Alloa.	Alloa Hospital.	Scotland. "Great constitutional irritation from acute pain."	M. 11	?	Jan. 12, 1855.	S.	Chronic arthritis, with ulceration of cartilages and suppuration of joint; sinuses.
116	Smith's Price, p. 92; Braith. Retro. Part 36, p. 142.	Keith, Wm., Aberdeen.	Royal Infirmary Aberdeen	Thompson, John, Scotland. "Strumous; emaciated."	M. 33	11 mos. standing.	Mar. 10, 1855.	S.	Diffuse strumous infiltration head bones; abscess head tibia; abscess thigh; deep pain.
117	Am. Jour. Med. Sci. N. S. xxxii. 558.	Alexander, William J., Salem, Va.	Salem, Virginia.	Eller, John, Salem, Va. "Good health."	M. 60	April 6, 1855.	April 6, 1855.	P.	Lacerated wound opening knee; comm. fracture of patella; ¼ inch of condyles cut off; from circular saw.
118	Butcher's Surg. p. 75.	Tatum, T., London.	Saint George's Hospital, London.	England.	M. 18	Some years' standing.	May 1, 1855.	S.	Abscess; suppuration; ulceration of cartilages; pulpy degeneration of joint.
119	Butch. Surg. p. 76; Rank. Abst. No. 23, p. 189; Heyfeld. ta. 94, Smith's Price, p. 74.	Humphry, C. M. Cambridge	Addenbroke Hospital, Cambridge.	Wells, Edw., England.	M. 47	6 mos. standing.	May 4, 1855.	S.	Chronic arthritis; from fracture of patella; joint very tender; no extension of limb.
120	Smith's Price, p. 121.	Heusser, F., Hombrechtikon, Zurich.	Germany.	Blumer, Jacob Rüti, Glarus. "Has hectic."	M. 26	5 years' standing.	May 12, 1855.	S.	Chronic arthritis; cause unknown.
121	L. Lancet. ii. 229, 1855; Pén. ta. 98; Smith's Price, p. 106.	Birkett, J., 59 Green St., Grosvenor Sq. W. London.	Guy's Hospital, London.	A——, W., England.	M. 35	2¼ years' standing.	May 29, 1855.	S.	Chronic arthritis.
122	Am. Jour. Med. Sci. N.S. xxxiii. 249.	Jones, G. M., Jersey Island.	Jersey Hospital, Jersey Island.	Noel, Elizabeth, England "Emaciation; anorexia; insomnia."	F. 9	2 years' standing.	Aug. 20, 1855.	S.	Caries of tibia; dislocation of tibia and fibula.
123	Butch. 3d ta. 15; Pén. ta. 99.	Holt, B. W., see Case 142.	Westminster Hospital, London.	England. "Greatly emaciated."	F. 47	7 mos. standing.	Aug. 24, 1855.	S.	Chronic arthritis; joint flexed.
124	Butch. Surg. p. 96; Pén. ta. 126; Rank. Abst. Pt. 23, p. 190; Braith. Retro. Part 41, p. 118.	Humphry, C. M., Cambridge.	Addenbroke Hospital, Cambridge.	Childs, Wm., England. "Pale, but not unhealthy."	M. 12	3 years' standing.	Aug. 31, 1855.	S.	Recurring flexion of leg after extension of joint and division of tendons; fibrous anchylosis; from injury and acute inflammation.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
109	H	Total; 1½ in. bone.	Recovered.	?	"Success complete; member very fair."	21	
110	?	"Uncertain."	Recovered, 3 months.	?	Amputation of thigh.	?	
111	H	Total, and patella.	Recovered, 5 months.	?	"Perfect result."	5	
112	?	Total, and patella,	Recovered.	?	"Result good."	?	
113	?	Total; large incision.	Recovered.	Great shortening	"Walked steadily with a stick; about to embark for Australia."	After 72	
114	⌣	Partial; superior end tibia and fibula.	Uncertain.	?	?	?	
115	Transverse.	Total; cartilage inner surface patella; ¾ inch condyles femur; ½ inch head tibia.	Recovered, 22 months.	?	Bony union; walked the streets without support and with but little impediment.	36	
116	⌣	Total; 1½ in. femur; ½ inch tibia.	Recovered, 7½ months.	?	Amputated to save life; abscesses in thigh, and diarrhœa.	25½	
117	None; skin divided with saw.	Partial; patella; the separated condyles.	Recovered, 7 weeks.	?	"Entirely recovered; walks well, often without stick; less strength of knee walking on an inclined plane."	7	
118	H	Total; patella saved; ½ inch of ends of tibia and femur.	Died, 17 days, pyæmia.	?	.....	?	
119	H	Total; fragments of patella; ¾ inch of condyles; thin slice of tibia.	Recovered.	?	"Able to travel 20 miles a day; perfect use of limb."	15	
120	?	Total excision.	Recovered, 48 weeks.	?	Amputation at 48 weeks for non-union; fibrous union; limb useless.	11½	
121	⌣	Total; ends of tibia and femur; patella.	Recovered.	?	Amputation of thigh at 38 days for hospital gangrene.	3	"Bones could not be kept in apposition."
122	Longitudinal for tibia; U, for knee.	Total; patella gouged; surface of tibia gouged entire length; large portion of joint ends; head of fibula; sequestrum of head of fibula.	Recovered, 2 months.	?	"Walks quickly about with her companions."	Over 3	
123	⌣	Extremities of the bones.	Died, 18 days, exhaustion, from bed-sores and sloughing over sacrum.	?	Post mortem showed parts doing well.	?	
124	+	Total; thin slice from tibia and greater from femur.	Recovered, 2 months.	1	"At 5 months wound healed and he walked well; firm bony union; no greater shortening than soon after operation."	48	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
125	Butch. Surg. p. 79; Hodges' ta. 45; Heyfeld. ta. Part. Res. 5.	Statham, H. W., Woburn Pl., London.	Univ. College Hospital, London.	England. Strumous.	F. 5	?	Sept. 1855.	S.	Suppuration and absorption of cartilages of joint; end of femur enlarged; pulpy degeneration.
126	Lyon's ta. 2; Pén. ta. 103.	Baum, Prof., Göttengen.	Germany.	?	F. 34	?	Nov. 30, 1855.	S.	Joint swollen, with sinuses, suppuration, and abscesses in calf of leg.
127	Pén. ta. 102; Heyfeld. ta. 91.	Ried, Fr., Jena, Germany.	Germany.	Germany.	M. 23	?	1855.	S.	Chronic arthritis.
128	Hodges' ta. 147; Pen. ta. 145; Heyfeld. ta. 101.	Ried. Prof., Jena, Germany.	Germany.	?	M. 33	?	1855.	?	Caries.
129	Heyfeld. ta.100.	Langenbeck, B., Berlin, Germany.	Germany.	?	F. 34	?	1855.	S.	Caries.
130	Pén. Res. du Genu, p. 94.	Langenbeck, B., Berlin, Germany.	Germany.	?	F. 24	?	1855.	S.	Carcinomatous tumor engrafted on the patella.
131	Smith's Price, p. 68; Butcher's Surg. p. 80; Pén. ta. 104.	Fergusson, W., see Case 45.	King's College Hospital, London.	Gasson, ——, England. "Health suffering only from irritation of joint."	M. 18	Long standing.	Feb. 2, 1856.	S.	Pulpy degeneration of synovial membrane; ulceration of cartilages of joint; erosion of bone.
132	Butch. Surg. p. 81; Hodges' ta. 47.	Erichsen, J.E. see Case 93.	Univ. College Hospital, London.	England. Health much impaired.	M. 22	6 years' standing.	Feb. 6, 1856.	S.	Destruction of articular cartilages, and suppuration of joint; abscess of end of tibia.
133	Butch. Surg. p. 82; Pén. ta. 109.	Coe, R. W., 3 Great George Street, Bristol.	Bristol Hospital.	Ireland.	M. 6	?	Feb. 9, 1856.	S.	Acute arthritis; pulpy degeneration of synovial membrane.
134	Smith's Price, p. 67; Butch. Surg. p. 82; Braith. Retro. Part 44, p. 79; Lyon's ta. 3; Syd. Year Book, v. 236.	Fergusson, Wm., see Case 45.	King's College Hospital, London.	England. A housemaid; healthy-looking.	F. 20	Over 2 years' standing.	Mar. 1, 1856.	S.	Chronic synovitis; abscess; caries; acute flexion of joint; from blow on knee (stone).
135	Lyon's ta. 3.	Baum, Prof., Göttengen.	Germany.	Germany. "Has hectic."	F. 32	16 mos. standing.	Mar. 5, 1856.	S.	Suppuration and fistula of joint.
136	Smith's Price, p. 107; Butch. Surg. p. 83.	Stanley, London.	St. Bartholomew's Hospital, London.	England.	F. 15	Over 1 yrs. standing.	Mar. 29, 1856.	S.	Destruction of articular cartilages, and caries of articular surfaces of joint.
137	Butcher's Surg. p. 85.	Cutler, Edw., 15 New Burlington St., W. London.	Saint George's Hospital, London.	D——, Robt., England. "Has rigors."	M. 15	Over 15 mos. standing.	April 17, 1856.	S.	Thickening of synovial membrane; caries of surface of femur, tibia, and patella, and great pain in joint.
138	Butcher's Surg. p. 85.	Marett, Jersey Island.	Jersey Hospital, Jersey Island.	England.	F. 19	?	April 17, 1856.	S.	Caries of joint.
139	Butch. Surg. p. 84; Smith's Price, p. 84.	Bowman, William, 5 Clifford St., W. London.	Private practice, London.	England. "Phthisical."	F. 30	18 mos. standing.	April 1856.	S.	Pulpy degeneration of synovial membrane.
140	Smith's Price, p. 184; Lancet, i. 77, 1857; Ibid. i. 110, 1859; Pén. ta. 113.	Price, P. C., Margate.	Metropolitan Infirmary Margate.	P——, Sarah, London, England. Slim, dwarfed and extremely emaciated.	F. 15	5 years' before.	May 17, 1856.	S.	Destruction of synovial membrane and cartilages, and strumous deposits in joint; abscess of head of tibia.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
125	?	Total; patella saved; 2 inches of end of femur; head of tibia gouged.	Recovered.	?	At 15 months imperfect result; leg should have been amputated.	15	Unrelieved.
126	?	Total.	Died, 6 weeks, exhaustion, from suppuration and diarrhœa.	?	.....	?	
127	?	Total excision.	Recovered, 3 months.	?	"Bad result; consolidation, but member wasted."	5	
128	?	Total excision (extensive).	Died, 17 days, pyæmia.	?	.....	?	
129	I	Total excision.	Recovered.	?	Healed without callus.	?	Longitudinal incision to one side of patella.
130	()	Total and free patella; excision of ends of bones.	Died, cancer, viscera generally.	.....	Cicatrization proceeded well.	?	
131	H	Total; patella scraped; 1 inch of femur; ½ inch of tibia.	Recovered, 2 months.	But little.	"Knee stiff; walks without crutches all day; works at a laborious occupation; sole of shoe only a little thick."	48	
132	U	Total; patella gouged; 1½ inches of femur; ¾ inch of tibia.	Recovered, 5 months.	?	"Walks easily with a high-heeled shoe; small sinus; slight discharge."	5	
133	U	Total; patella saved; little more than ½ inch of femur; ¼ inch of tibia; latter gouged.	Recovered, 10 weeks.	?	"Member very useful."	2½	
134	H	Total; patella scraped; ¾ inch of femur; 1½ inches of tibia; latter gouged.	Recovered, 5 months.	?	Antero-posterior motion of joint; at 17 months walked and jumped on limb; after 4 years injured knee by fall; destructive inflammation came on; limb amputated; recovered.	48	
135	?	Total excision.	Recovered.	?	Amputation 8 months after for non-union and suppuration.	Over 8	
136	U	Total; patella saved; thin slice of condyles, and head of tibia.	Recovered, 6 weeks.	.....	Amputation of thigh May 10, for displacement of limb and suppuration in joint, and to save life.	5	
137	Curved	Partial; end of femur; carious spot in tibia and patella gouged.	Died, 3 months after operation, of exhaustion.	.....	Joint open and discharging freely.	?	
138	U	Total; patella; articular surfaces of tibia and femur.	Recovered, 7 months.	.....	"Walked with stick and the support of another person; took erysipelas, which resulted in abscess of thigh."	7	The walking was after the recovery from erysipelas.
139	U	Total; 1½ inches of femur; ¾ inch of tibia.	Died, 5 months, phthisis.	.....	Patella slipped in between end of bones; want of firm union; bones not kept quite in apposition; sinuses up thigh; no pain.	?	
140	H	Total; patella; one inch of articular surface of femur; ¾ inch of tibia; abscess in; head tibia gouged.	Recovered, 6 months.	2	At 2 years firm union; able to do her ordinary duties with comfort; walks without support; in 1860 useful limb, but fistula.	56	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
141	Butcher's Surg. p. 87; Heyfeld. ta. 110.	Moore, Ed., Hales Owen, London.	Middlesex Hosp. London.	England. "General health good."	M. 24	?	May 21, 1856.	S.	Acute symptoms of deform ity and luxation at knee joint painful and swollen
142	Pén. ta. 146; Lancet, ii. 249, 1857.	Holt, B. W., 14 Saville Row, W. London.	Westminster Hospital, London.	England.	F. 23	?	May 23, 1856.	S.	Chronic arthritis.
143	Butch. Surg. p. 87; Pén. ta. 116; Heyfeld. ta. 111.	Fergusson, Wm., see Case 45.	King's College Hospital, London.	England. "Strumous."	F. 26	Many years' standing.	May 24, 1856.	S.	Ulceration of cartilage sur face of patella; necrosi of ends of bones, and pulp degeneration of synovia membrane of joint.
144	Butch. Surg. p. 88; Pén. ta. 117; Heyfeld. ta. 112.	Windsor, T., Manchester.	Salford Royal Hospital.	England. "Cough expectoration and night sweats."	M. 18	2 years' standing.	May 29, 1856.	S.	Ulceration of cartilages an ligaments; thickening synovial membrane an flexion of joint; caries femur; from walking.
145	Butch. Surg. p. 100; Pén. ta. 136. Smith's Price, p. 103.	Hey, Samuel, 1 Albion Place, Leeds.	Leeds General Hospital.	England. "Delicate."	F. 11	4 years' standing.	May 1856.	S.	Ulceration of cartilages degeneration of synovia membrane; softening ends of bones and sinuse of joint; joint stiff at 45°
146	Butch. Surg. p. 90; Pén. ta. 118; Heyfeld. ta. 113.	Jones, G. M., Jersey Island.	Jersey Hospital.	Jersey Island, English Channel.	F. 23	4 years' standing.	June 20, 1856.	S.	Chronic arthritis; fro blow on knee.
147	Am. Jour. Med. Sci., N. S., xxxviii. 70; Letter, 1872.	Kinlock, R.A., Charleston, S. C.	Roper Hospital, Charleston.	Shea, Mrs. Ann, South Carolina. "Bed-ridden 1 year before operation; some suspicious of syphilis."	F. ov'r 58	Long continu'd	June 24, 1856.	S.	Chronic inflammation cartilages; long-continue suppuration of joint; c ries of right tibia and f mur.
148	Butch. Surg. p. 91; Pén. ta. 119; Heyfeld. ta. 114.	Erichsen, J. E., see Case 93.	Univ. Hospital, London.	England. "Health delicate."	M. 9	?	July 2, 1856.	S.	Semi-flexion; enlargemen pulpy thickening of syn vial membrane; caries joint.
149	Butch. Surg. p. 100; Heyfeld. ta. 133; Smith's Price, p. 103.	Hey, Samuel, see Case 145.	Leeds General Hospital.	England.	F. 36	3 years' standing.	July 12, 1856.	S.	Ulceration of cartilages a surface of bones; degen ration of synovial mem brane of joint; from kic by a horse.
150	Lancet, ii. 249, 426, 1857.	Walton, H. H., 1 Brook St., Hanover Sq., W. London.	St. Mary's Hospital, London.	England. "Health about to give way."	F. 14	From childhood.	July 15, 1856.	S.	Ulceration of cartilages a bones, with enlargeme and tenderness of joint.
151	Butch. Surg. p. 91; Pén. ta. 120; Heyfeld. ta. 115.	Humphry, C. M., Cambridge.	Addenbroke Infirmary, Cambridge.	Hodson, Thomas, England. "Thin, pale, and unhealthy looking."	M. 29	3 years' standing.	July 18, 1856.	S.	Ulceration of cartilage disease of synovial mem brane; caries and absce of joint.
152	Butch. Surg. p. 92; Smith's Price, p. 74.	Humphry, C. M., Cambridge.	Addenbroke Infirmary, Cambridge.	Cawley, John, England. "Spare, sallow, and unhealthy looking."	M. 20	3 years' standing.	July 18, 1856.	S.	Thickening of synovi membrane, and ulcerati of cartilages; great swe ing of joint.
153	Smith's Price, p. 184; Butch. Surg. p. 93; Pén. ta. 121; Lancet, i. 78, 1857; Id., i. 111, 1859.	Price, P. C., Margate.	Metropolitan Hospital, Margate.	F——, James, England. "Very irritable."	M. 9	4 years' standing.	July 28, 1856.	S.	Suppuration; pulpy d generation of synovi membrane; destruction cartilages; diffuse infiltr tion of ends of bones; joi abscess articular.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
141	?	Total; patella saved; cartilaginous surfaces of joint, and layer of bone beneath.	Died, 4 days, of excessive hemorrhage	?	.....	?	Regarded by Hodges as a case of anchylosis. See Pénières, p. 86.
142	?	Total excision; patella saved.	Recovered, 3 months.	?	"Walked in 6 weeks without support."	3	
143	H	Patella saved; one inch of femur; one inch of tibia.	Died, 10 days, phlebitis, pleuritis, and vomicæ	?	.....	?	
144	H	Total; surface of patella and tibia with a chisel; 1½ inches of femur.	Died, 16 weeks, exhaustion.	.....	Amputated in 15 weeks, as cough was worse and weakness greater and leg not healing.	.....	Had hemorrhage three hours after operation; arrested by actual cautery, followed by turpentine.
145	U	Total; patella saved; 1½ inches of femur; ½ inch of tibia; subsequently the projected end of femur.	Recovered.	?	At 7 months union not completed; later completed.	After 7	
146	H	Total excision.	Recovered, after 4 months.	?	"Member very useful."	4	Had erysipelas of limb, and 1 month after a 2d attack.
147	Symes ⊂	Total; patella; thin slice of tibia; whole thickness of condyles of femur.	Recovered.	?	Bony anchylosis; able to walk; some discharge from head of tibia continued.	24	Died of cancer of breast 2 years after operation.
148	⌣	Total; "thin slice of both bones."	Recovered, 2 months	?	"Walked with a high-heeled shoe; anchylosis; healed."	2	Had slight attack of erysipelas.
149	⌣	Total; inner surface of patella pared; 2 inches of femur and tibia.	Recovered.	?	At 6 months union of bones not completed; afterwards union perfected.	After 6	
150	?	Total; patella; 2 or 3 slices from end of each bone.	Died, 10 days, acute peritonitis.				
151	+	Total; patella and articular ends of bones.	Recovered, 4 months.		"Walked without support."	4	
152	+	Total; patella and articular ends of tibia and femur.	Recovered, 109 days.	?	Amputation for exhaustion from suppuration Nov. 4, 1856.	3¾	
153	H	Total; patella; ¾ in. of condyles; ¼ inch of tibia.	Recovered, after 22 months.	?	Only fibrous and very flexible union; removal of carious bone; exhaustion; non-union; amputation 27th month; useful stump 1860.	48	This case, No. 18, Hodges' table for anchylosis, is not included under that form of excision. See Pénières, p. 86.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
154	Butch. Surg. p. 95; Pén. ta. 123.	Partridge, R., 18 Wimpole St., W. Lond.	King's College Hospital, London.	F——, Fred., England. "Pale, strumous looking."	M. 23	?	July 30, 1856.	S.	Ulceration of cartilages and pulpy degeneration of synovial membrane of joint; abscess above knee.
155	Letter, 1872.	Sayre, L. A., 285 5th Ave., New York.	No. 57 7th Avenue, N. York.	W——, John, New York.	M. 28	10 years' standing.	July 1856.	S.	Chronic arthritis; ulceration of cartilages, and caries of joint.
156	Butch. 3d ta. 36; Smith's Price, p. 80.	South, J. F., Blackheath Park, S. E. London.	St. Thomas' Hospital, London.	England.	F. 40	Many years' standing.	Aug. 9, 1856.	S.	Chronic arthritis and abscess of joint.
157	Butch. Surg. p. 96; Hodges' ta. 61.	Brace, W. H., Bath.	Bath Hospital, Bath.	England.	M. 27	18 mos. standing.	Aug. 16, 1856.	S.	Abscess; degeneration of synovial membrane; articular cartilages of joint destroyed over tibia; softening of head of tibia.
158	Butch. Surg. p. 97; Pen. ta. 127; Smith's Price, p. 94.	Square, H., Plymouth.	Plymouth Hospital.	England. "Delicate and strumous."	M. 11	?	Aug. 25, 1856.	S.	Chronic arthritis.
159	Butch. Surg. p. 94; Pén. ta. 247; Heyfeld. ta. 117.	Coe, R. W., Bristol.	Bristol General Hospital.	England. "Well-marked strumous habit."	M. 4½	3 years' standing.	Aug. 28, 1856.	S.	Abscess; pain; fistulæ; thickening of synovial membrane of joint; necrosis of tibia.
160	Smith's Price, p. 111; Pén. ta. 150.	Mayo, Chas., Winchester.	Winchester Hospital.	Curtis, David, England.	M. 15	?	Sept. 25, 1856.	S.	Chronic arthritis; ulceration of articular surfaces; erosion of head of tibia; limb permanently flexed.
161	Butch. Surg. p. 97; Pén. ta. 128.	Thompson, Sir H., 35 Wimpole St., W. Lond.	Univ. College Hospital.	England.	M. 37	3 years' standing.	Oct. 1, 1856.	S.	Dislocation and anchylosis in bad position; talipes equinus of other foot.
162	Butcher's Surg. p. 101.	Quain, Rich., 32 Cavendish Sq., W. Lond.	Univ. College Hospital.	England. "Worn out with suffering."	M. 26	4 years' standing.	Oct. 9, 1856.	S.	Abscess; degeneration of synovial membrane; absorption of cartilages; sinuses and enlargement of joint.
163	Butch. Surg. p. 102; Pén. ta. 108.	Nichols. W., Norwich.	Norwich Hospital.	England.	F. 19½	2 years' standing.	Oct. 11, 1856.	S.	Chronic synovitis, with partial absorption of cartilages.
164	Butch. Surg. p. 98; Pén. ta. 129; Heyfeld. ta. 124; Smith's Price, p. 69.	Fergusson, W., see Case 45.	King's College Hospital.	England.	F. 28	11 mos. standing.	Oct. 11, 1856.	S.	Chronic arthritis; extensive disease of joint from a fever following childbirth.
165	Butcher's Surg. p. 98.	Page, B. W., Carlisle.	Carlisle General Hospital.	England.	F. 12	Long standing.	Oct. 13, 1856.	S.	Chronic arthritis; destruction of cartilaginous surface of femur, and flexion of joint.
166	Butcher's Surg. p. 98; Smith's Price, p. 186; Hodges' ta. 65; Pén. ta. 131.	Price, P. C., Margate.	Private practice, Margate.	England. "Greatly reduced."	F. 23	Long standing.	Oct. 15, 1856.	S.	Ulceration of cartilages; caries; condyles of femur; abscess and necrosis of head of tibia; abscesses in front joint. 21. Re-excision for necrosis of patella and abscesses.
167	Butch. Surg. p. 99; Pén. ta. 132.	Page, B. W., Carlisle.	Carlisle General Hospital.	England.	F. 19	12 years' standing.	Oct. 27, 1856.	S.	Rectangular flexion of joint; articular cartilage external condyle converted into fibrous membrane; small necrosis of head of t.b.a.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
154	H	Total; articular ends of femur and tibia.	Uncertain.	?	Wound cicatrizing; no pain; abscess above knee closing; able to sit up in bed.	1	
155	H	Total; patella; condyles of femur; head of tibia.	Died, 6 weeks, pyæmia.	?	Wound did not heal.	?	
156	U	Total; 1½ inches of femur; 1 inch of tibia.	Recovered.	?	Sept. 6, 1856, wound healed; limb little twisted; tends to turn inward; "leg at a somewhat acute angle to thigh, but still a very useful member."	36	
157	U	Total; 1 inch of femur; ½ inch of tibia.	Died, 24 hours, shock.	?	.....	?	
158	H	Total; thin slice of patella; 2 inches of femur; ¼ inch of tibia; in 8 or 9 weeks the section of lower end of femur exfoliated.	Recovered.	?	January 1, 1857, amputation of thigh for necrosis of tibia and femur (ends); gained a useful stump.	4	
159	U	Total; ¾ inch of femur; ½ inch of tibia, and wedge-shaped portion of tibia.	Recovered, 9 months.	?	Limb amputated.	9	
160	H	Total; patella saved; ½ inch of condyles of femur, and another slice from them; ½ inch of tibia.	Recovered, 5 months.	?	Wound healed; for two years used his limb as the other in the roughest manner, wheeling and carrying loads.	46	Died of erysipelas July 15, 1860.
161	?	Total; articulating surfaces of femur and tibia.	Died, 11 weeks, from erysipelas and suppuration.	?	Doing well until took erysipelas; 5th week consolidation progressing; union broken up.	?	
162	H	Total; 1 inch of femur; thin layer of tibia.	Died, 13 days, delirium.	?	.....	?	
163	U	Total; patella; condyles of femur; articulating surface of tibia.	Recovered, 9 months.	?	Amputation.	?	
164	H	Total excision.	Died, 6 weeks, of anæmia and exhaustion.	?	.....	.....	Post mortem showed limited abscesses in end of femur.
165	?	Total; 1 inch of femur; thin slice of tibia.	Recovered.	?	"Limb quite firm and straight."	1½	
166	H	Total; patella saved; 2½ inches of ends of tibia and femur; patella at 2d operation.	Recovered, 1 year.	?	Stands upright without fatigue; can endure any amount of fatigue.	36	
167	U	Total; ½ inch of end of tibia, and 1 inch of patella, which was united to femur.	Recovered.	?	"Limb straight; general health as good as could be expected."	?	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
168	Butcher's Surg. p. 99; Smith's Price, p. 85; Pén. ta. 133.	Bowman, William, see Case 139.	King's College Hospital, London.	England.	F. 16	3 years' standing.	Nov. 1, 1856.	S.	Acute flexion; luxation; fibrous anchylosis; absorption of articular cartilages of joint; with softening of ends of bones.
169	Butcher's Surg. p. 99; Heyfeld. ta. 129; Lancet, ii. 337, 1861.	Jones, G. M., Jersey Island.	Jersey Hospital.	Jersey Island, English Channel.	M. 7	3 years' standing.	Dec. 2, 1856.	S.	Degeneration of synovial membrane; ulceration of heads of femur and tibia; dislocation of tibia.
170	Butcher's Surg. p. 100; Smith's Price, p. 85.	Bowman, William, see Case 139.	King's College Hospital. London.	England.	F. 16	3 years' standing.	Dec. 6, 1856.	S.	Abscesses; flexion; absorption of cartilages, and degeneration of synovial membrane of joint.
171	Smith's Price, p. 99; Pén. ta. 122.	Edwards, A. M., Kildargardens.	Edinburgh.	Scotland.	M. 33	?	1856.	S.	Leg flexed on thigh; luxation of tibia posteriorly; from disease.
172	Pén. ta. 138; Heyfeld. ta. 136.	Langenbeck, B., Berlin, Germany.	Germany.	Germany. Has phthisis.	M. 40	?	1856.	S.	Chronic arthritis.
173	Pén. ta. 139.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	M. 25	?	1856.	S.	Chronic arthritis.
174	Pén. ta. 140.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	F. 18	?	1856.	S.	Chronic arthritis.
175	Pén. ta. 141.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	M. 19	?	1856.	S.	Chronic arthritis.
176	Pén. ta. 143; Heyfeld. ta. 139.	Partridge, R., see Case 154.	King's College Hospital, London.	England.	M. 30	?	1856.	S.	Chronic arthritis.
177	Heyfeld. ta. 140.	Wilms, Berlin, Germany.	Bethanien Hospital, Germany.	Germany.	M. 35	?	1856.	S.	Caries (traumatic).
178	Heyfeld. ta. 141.	Wilms, Berlin, Germany.	Bethanien Hospital, Germany.	Germany.	M. 17	?	1856.	S.	Caries (traumatic).
179	Heyfeld. ta. 142; Pén. ta. 148.	Fergusson, Wm., see Case 45.	Uncertain	England.	M. ?	?	1856.	S.	Chronic arthritis.
180	Smith's Price, p. 110; Pén. ta. 149.	Roser, Prof., Marburg.	?	Germany. "Scrofulous."	M. 14	?	1856.	S.	Caries condyle of femur.
181	Lyon's ta. 4; Hosp. Records, by C. C. Gray,	Parker, Willard, 41 East 12th Street, New York.	New York Hospital.	New York. "General state good."	F. 10	5 years' standing.	Jan. 13, 1857.	S.	Fistulæ leading to disorganized joint; from injury.
182	Butcher's Surg. p. 135.	Butcher, R. G., Dublin.	Mercer's Hospital.	Swift, Tim., Ireland. Rapid pulse; capricious appetite; slight wasting of body; general health much impaired.	M. 27	3 years' standing.	April 15, 1857.	S.	Local caries; degeneration of synovial membrane ulceration of cartilages from fall on knee.
183	Smith's Price, p. 74; Pén. ta. 196.	Humphry, C. M., Cambridge.	Addenbrooke Hospital, Cambridge.	England.	M. 10	?	April 24, 1857.	S.	Chronic arthritis; no ulceration or caries; bony surfaces being united by tough elastic tissue.
184	Lancet, ii. 309, 1857; Pén. ta. 161.	Fergusson, Wm., see Case 45.	King's College Hospital, London.	O——, Edw., England. Pale, weakly, and much reduced.	M. 34	18 years' standing.	May 2, 1857.	S.	Caries; abscess; very painful and stiff joint; from fall.
185	Hodge' ta. 100, and Letter of Dr. Hodges, 1874	Cabot, S., Boston, Mass.	Mass. General Hospital, Boston.	?	M 20	.....	May 6, 1857.	S.	Chronic arthritis of right knee.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
168	.....	Total; 1½ inches of tibia and femur.	Recovered.	?	Non-retention; necrosis of end of femur; suppuration; hence amputation after some weeks.	?	
169	H	Total; considerable portion.	Recovered, 9 months.	?	Amputation.	9	Operator died in 1861.
170	?	Total; 2 inches of bone removed.	Recovered.	.....	At first in precarious state; ultimately turned out remarkably well.	1	Appearance of abscess in parotid region.
171	?	Total excision.	Recovered, 8 months.	?	Amputation at 5 months.	8	
172	I	Total excision.	Died, exhaustion.	?	.....	?	
173	I	Total excision.	Died, pyæmia.	?	.....	?	
174	I	Total excision.	Died, pyæmia.	?	.....	?	
175	I	Total excision.	Died, pyæmia.	?	.....	?	
176	?	Total excision.	Recovered, 4 months.	?	"Result medium."	4	
177	?	Total excision.	Recovered, 6 months.	?	"Perfect use of member."	6	
178	?	Total excision.	Died, 13 days.	?	.....	?	
179	H	Total; patella saved.	Recovered.	?	Result perfect; patella movable, although ligamentum patellæ had been divided.		
180	?	Total excision.	Died, phlebitis.	?	.....	?	
181	?	Total; patella; ¾ inch of femur; ½ inch of tibia.	Died, 59 days, exhaustion.	?	Amputation at 45 days for caries of the extremity of the bone.	.....	Femoral vein plugged.
182	H	Total; patella saved; condyles to depth of ¼ inch; 1 inch of tibia; carious cavities of tibia gouged.	Recovered, 6 months.	Slight	Anchylosis; walks without support; endures hard labor.	8½	
183	Transverse below —	Total excision.	Recovered, 3 months.	?	Amputated at 41 days for general failure of health and suppuration.	3	
184	H	Total; patella saved; inner condyle absorbed; slice off outer condyle and tibia.	Recovered, 5 months.	?	Wound healed; anchylosis firm; limb straight; small fistula beneath border of patella; can rest on limb with splint applied.	5	
185	?	Total excision.	Recovered. 1 year.	.....	"Walks with ease."	12	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
186	Smith's Price, p. 76; Pén. ta. 194.	Humphry, C. M., Cambridge.	Addenbrooke Hospital, Cambridge.	England. "Little."	F. 5	"Recent"	May 9, 1857.	S.	Acute suppuration of joint.
187	Smith's Price, p. 75; Pén. ta. 193.	Humphry, C. M., Cambridge.	Addenbrooke Hospital, Cambridge.	England.	M. 35	?	May 15, 1857.	S.	Synovial membrane thickened; polypous growths, and partial ulceration of cartilages of joint; bones not diseased.
188	Smith's Price, p. 93.	Partridge, R., see Case 154.	King's College Hospital, London.	England.	M. 17	?	May 23, 1857.	S.	Chronic arthritis.
189	Lyon's ta. 5; Letter, Van Buren, 1872.	Van Buren, W. H., 100 E. 22d St., and Finnell, T. C., 132 West Houston St., New York.	Saint Vincent's Hospital.	Flanigan, Sarah, New York. "Strumous."	F. 28	?	May 27, 1857.	S.	Chronic synovitis; from injury.
190	Smith's Price, p. 73; Pén. ta. 218.	Humphry, C. M., Cambridge.	Addenbrooke Hospital, Cambridge.	K——, W., England.	M. 25	?	May, 1857.	S.	Chronic arthritis.
191	Smith's Price, p. 116; Boston Med. and Surg. Jour. lix. 409; Letter, J. C. Warren.	Warren, J. Mason, Boston.	Mass. General Hospital, Boston.	L——, D., United States. Handsome; fresh looking.	M. 32	3 years before.	June 5, 1857.	S.	Chronic arthritis; partial fibrous anchylosis; eight months before operation joint became swollen and painful; the result of rheumatic attack 3 years before.
192	Lancet, ii. 249, 1857; Smith's Price, p. 85.	Holt, B. W., see Case 142.	Westminster Hospital, London.	England. "Little."	M. 4½	?	June 30, 1857.	S.	Abscess of joint, and necrosis from injury.
193	Lancet, ii. 31, 1858; Pén. ta. 187; Smith's Price, p. 99.	Edwards, A. M., Edinburgh.	Edinburgh.	B——, C., Scotland. "Small and delicate."	M. 5	3 years' standing.	June, 1857.	S.	Rectangular flexion; slight motion; caries; abscesses and sinuses of joint.
194	Lyon's ta. 6.	Baum, Prof., Göttingen.	Germany.	Germany. Emaciation.	F. 17	?	July 7, 1857.	S.	Pain; swelling; fistulæ of joint; sub-luxation of tibia.
195	Lancet, ii. 426, 1857.	Tatum, T., London.	Saint George's Hospital.	Elderly.	M.	12 mos. standing.	July 9, 1857.	S.	Ulceration of cartilages; suppuration; erosion of bones; degeneration of synovial membrane of joint.
196	Lancet, ii. 250, 1857; Pén. ta. 183; Smith's Price, p. 68.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	F. 13	12 years' standing.	July 18, 1857.	S.	Chronic arthritis, with anchylosis in bent position, and disease of shaft of femur.
197	Smith's Price, p. 70.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	F. 31	9 years' standing.	July 18, 1857.	S.	Chronic arthritis; joint destroyed; from disease.
198	Smith's Price, p. 70; Pén. ta. 178; Heyfeld. ta. 151.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	F. 6½	3 years' standing.	July 22, 1857.	S.	Chronic arthritis.
199	Letter, 1872.	Sayre, L. A., 285 5th Ave., New York.	Bellevue Hospital.	S——, Wm., United States.	M. 34	Long standing.	July, 1857.	S.	Chronic suppuration of joint.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
186	Transverse —	Total excision.	Died, 22 days, purulent infection.	?	?	?	
187	Transverse below patella.	Total excision.	Recovered.	?	Amputated at 3½ months for declining health and diarrhœa.		
188	?	Total; 2½ inches.	Recovered.	At 2½ years 3½; later 4½.	Bowing outwards, being straightened for several years; followed a business which required a great deal of walking.	30	
189	H	Total; patella saved; nearly one inch of femur; ½ inch of tibia.	Recovered, 4 years.	.....	Several years afterwards limb improperly amputated; solid union shown, and a loose disk bone in each articular head of tibia, which kept up the discharge.	180	
190	—	Total excision.	Recovered, 7 months.	?	At 7 months walks firmly; in 1860 limb but slightly inferior to its fellow in size and utility.	39	
191	U	Condyles of femur and head of tibia; a tubercular cavity was afterwards gouged out of latter.	Recovered, in 2 months.	?	Occasionally walked a mile to a society meeting; "some discharge about knee; bony anchylosis."	After 6	
192	?	Total excision; patella saved; "slice of tibia and femur; necrosed bone in posterior portion of femur."	Recovered.	?	Amputated 2 or 3 months after excised, for caries and suppuration of joint.	?	
193	H	Total; condyles; slice of tibia; gouged outside of head of tibia three inches in length.	Recovered, 3 months.	1	"Anchylosis; walked well; ran about with ease."	12	
194	?	Total excision.	Died, 10 days, pyæmia.	?	.....	?	
195	H	Total; patella saved; ends of both bones.	Recovered.	?	Doing well; wound almost healed.	2½	
196	H	Total; wedged-shaped portion of the fused and diseased bones.	Recovered.	?	Made most excellent recovery, and has very tolerable limb.		
197	H	Total excision.	Died, 3 days, from exhaustion and depression from effects of chloroform.	?	.....	?	
198	H	Total excision.	Died from effects of chloroform, night of operation.	?	.....	?	Heyfelder says died of hemorrhage.
199	H	Total; patella, condyles and head of tibia.	Recovered.	2	Anchylosis.	12	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
200	Smith's Price, p. 70.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	M. 27	4 years' standing.	Oct. 31, 1857.	S.	1st. Chronic arthritis. 2d. Necrosis of patella.
201	Swans, pp. 146, 203; Pén. ta.152.	Kemp, Arthur Exeter. England.	?	E——, Wm., Tiverton, England. "Much impaired."	M. 9	Several years' standing.	Nov. 11, 1857.	S.	Chronic arthritis; from blow.
202	Lancet, i. 240, 1858; Smith's Price, p. 68.	Fergusson, Wm. see Case 45.	King's College Hospital.	P——, Benj. C., England. "Strumous diathesis."	M. 13	11 mos. standing.	Dec. 5, 1857.	S.	Permanent rectangular flexion; much swelling, and extensive disorganization and sinuses of joint; from injury.
203	Lancet. ii. 258, 1858; Hodges' ta. 98; Smith's Price, p. 187.	Price, P. C., London.	Children's Infirmary, Margate.	S——, J. M., England. "Thoroughly strumous and ill-nourished."	F. 15	5 years' standing.	Dec. 7, 1857.	S.	Caries; fistulæ; disorganization of joint; abscess in one condyle; from blow.
204	Lancet, ii. 30, 1858.	Edwards, A. M., Edinburgh.	Edinburgh.	C——, M., Scotland. "Stout and healthy."	M. 23	3 years' standing.	1857.	S.	Dislocation of tibia; from fall; anchylosis; acute flexion of joint; knee too tender to wear artificial leg; leg in the way.
205	Hodges' ta. 186; Pén. ta. 153.	Bruns, Prof., Tübingen.	Germany.	?	M. 13	?	1857.	S.	Chronic arthritis.
206	Heyfeld. ta. 145.	Bruns, Prof., Tübingen.	Germany.	?	M. 18	?	1857.	S.	Caries and necrosis.
207	Pén. ta. 155.	Kemp, Arthur Exeter, England.	England.	?	F. 8	?	1857.	S.	Chronic arthritis.
208	Heyfeld. ta. 145.	Terry, J. N., Bradford, England.	Bradford Infirmary England.	?	F. 25	?	1857.	S.	Caries.
209	Pén. ta. 157.	Craven, Robt. Southport, Lancashire.	England.	?	M. 9	?	1857.	S.	Chronic arthritis.
210	Pén. ta. 158.	Humphry, C. M., Cambridge.	Addenbrooke Hospital, Cambridge.	England.	M. 29	?	1857.	S.	Chronic arthritis.
211	Pén. ta. 159.	Fergusson, Wm., see Case 45.	King's College Hospital, London.	England.	F. 50	?	1857.	S.	Chronic arthritis.
212	Smith's Price, p. 107; Pén. ta. 160.	Forster, J. Cooper, London.	Guy's Hospital, London.	England.	M. 17	?	1857.	S.	Chronic arthritis.
213	Pén. ta. 161.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	M. 20	?	1857.	S.	Chronic arthritis.
214	Hodges' ta. 92; Heyfeld. ta. 155; Pén. ta. 162.	Crompton, D. W., Temple Row, Birmingham.	Birmingham.	England.	M. 22	?	1857.	S.	Chronic arthritis.
215	Pén. ta. 163.	Meade. R. H., Bradford, Yorkshire.	England.	?	M. 19	?	1857.	S.	Chronic arthritis.
216	Pén. ta. 165; Heyfeld. ta. 156.	Crompton, D. W., Temple Row, Birmingham.	Birmingham, England.	?	F. 22	?	1857.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
200	H	Total; patella saved. 2d. Patella removed.	Died, 6 months, exhaustion.	.....	Abscesses; non-union; at 3½ months removed patella.	?	
201	H	Total; patella and articular surfaces of femur and tibia.	Recovered.	8	"Walked 15 miles a day with support; flexion of leg; wears a high-heeled shoe."	84	
202	H	Total; above condyles; slice of tibia; patella saved.	Recovered, 2 months and 17 days.	?	"Has a most useful limb; can carry on his business with little detriment."	12	
203	U	Total; patella; articulating cartilages of tibia; condyles; cavity in condyle gouged.	Recovered, 3½ months.	Slight	At 3 years limb straight, and walks well, and does duty as hospital nurse; bony union.	36	
204	Two curved lateral, and one transverse.	Partial; condyles of femur.	Recovered.	Considerable.	"Anchylosis; quite rigid; limb straight; rests the weight of his body on limb."	2¾	
205	?	Total excision; patella saved.	Recovered.	?	Amputation at about 40 days.	1⅔	M. Velpeau recommends amputation in preference to excision of this joint, and thinks an artificial leg more useful than that resulting from excision of this joint.
206	?	Total excision.	Died, in about 2 months, exhaustion.	?	.....	?	
207	?	Total excision.	Recovered.	?	Walked well in 1866.	132	
208	U	Total excision; patella removed.	Recovered.	?	"Use of member good."	?	
209	?	Total excision.	Recovered, 10 months.	?	Anchylosis complete.	10	
310	—	Total excision; patella saved.	Recovered, 6 weeks.	?	Amputation.	After 1½	
211	H	Total excision; patella saved.	Died, 99 days, exhaustion.	?	.....	?	
212	?	Total excision.	Recovered, 6 weeks.	?	Amputation for projection of femur and non-union.	1½	Price attributes this displacement to improper adjustment of the limb.
213	H	Total; patella removed.	Recovered, 5 years.	?	Tentative re-excision in 1862; wound of the popliteal artery; amputation.	60	
214	U	Total excision; patella saved.	Recovered, 4 months.	?	Walked 3 miles, with aid of stick, 4 mo. after operation; patella projects in an unsightly manner in front of knee.	7	
215	?	Total excision.	Died, 13 days, pyæmia.	?	.....	?	
216	U	Total; patella removed.	Recovered, 4 months.	?	"Walked without support; tolerably firm union at 3 months."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
217	Smith's Price, p. 90.	Crompton, D. W., Temple Row, Birmingham.	Birmingham, England.	?	M. ?	?	1857.	S.	Chronic arthritis.
218	Smith's Price, p. 80; Pén. ta. 169.	South, J. F., Blackheath Park, S. E. London.	Saint Thomas' Hospital, London.	England.	M. 22	?	1857.	S.	Chronic arthritis.
219	Smith's Price, p. 89; Pén. ta. 170.	Cotton, Chas., Norfolk, England.	West Norfolk Hospital.	England.	F. 45	?	1857.	S.	Chronic arthritis.
220	Pén. ta. 171.	Humphry, C. M., Cambridge.	Addenbrooke Infirmary Cambridge.	England.	F. 2	?	1857.	S.	Chronic arthritis.
221	Pén. ta. 172.	Cotton, Chas., Norfolk, England.	West Norfolk Hospital.	England,	F. 16	?	1857.	S.	Chronic arthritis.
222	Pén. ta. 173.	Humphry, C. M., Cambridge.	Addenbrooke Infirmary Cambridge.	England.	F. 18	?	1857.	S.	Chronic arthritis.
223	Pén. ta. 175.	Humphry, C. M., Cambridge.	Addenbrooke Infirmary Cambridge.	England.	F. 27	?	1857.	S.	Chronic arthritis.
224	Pén. ta. 176.	Clark, F. Le Gros, 14 St. Thomas St., S. E. London.	Saint Thomas' Hospital, London.	England.	F. ?	?	1857.	S.	Chronic arthritis.
225	Pén. ta. 179.	Langenbeck, B., Berlin, Germaay.	Germany.	"Phthisical and had caries of vertebra."	F. 4	?	1857.	S.	Chronic arthritis.
226	Pén. ta. 180.	Langenbeck, B., Berlin, Germany.	Germany.	?	M. 22	?	1857.	S.	Chronic arthritis.
227	Pén. ta. 182.	Kendall.	England.	?	F. 3	?	1857.	S.	Chronic arthritis.
228	Heyfeld. ta. Par. Res. p. 112.	Meade, R. H., Bradford, Yorkshire.	England.	?	F. 17	?	1857.	S.	Chronic arthritis.
229	Pén. ta. 184.	Moullin, J. M. Porchester Terrace, N. London.	England.	?	M. 10	?	1857.	S.	Chronic arthritis.
230	Pén. ta. 186.	Frith, Norfolk, England.	England.	England.	M. 13	?	1857.	S.	Chronic arthritis.
231	Heyfeld. ta. 149.	Hey, Samuel, see Case 145.	Leeds General Hospital.	England.	F. 57	?	1857.	S.	Chronic arthritis.
232	Hodges' ta. 203; Am. Med. Times and Gaz. June 1, 1861.	Cooper, E. S., San Francisco California.	United States.	United States.	F. 21	.....	1857.	S.	Chronic arthritis.
233	Hodges' ta. 27; Bost. Med. and Surg. Jour. July 11, 1861.	Cooper, E. S., San Francisco California.	United States.	United States.	M. 16	.....	1857.	S.	Chronic arthritis and disease of bone.
234	Butcher's Surg. p. 144.	Butcher, H. G., Dublin.	Mercer's Hospital, Dublin.	Carey, Mary, Ireland. Emaciated, health broken down.	F. 15	7 years' standing.	Jan. 11, 1858.	S.	Flexion and destruction of fibrous and ligamentous structures, and suppuration of joint; caries of tibia and condyles; joint movable; dislocation of tibia; from injury.
235	Pén. ta. 222.	Fife, Sir Jas., Newcastle.	Newcastle Infirmary	England. "Highly scrofulous."	M. 7	?	Feb. 23, 1858.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
217	U	Total.	Died, after left hospital.	?	When left hospital bones united; several sinuses unhealed; specimen showed complete bony union.		
218	?	Total excision; patella scraped; thin slice of tibia and femur.	Died, after 6 months.	?	.....	?	
219	?	Total excision.	Recovered, 8 months.	?	"Walked well; bones united, apparently, by a fibro-cartilaginous junction."	8	
220	—	Total excision.	Died, acute suppuration.	?	.....	?	
221	?	Total excision.	Died, 9 weeks, exhaustion from anæmia.	?	"Great disturbance had resulted after limb was placed in splint."	?	
222	—	Total excision; patella removed.	Recovered, 13 months.	?	"Walked with a stick; bones sound."	13	
223	—	Total excision; patella saved.	Recovered, 2½ months.	?	"Walked well without a cane."	After 2½	
224	?	Total; very thin section of bones.	Recovered, very rapidly.	But little.	Walked well; member straight; solid.	?	
225	I	Total excision.	Died.	?	.....	?	
226	I	Total excision.	Died, pyæmia.	?	.....	?	
227	?	Total excision.	Recovered.	?	"Begins to walk."	?	
228	?	Partial; condyles of femur.	Recovered.	?	"Good use of member."	?	
229	?	Total excision; patella removed.	Recovered, 2 months.	?	"At this time still a fistula; good consolidation."	2	
230	?	Total; 2 inches of patella saved.	Recovered, 4½ months.	At 1st 2½, at 4 y. 4½	Slight atrophy and subluxation.	48	
231	⌣	Total excision.	Recovered.	?	"Good use of member."	?	
232	.....	Total excision; patella scraped.	Recovered, 1 year.	Much	"Useful limb."	12	
233	?	5 inches of femur; tibia not touched.	Not stated.	.....	"Amputated."	12	Probably recovered.
234	H	Total; patella; 1½ inches of femur; ¾ inch of tibia.	Recovered, 11 months.	?	"Is healthy; limb straight; anchylosis; walks with aid of stick; latter only for safety; limb continues to grow."	11	
235	?	Total excision.	Recovered.	?	Amputated in Sept. 1858, for suppuration of joint and burrowing pus.	After 7	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
236	Smith's Price, p. 90; Barwell, Dis. Joint, p. 454.	Hancock, H., 76 Harley St., W. London.	Charing-Cross Hospital.	Castles, ——, England.	M. 24	?	1st, Mar., 2d, Nov. 23, 1858.	S.	Abscess and caries of joint 2d. Caries of lower end of femur.
237	Smith's Price, p. 105; Lyon's ta. 8.	Sympson, Thomas, Lincoln.	Lincoln.	England. Health fair.	F. 17	6 years' standing.	April 29, 1858.	S.	Suppuration and synovial disease of joint, and ulceration of condyles of femur.
238	Swain, p. 210; Pén. ta. 191.	Whipple, Jno. 3 Mulgrave Place, Plymouth.	South Devon. Hospital, Plymouth	P——, Emly, England. "Scrofulous."	F. 25	17 years' standing.	June 2, 1858.	S.	Chronic arthritis: last two years pain and swelling of joint.
239	Hodges' ta. 101, and Letter.	Warren, J. Mason, Boston.	Mass. General Hospital.	?	M. 32	.....	June 5, 1858.	S.	Chronic arthritis of right knee.
240	Lancet, ii. 215, 1860.	Heath, C., 9 Cavendish Place, W. London.	Saint George's Dispensary, London.	P——, Chas., England. "In fair health."	M. 11½	6 years' standing.	June 29, 1858.	S.	Rectangular anchylosis; sinuses of joint discharging freely; denuded bone; pain; from scarlet fever.
241	Smith's Price, p. 70.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	M. 39	?	Aug. 14, 1858.	S.	Chronic arthritis (general disease of joint).
242	Smith's Price, p. 69.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	M. 35	?	Nov. 5, 1858.	S.	Chronic arthritis.
243	Lancet, i. 298, 1859.	Fergusson, Wm., see Case 45.	King's College Hospital.	T——, Jane, England. "Emaciation; general health very bad."	F. 35	18 mos. standing.	Nov. 6, 1858.	S.	Rectangular anchylosis; abscess and ulceration of cartilages of joint; caries ascribed to cold.
244	Lyon's ta. 9; Pén. ta. 221.	Pritchard, Clifton, Bristol, England.	England.	?	M. 38	?	Nov. 9, 1858.	S.	Chronic arthritis.
245	Lancet, i. 299, 1859.	Fergusson, Wm., 16 George St., Hanover Sq. London.	King's College Hospital, London.	G——, Alex., England. "Anæmic."	M. 21	?	Nov. 13, 1858.	S.	Rectangular anchylosis; result of rheumatic arthritis; bony deposits about joint; osteitis.
246	Lancet, ii. 165, 1860.	Maunder, C. F., 29 New Broad St., E. C. London.	England.	?	?	?	1858.	S.	Chronic arthritis and caries.
247	Lyon's ta. 10.	Brainard, Daniel, Chicago, Illinois.	Illinois.	"Hectic and much emaciation."	M. 10	18 mos. standing.	1858.	S.	Chronic arthritis; sinuses and copious discharge of joint.
248	Pén. ta. 195.	Humphry, C. M., Cambridge.	Addenbrooke Hospital. Cambridge.	England.	F. 5	?	1858.	S.	Chronic arthritis.
249	Pén. ta. 197.	Bowman, W., 5 Clifford St., W. London.	King's College Hospital, London.	England.	M. 14	?	1858.	S.	Chronic arthritis.
250	Pén. ta. 198.	Tatum, T., London.	Saint George's Hospital.	England.	F. ?	?	1858.	S.	Chronic arthritis.
251	Pén. ta. 199.	Mouin.	?	?	?	?	1858.	S.	Chronic arthritis.
252	Pén. ta. 200.	Cadge, Wm., Norwich.	Norwich Hospital.	England.	M. 15	?	1858.	S.	Chronic arthritis; pulpy degeneration of synovial membrane; ulceration of cartilages.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
236	H	1st. Total; patella; thin slice of femur and tibia. 2d. Lower end carious; femur gouged.	Recovered, 7 months.	?	After 1st operation, got so that he could work in the garden; 1 month after 2d operation doing well; anchylosis in front part of joint.	8	
237	?	Partial; slice under surface of patella; articular surface of femur; tibia not touched.	Recovered, 3 months.	1½	Bony union; limb perfectly stiff; patella slightly movable; walks about house without, and out doors with, stick.	36	
238	H	Total excision.	Recovered, 3 months.	.....	"Left the hospital quite well."	3	
239	?	Total excision.	Recovered, 5 months.	.....	"Walks as well as any one."	5	
240	H	Total; a wedge-shaped portion, including patella.	Recovered, 2 years.	2¼	Firm fibrous union; well and strong; walks well with high-heeled boot; sinuses in head of tibia, which sometimes discharge.	After 24	
241	H	Total excision.	Died, 11 days, pyæmia.	?			
242	H	Total excision.	Died, 11 days, pyæmia.	?			
243	Single transverse.	Total; patella and articular ends of tibia and femur.	Died, 18 days, phthisis and pneumonia.	?	External wound opened.		
244	?	Total excision.	Recovered.	?	"In fall did work as a farm laborer."	48	
245	Single transverse.	Patella, ends of femur, and tibia in block.	Died, 13 days, of ischuria renalis.	.....	.....	.....	This case is included in table of anchylosis by Dr. Hodges' (No. 3); there was osteitis present.
246	?	Total excision.	Recovered.	?	Slight motion at joint; the condition extremely favorable, says operator.	Some months after	
247	?	Total; 2½ inches of femur; articular surfaces of tibia.	Recovered, 16 months.	2½	Wound healed; bony union; walks without pain or difficulty.	16 after.	
248	H	Total excision.	Recovered.	?	"Very fine result."	?	
249	?	Total excision.	Recovered, 6 weeks.	?	"Walked very well."	1½	
250	?	Total excision.	Recovered, 2½ months.	?	Amputation for return of the disease.	?	
251	?	Total excision.	Died, 19 days, exhaustion.	?			
252	?	Total; "ends of bones;" patella saved.	Died, 4 months.	?	"Amputation allowed at 3 months and 21 days for profuse discharge; opening of wound and failing health."	?	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
253	Smith's Price, p. 104; Pén. ta. 203.	Quain, Rich., 32 Cavendish Square, W. London.	Univ. College Hospital, London.	England. "A boy."	M. ?	Some years' standing.	1858.	S.	Chronic arthritis.
254	Pén. ta. 204.	Fearns.	?	?	F. 4	?	1858.	S.	Chronic arthritis.
255	Pén. ta. 206.	Reed, F. G., 46 Hertford St., Mayfair, W. London.	London.	England.	M. 19	?	1858.	S.	Chronic arthritis.
256	Pén. ta. 205.	Fergusson, Wm., see Case 109.	King's College Hospital.	England.	M. 50	?	1858.	S.	Chronic arthritis.
257	Pén. ta. 207.	Macfern.	?	?	M. 37	?	1858.	S.	Chronic arthritis.
258	Heyfeld. ta. 172.	Tiersch, C., Leipzig, Germany.	Germany.	Germany.	?	?	1858.	S.	Caries.
259	Heyfeld. ta. 173.	Tiersch, C., Leipzig, Germany.	Germany.	Germany.	?	?	1858.	S.	Caries.
260	Pén. ta. 210.	Tucker.	England.	?	M. 11	?	1858.	S.	Caries.
261	Heyfeld. ta. 174.	Nussbaum, Von J., Munich, Germany.	Germany.	?	M. 30	?	1858.	S.	Caries.
262	Heyfeld. ta. 175.	Stromeyer, Louis, Hanover.	Germany.	?	M. 22	?	1858.	S.	Chronic arthritis.
263	Heyfeld. ta. 176.	Esmarch, F., Kiel.	Denmark.	? Exhausted.	F. 28	?	1858.	S.	Chronic arthritis.
264	Heyfeld. ta. 177.	Esmarch, F., Kiel.	Denmark.	? Exhausted.	M. 68	?	1858.	S.	Chronic arthritis.
265	Pén. ta. 217.	Esmarch, F., Kiel.	Denmark.	?	M. 15	?	1858.	S.	Chronic arthritis.
266	Smith's Price, p. 83; Pén. ta. 219.	Spence, Jas., Edinburgh.	Scotland.	?	M. ?	?	1858.	S.	Total excision; abscess of femur.
267	Pén. ta. 223.	Ure, John, York.	England.	?	M. 24	?	1858.	S.	Chronic arthritis.
268	Smith's Price, p. 103; Pén. ta. 224.	Hoffmann, G. H., Margate.	Margate Infirmary England.	?	F. 15	?	1858.	S.	Chronic arthritis.
269	Lancet, ii. 247, 1859; Pén. ta. 286.	Fergusson, Wm., see Case 45.	King's College Hospital, London.	England. "Delicate; system generally healthy."	M. 14½	3 years' standing.	1st, 1859. 2d, Jan. 30, 1864.	S.	1st. Disease of bones and synovial membrane; abscess above patella. 2d. Re-excision for bent and deformed anchylosed limb; from too much use of limb after 1st operation.
270	Lancet, i. 480, 1859.	Erichsen, J. E. see Case 93.	Univ. College Hospital, London.	B——, Mary Ann England. "Care-worn; emaciated."	F. 30	2 years' standing.	Jan. 5, 1859.	S.	Ulceration and tubercular caries of ends of bones knee semi-flexed.
271	Pén. ta. 281; Swain, p. 211; Smith's Price, p. 94.	Square, Wm. J., 22 Portland Square, Plymouth.	England.	B——, Ann, tailoress, England.	F. 29	?	Jan. 13, 1859.	S.	Chronic arthritis.
272	Lyon's ta. 12.	Krackowizer, E., 102 2d Ave New York.	N. York City Hospital.	United States.	F. 2	?	Jan. 25, 1859.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
253	?	Total excision.	Recovered.		Amputation after a reasonable period for non-union.	?	
254	?	Total excision; patella saved.	Recovered, 7 weeks.	?	"Walked without support; joint tendinous."	1½	
255	?	Total excision.	Died, 18 days, pyæmia.	?			
256	H	Total excision.	Recovered.	?	Not stated.	?	
257	?	Total excision.	Died, 21 days, exhaustion.	?			
258	?	Total excision.	Recovered.	?	Not stated.	?	
259	?	Total excision.	Recovered.	?	Not stated.	?	
260	?	Total; patella; 3 inches.	Recovered, 7 months.	?	"Walked, and able to run."	7	
261	?	Total excision.	Recovered.	?	"Good use of member."	?	
262	?	Total excision.	Recovered.	?	"Good use of member."	?	
263	?	Total excision.	Died, 5 weeks, marasmus.	?			
264	?	Total excision.	Died, 6 weeks, miliary tuberculosis.	?			
265	?	Total excision.	Recovered.	?	"Result good."	?	
266	?	Total excision.	Recovered, 8 months.	Very little.	Good recovery; walks more easy with an ordinary shoe; very little halt in walking.	18	
267	?	Total excision.	Died, 24 days, diphtheria.	?	.....	.....	Had hemorrhage soon after operation, which turpentine arrested.
268		Total excision.	Died, 4 days, local and general irritation.	?	.....	.....	The divided ends of the bones produced inflammation at seat of operation.
269	H	Total; 1st. Patella and articulating surfaces of tibia and femur. 2d. Wedge-shaped piece of bone.	Recovered, 1st, 4 months. After 2d, rapidly.	?	After 1st operation walked without apparatus; nothing said after 2d.	4	After 1st operation.
270	Single transverse.	Total; patella; femur above condyles; tibia ½ inch.	Died, 23 days, from exhaustion following erysipelas.	?	Wound doing well up to invasion of erysipelas.		
271	?	Total excision.	Recovered, 5 months.	?	"Recovery complete; discharged cured; in every way successful."	5	
272	?	Total; patella; ½ inch of femur; ½ inch of tibia; and loose sequestrum extending into medullary cavity.	Died, 8 days, exhaustion from suppuration and dysentery.	?			

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
273	Braith. Retro. Pt. xxxix. 123; Lancet, ii. 98, 1859; Ibid. ii. 318, 1860.	Solly, Sam'l, London.	Saint Thomas' Hospital, London.	P——, Edw., England. "Health much impaired."	M. 6	4 years' standing.	Feb. 9, 1859.	S.	Ulceration of cartilages abscess and flexion of joint; dislocation of tibia; from injury.
274	Lancet, ii. 98, 1859; Ibid. ii. 318, 1860; Pén. ta. 254; Smith's Price, p. 87.	Solly, Sam'l, London.	Saint Thomas' Hospital, London.	R——, Jos., England. "System depressed; face anxious; hectic."	M. 8	11 mos. standing.	Mar. 5, 1859.	S.	Ulceration of cartilages; abscesses; false membranes of joint; pain from injury; abscesses of thigh.
275	Rank. Abst. No. 32, p. 209.	Wheeler, Palermo, Kansas.	Donovan County, Kansas.	Son Col. A——, Donovan Co., Kansas. U. S. "Emaciated; hectic."	M. 21	2½ mos. standing.	Mar. 12, 1859.	S.	Necrosis of patella; disease of synovial membrane and ligamentum patella; from fall.
276	Lancet, ii. 318, 1860; Pén. ta. 255.	Clark, Le Gros see Case 224.	Saint Thomas' Hospital, London.	England. "A delicate, strumous child."	M. 12	?	Mar. 12, 1859.	S.	Suppuration and absorption of cartilages of joint; caries of head of tibia.
277	Boston Med. & Surg. Jour., lxxvi. 259.	Clark, H. G., Boston, Mass.	Mass. General Hospital, Boston.	T——, J., United States. "Feeble and thin."	M. 15	?	April 16, 1859.	S.	Posterior luxation of tibia; imperfect control of limb; toes only touched ground when walked with cane; result disease from injury.
278	Smith's Price, p. 190; Lancet, i. 115, 1860.	Price, P. C., London.	Childrens Hospital, Margate.	R——, Phebe, England. "Delicate and strumous; health improved by treatment."	F. 12	Old standing.	April 16, 1859.	S.	Rectangular anchylosis; luxation of tibia; slight knee motion; pain; sinuses.
279	Hodges' ta. 103, and Letter.	Warren, J.M., Boston, Mass.	Mass. General Hospital, Boston.	?	F. 13	.....	April 30, 1859.	....	Chronic arthritis.
280	Lyon's ta. 13; Pén ta. 258.	Pritchard, England.	England.	England.	M. 37	?	May 10, 1859.	S.	Chronic arthritis.
281	Barwell's Dis. Joints, p. 453.	Hancock, H., see Case 236.	Charing-Cross Hospital, London.	King, Wm., England. Health much broken.	M. 33	5 years' standing.	May 15, 1859.	S.	Strumous synovitis; sinuses and suppuration of joint.
282	Lyon's ta. 14; Pén. ta. 260.	Baum, Prof., Göttingen.	Germany.	? Has hectic and diarrhœa.	M. 34	?	May 14, 1859.	S.	Chronic arthritis; joint flexed and painful, with fluctuation.
283	Hodges' ta. 102, and Letter.	Warren, J. M.	Mass. General Hospital, Boston.	?	F. 19	.....	May 21, 1859.	....	Chronic arthritis of left joint.
284	Hodges' ta. 235; Med. Times, London, April 21, 1860.	Humphry, C. M., Cambridge.	Addenbroke Hospital, Cambridge.	England.	M. ?	?	May 23, 1859.	S.	Chronic arthritis.
285	Lyon's ta. 15; Pén. ta. 261.	Pritchard, England.	England.	England.	M. 21	?	May 26, 1859.	S.	Chronic arthritis.
286	Smith's Price, p. 80.	South, J. F., see Case 156.	Saint Thomas' Hospital, London.	England.	M. 11	4 years' standing.	June 1859.	S.	Chronic arthritis; some necrosis of outer condyle.
287	Lancet, i. 116, 1860; Hodges' ta. 118.	Price, P. C., London.	Great Northern Hospital, London.	Yoeville, England. Delicate; health failing rapidly.	M. 26	4 years' standing.	July 7, 1859.	S.	Pulpy degeneration; absorption of cartilages of joint; caries.
288	Lyon's ta. 16; Am. Jour. Med. Sci. N. S. lviii. 476.	Smith, Thos., 5 Stratford Pl. W. London.	London.	England. Debility and emaciation increasing.	M. 9	?	Aug. 24, 1859	S.	Chronic arthritis; rectangular flexion; knee swollen to twice its natural size.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
273	Semi-lunar. U	Total; "patella gouged; 1 inch of femur and articular end of tibia."	Recovered, 8 months.	Hardly observable.	"Wound healed save to a little spot; good health; walked with ease and comfort."	8	
274	Semi-lunar. U	Total excision; patella gouged.	Recovered, 15 months.	½	Quite well when discharged; wound nearly healed; walked with ease and comfort.	15	
275	None.	Partial; patella entire with division of ligamentum patella; portion of synovial membrane.	Recovered.	?	"Walks, kicks, and jumps with the affected member."	5	Bones removed thro'gh sloughed parts.
276	○	Total excision; very thin sections of bones.	Recovered.	2	"Firm bony union; small portion of wound not cicatrized; walked with a stick."	When discharg'd	
277	U	Total; 1½ inches of femur; ½ inch of tibia.	Recovered.	?	Walks without crutches or stick.	11	
278	.....	Total; patella; over 2 inches of femur; articular surface of tibia.	Died, 76 days, diarrhœa and exhaustion.	?	"Limb did well at first, but afterwards sloughed at wound, and abscesses formed in thigh and about hip."		
279	?	Total excision.	Recovered, 1 year.	.....	"Anchylosis."		
280	?	Total excision.	Recovered, 10 weeks.	?	Knee became quite sound in 10 weeks.	2½	
281	H	Total; patella; thin slice of femur and tibia; latter gouged.	Recovered, 3 months.	2	"No open sinuses; able to walk with a stick."	3	
282	?	Total excision.	Died, 2 days, shock.	?			
283	.....	Total excision.	Died, 3 months, exhaustion.				
284	H	Total excision.	Recovered.	?	Amputated 7th day.		
285	?	Total excision.	Recovered.	Very little.	Walking well; limb very straight; knee stiff.	48	
286	?	Total; thin slice of femur and tibia; patella scraped.	Recovered.	Thickness of a shilling.	"Firm bony anchylosis; limb slightly at an angle; tibia somewhat dislocated outwards; walks without even a halt."	14	
287	H	Total; patella; 2 inches of femur; ¾ inch of tibia.	Recovered, 8 weeks.	?	"Can raise and twist limb in every direction; leg slightly puffy; bony union."	2	
288	?	Total; patella; 3½ inches; epiphiseal cartilages encroached upon.	Recovered, 3 months.	3½ from oper. 5 includ. ing bend.	"Walks and runs as other boys."	96	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
289	Hodges' ta. 127.	Biglow, H. J., Boston, Mass.	Mass. General Hospital, Boston.	?	M. 8	.....	Sept. 7, 1859.	....	Chronic arthritis.
290	Lyon's ta. 17.	Hulke, J. W., 10 Old Burlington St., W. London.	London.	England.	F. 29	?	Sept. 22, 1859.	S.	Leg flexed at 45°; knee swollen and intensely painful; dislocation of tibia.
291	Pén. ta. 228.	Fox, L. O., Broughton, Hants, England.	Broughton, Hants.	S——, Sam'l, England. Sailor.	M. 28	?	Sept. 23, 1859.	S.	Rheumatic arthritis.
292	Lyon's ta. 18.	Miner, J. M., United States.	U. S.	United States. Much constitutional irritation.	M. 25	?	Oct. 7, 1859.	S.	Much swelling; disease and suppuration of joint; caries.
293	Lancet, i. 215, 1860; Braith. Retro. Part 41, p. 124.	Chalmers, D., Liverpool.	Liverpool Northern Hospital.	K——, Thos., England. Not robust or well nourished	M. 44	Oct. 11, 1859.	Oct. 11, 1859.	P.	Incised wound of joint; from fall; division of ligamentum patellæ; comminution of portion of patella; open joint.
294	Braith. Retro. Pt. 42, p. 139; Pén. ta. 268.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital, London.	D——, Elizabeth, England Nervous system very irritable.	F. 33	6 years standing.	Oct. 19, 1859.	S.	Ulceration of cartilages, and caries of femur; sinuses; joint flexed; from wrench of knee.
295	Braith. Retro. Pt. 42, p. 138. Smith's Price, p. 100.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital, London.	P——, John, England. Strumous and unhealthy looking; hectic.	M. 18	4½ years' standing.	Oct. 31, 1859.	S.	Ulceration of cartilages, and caries of femur; acute flexion; sinuses and suppuration of joint; from blow of coal-stone.
296	Smith's Price, p. 97; Swain, p. 117; Pén. Res. du Genou, p.104.	Canton, Edw. 30 Montague Place, W. C. London.	Charing-Cross Hospital, London.	Jarvis, Wm., England. "High constitutional symptoms."	M. 15	Oct. 21, 1859.	Nov. 3, 1859.	Int.	Fracture of lower epiphysis of femur; from kick of a horse; sloughing at inner side of knee; projection of inner condyle; inflammation of joint.
297	Braith. Retro. Pt. 42, p. 137; Lancet, ii. 317, 1860.	South, J. F., see Case 156.	Saint Thomas' Hospital, London.	England. "Strumous and delicate; health broken down."	M. 37	?	Nov. 5, 1859.	S.	Suppuration and ulceration of cartilages of joint; caries of head of tibia.
298	Braith. Retro. Pt. 42, p. 138; Lancet, ii. 318, 1860.	Simon, J., 40 Kensington Square, W. London.	Saint Thomas' Hospital, London.	England. A sickly emaciated girl.	F. 6	?	Nov. 12, 1859.	S.	"Strumous arthritis, and erosion of cartilages of joint; softening of femur."
299	Lancet, ii. 318, 1860; Pén. ta. 275.	Simon, J., 40 Kensington Square, W. London.	Saint Thomas' Hospital, London.	England. "Unhealthy looking."	M. 23	Long standing.	Nov. 18, 1859.	S.	Suppuration and ulceration of cartilages of joint; superficial caries and necrosis.
300	Lyon's ta 19; Pén. ta. 275.	Baum, Prof., Göttingen.	Germany.	Germany.	F. 40	2 years' standing.	Nov. 30, 1859.	S.	Chronic arthritis.
301	Lancet, ii. 124, 1861; Pén. ta. 276.	King, Hull, England. 2d, Fergusson William, see Case 45.	Infirmary in North England; 2d, King's College Hospital, U. S.	England.	F. 16	8 years' standing.	1st. Dec. 1859. 2d, 1860.	S.	1st. Excessive disease of joint, with dislocation of tibia. 2d. Re-excision for abscesses; sinuses; caries and dislocation of tibia.
302	Lyon's ta. 20.	Freer, United States.		United States. General health good.	F. 30	?	1859.	S.	Chronic arthritis; joint enormously swollen; severe pain; dislocation of tibia.
303	Lyon's ta. 21.	Carnochan, J. H., 498 Broadway, N. Y.	New York.	United States. Hectic; much emaciated.	M. 15	?	1859.	S.	Suppuration of joint and sinuses.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
289	?	Total excision.	Recovered, 3 months.	.....	"Climbs about like other boys."	3	
290	?	Total excision; 1⅝ inches.	Recovered, 5 months.	2	"Slight hinge motion of joint; uses for this a leather splint; walks comfortably."	16	
291	?	Total excision.	Recovered, 3 months.	?	"Good recovery."	3	
292	?	Total; patella saved; ¾ inch of femur; ½ inch of tibia; carious excavations gouged.	Died, exhaustion.	.....	Amputation.		
293	Semi-elliptic'l wound lengthened backwards.	Total; patella; 1 inch of femur; thin slice of tibia.	Died, 43 days, from abscesses of thigh and fever (sympathetic).	?	Partial bony union; external wound nearly healed.		
294		Total; patella; ½ inch of tibia; more of femur; end of latter gouged; 1½ inches.	Recovered, 8 weeks.	?	"Firm union; walked without support and fatigue 18 miles."	120	See, also, Gant's Surgery, p. 625.
295	⌣	Total; patella and slice of tibia and femur.	Recovered, 3 months.	?	Did not do well; abscesses of end of femur extending down leg; amputated at St. George's Hospital, by C. Hawkins, Aug. 16, 1860.	8½	See, also, Gant's Surgery, p. 625; disease recurred.
296	?	Total; patella; nearly all of epiphysis of femur; slice of tibia.	Recovered.	2	"A most admirable cure resulted; limb straight."	12	
297	○	Total; patella and thin sections of ends of bones.	Died, exhaustion, about 7 months after operation.	?	"No bony union; did not do well."		
298	○	Total; "ends of bones."	Recovered.	?	"Firm bony union; slight ulceration in line of incisions; sent to Margate to recuperate."	When left hospital.	
299	○	Total excision; patella gouged.	Recovered, 7 months.	?	In fair health; able to get about; firm bony union; operated on afterwards for a sequestrum.	7	
300	?	Total excision.	Died, 6 weeks, exhaustion and bed-sores.	?			
301	Single transverse.	1st. Total excision and patella. 2d. 1 inch of femur and upper end of tibia.	Recovered, 11 months.	Several inch's	Re-excision in 1860, for sub-luxation and caries (nothing as to usefulness).	11	
302	?	Total; patella; 2½ inches of femur; ½ inch of tibia.	Recovered, 4 months.	2½	Union with considerable firmness; walks easily without support.	48	
303	?	Total; patella; ¼ inch of femur; ½ inch of tibia.	Died, 6 weeks, pyæmia.	?			

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
304	Smith's Price, p. 81.	South, J. F., see Case 156.	Saint Thomas' Hospital, London.	England.	M. 11	?	1859.	S.	Chronic arthritis.
305	Lyon's ta. 22.	Mott, A. B., Bellevue Hosp. Med. College.	New York.	New York. "General health fair."	M. 22	Several years' standing.	1859.	S.	Chronic arthritis; knee much swollen and painful, with sinuses; from injury.
306	Pén. ta. 225.	Esmarch, F., Keil.	Denmark.	Denmark.	?	?	1859.	S.	Chronic arthritis.
307	Pén. ta. 226.	Esmarch, F., Keil.	Denmark.	Denmark.	?	?	1859.	S.	Chronic arthritis.
308	Pén. ta. 227.	Esmarch, F., Keil.	Denmark.	Denmark.	?	?	1859	S.	Chronic arthritis.
309	Pén. ta. 230.	Esmarch, F., Keil.	Denmark.	Denmark.	?	?	1859.	S.	Chronic arthritis.
310	Pén. ta. 229.	Humphry, C. M., Cambridge.	Addenbroke Hospital, Cambridge.	England.	? 5	?	1859.	S.	Chronic arthritis.
311	Pén. ta. 232.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	M. 43	?	1859.	S.	Chronic arthritis.
312	Pén. ta. 231.	Craven, R., Southport, Lancashire.	England.	England.	M. 31	?	May, 1859.	S.	Chronic arthritis.
313	Pén. ta. 233.	Humphry, C. M., Cambridge.	Addenbroke Hospital, Cambridge.	England.	M. 12	?	1859.	S.	Chronic arthritis.
314	Pén. ta. 234.	Esmarch, F., Keil.	Germany.	Germany.	? 7	?	1859.	S.	Chronic arthritis.
315	Smith's Price, pp. 83, 84.	Spence, Jas., Edinburgh.	Scotland.	Scotland. "Middle-aged."	F. ?	?	1859.	S.	Chronic arthritis.
316	Smith's Price, p. 122.	Roser, Prof., Marburg.	Germany.	Germany.	? 16	5 years' standing.	1859.	S.	Caries; fistula; posterior luxation of tibia.
317	Pén. ta. 237.	Humphry, C. M., Cambridge.	Addenbroke Hospital, Cambridge.	England.	F. 19	?	1859.	S.	Chronic arthritis.
318	Pén. ta. 238.	Esmarch, F., Keil.	Germany.	Germany.	F. 9	?	1859.	S.	Chronic arthritis.
319	Pén. ta. 239.	Humphry, C. M., Cambridge.	Addenbroke Hospital, Cambridge.	England.	F. 10	?	1859.	S.	Chronic arthritis.
320	Pén. ta. 240.	Esmarch, F., Keil.	Germany.	Germany.	F. 12	?	1859.	S.	Chronic arthritis.
321	Pén. ta. 241.	Humphry, C. M., Cambridge.	Addenbroke Hospital, Cambridge.	England.	M. 11	?	1859.	S.	Chronic arthritis.
322	Pén. ta. 242.	Holmes, T., 31 Clarges St. Mayfair, W. London.	Saint George's Hospital.	England.	? 9	?	1859.	S.	Chronic arthritis.
323	Pén. ta. 243.	Barber, England.	England.	England.	M. 33	?	1859.	S.	Chronic arthritis.
324	Pén. ta. 244.	Langenbeck, B., Berlin.	Germany.	Germany.	M. 14	?	1859.	S.	Chronic arthritis.
325	Pén. ta. 246.	Esmarch, F., Keil.	Denmark.	Denmark.	? 14	?	1859.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
304	?	Total; thin slice of patella and ends of tibia and femur.	Recovered.	Hardly any.	"Firm bony union; walks without even a halt."	?	
305	?	Total; patella and 1 inch of articular surfaces.	Recovered, 6 weeks.	.....	"Amputation in 5 weeks, for return of disease."	?	
306	?	Total excision.	Recovered.	?	Result uncertain.	?	
307	?	Total excision.	Recovered.	?	Result uncertain.	?	
308	?	Total excision.	Recovered.	?	Result uncertain.	?	
309	?	Total excision.	Recovered.	?	Result uncertain.	?	
310	H	Total excision.	Died.	?			
311	?	Total and patella.	Died, 4 days, pyæmia.	?		?	
312	?	Total and patella.	Died, 4 days after amputation.	?	Amputated at 3½ months.		
313	H	Total and patella.	Recovered, 6 months.	?	"Walked 4 miles without fatigue."	6	
314	?	Total excision.	Recovered.	?	?	?	
315	?	Total excision.	Recovered.	Very little.	"Walks with scarcely a perceptible halt, and best without high-heeled shoe."	15	
316	?	Total excision.	Recovered.	?	Recovered with bony union.	?	
317	H	Total excision.	Died, 9 days, pyæmia.	?			
318	?	Total excision.	Recovered.	?	?	?	
319	H	Total excision.	Recovered rapidly.	?	"Wound healed almost by 1st intention, and in a few months had a most serviceable limb."	Few months.	
320	?	Total excision.	Recovered.	?	"Wound healed almost by 1st intention, and in a few months had a most serviceable limb."	?	
321	H	Total excision.	Recovered, 8 months.	?	Amputation.	8	
322	H	Total excision.	Recovered, 3 months.	No increase after 2 yrs.	No increase of shortening in 2 years.	24	
323	?	Total excision.	Recovered, 3 months.	?	"Amputation; very feeble."	3	After excision.
324	I	Total excision—subperiosteal.	Recovered.	?	"Good result."	1867.	
325	?	Total excision.	Died, 17 days, pyæmia.	?			

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
326	Pén. ta. 253.	Fearn.	?	?	M. 7	?	1859.	S.	Chronic arthritis.
327	Pén. ta. 417; Smith's Price, pp. 115, 116.	Warren, J. Mason, Boston, Mass.	Mass. General Hospital, Boston.	United States.	M. 12	?	1859.	S.	Chronic arthritis; result of fall.
328	Hodges' ta. 158.	Pemberton, O. Birmingham.	Royal Free Hospital, London.	England.	M. 28	.....	.....	....	Chronic arthritis.
329	Hodges' ta. 126; Smith's Price, p. 79.	Pemberton, O. see Case 328.	Royal Free Hospital, London.	England.	F. 30	.....	.....	....	Chronic arthritis of right joint.
330	Hodges' ta. 125; Smith's Price, p. 79.	Pemberton, O. see Case 328.	Royal Free Hospital, London.	England.	M. 7	.....	.....	....	Chronic arthritis of left joint.
331	Syd. Year Book pp. 312,318,1859, from Lancet, April 9, 1859.	Erichsen, J.E. see Case 93.	Univ. College Hospital.	"Tuberculous appearance."	F. 80	4 years' standing.	1859.	....	Ch. arthritis (morb. cox.); deposits of tubercle in tibia and femur; joint extensively destroyed.
332	Pén. ta. 257.	Follin, France.	France.	?	?	?	1859.	S.	Chronic arthritis.
333	Pén. ta. 263.	Critchett, G., 21 Harley St., W. London.	England.	England.	M. 9	?	1859.	S.	Chronic arthritis.
334	Pén. ta. 265.	Humphry, C. M., Cambridge.	Addenbrooke Hospital, Cambridge.	England.	M. 25	?	1859.	S.	Chronic arthritis.
335	Pén. ta. 267.	Symonds, F., 35 Beaumont St., Oxford.	England.	England.	M. 14	?	1859.	S.	Chronic arthritis.
336	Pén. ta. 272.	Hey, Samuel, see Case 145.	Leeds General Hospital.	England.	F. 36	?	1859.	S	Chronic arthritis.
337	Smith's Price, p. 84.	Spence, Jas., Edinburgh.	Scotland.	Scotland.	?	?	1859.	S.	Ulceration of cartilages and bones arising from disease of synovial membrane.
338	Barwell's Dis. Joints, p. 453; Pén. ta. 288.	Haucock, H., 76 Harley St., W. London.	Charing-Cross Hospital.	Payne, Geo., England. "Very weak and emaciated."	M. 8	4 years' standing.	Jan. 7, 1860.	S.	Strumous synovitis, and abscess of thigh and leg.
339	Lyon's ta. 23.	Wood, J.R., 80 Irving Place, New York.	New York City.	United States.	F. 30	5½ mos. standing.	Feb. 4, 1860.	S.	Joint much disorganized, swollen, and painful; from injury.
340	Lancet, ii. 316, 1860.	Fergusson, W see Case 45.	King's College Hospital, London.	H——, E., England. "Pale, delicate, and strumous-looking child."	M. 14	20 mos. standing.	Mar. 3, 1860.	S	Suppuration; leg flexed on thigh; thigh on pelvis; sinuses.
341	Lyon's ta. 24.	Krackowizer, E., 1422d Ave. New York.	New York City.	United States. "General health bad."	M. 23	17 mos. standing.	Mar. 15, 1860.	S.	Knee swollen and painful; sinuses; from exposure on a wreck.
342	Boston Med. and Surg. Jour., lxxvi. 259.	Clark, H. G., Boston.	Mass. General Hospital, Boston.	S——, R.H.S., United States. "Small, and not robust in appearance."	M. 16	5 years' standing.	April 20, 1860.	S.	Caries of tibia and fibula; motion and pain in joint; dislocation of tibia.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
326	?	Total excision.	Recovered, 7 months.	1	"At 9 months fracture of femur."	9	
327	?	Total excision; patella.	Recovered.	?	"Has perfectly recovered, and has a handsome looking joint."	?	
328	?	Total excision.	Recovered, 7 months.	.....	"Firm bony union."	15	Died of phthisis at 15 months.
229	?	Total excision; patella removed.	Died, soon after operation, from shock and chloroform.				
330	?	Total excision.	Died, 19 days, pyæmia.				
331	⌣	Total excision.	Died, 23 days, erysipelas.				
332	?	Total excision.	Died.	?			
333	?	Total excision; patella.	Recovered, 16 months.	Much	"Very good result; movements extensive."	16	
334	H	Total excision.	Recovered.	.....	Amputation at 3 weeks, for profuse suppuration and disease of hard structures of joint.	3	
335	?	Total excision; patella.	Died, 25 days, fatty degeneration of liver.	1			
336	⌣	Total excision.	Recovered, 1 year.	.....	Amputation.	12	
337	?	Total excision.	Died, 11 days, pyæmia.	?			
338	H	Total; patella and thin slice of femur and tibia.	Recovered, 8½ months.	?	"Union quite solid; limb sound; at 5 months could walk with only a stick."	52	
339	?	Total; patella; 1½ inches of femur; ½ inch of tibia.	Recovered, 3 months.	2	Health excellent; limb sound; walks without any support.	48	
340	H	Patella, and enough of femur and tibia to straighten limb; total.	Recovered.	?	"Joint firm; walks with a gutta-percha splint; discharged to go to country."	2	"January 7, 1860, same operator removed a necrosed portion from the lower end of femur 6 inches in length."
341	?	Total; patella; 1½ inches of femur; 2 lines of tibia.	Died, 11 months after operation, exhaustion, caries, abscesses, and diarrhœa.	?			
242	⌣	Total; ends of tibia, fibula, and femur, for short distance.	Recovered.	?	"Firm union of knee; slight superficial ulceration of cicatrix; discharged well."	3	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
343	Lyon's ta. 25.	Parker, Willard, 41 East 12th St., New York.	Bellevue Hospital, New York.	United States.	F. 18	?	June 2, 1860.	S.	Chronic arthritis and sinuses; result of injury.
344	Smith's Price, p. 108; Pén. ta. 296.	Curling, T. B., 39 Grosvenor St., W. Lond.	London Hospital.	England.	F. 12	?	June 21, 1860.	S.	Chronic arthritis.
345	Swain, p. 201.	Lee, Henry, London.	Saint George's Hospital, London.	England.	F. 7	.....	June 30, 1860.	S.	Chronic arthritis, with necrosis of portion of head of tibia.
646	Smith's Price, p. 81.	South, J. F., see Case 216.	Saint Thomas' Hospital, London.	England.	M. 22	.....	July 17, 1860.	S.	Chronic arthritis.
347	Braith. Retro. Pt. 39, p. 123; Pén. ta. 142; Smith's Price, p. 87.	Solly, Sam'l, London.	?	England. "Phthisical."	M. 27	.....	Aug. 29, 1860.	S.	Chronic arthritis; joint very painful.
348	Med. and Surg. Reporter, v. 648; Pén. ta. Anchylosis, 19.	Bauer, L., Brooklyn, New York.	Brooklyn Med. and Surgical Institute.	Francis Shaw Brooklyn, New York. "Healthy."	M. 14	7 years before.	Oct. 9, 1860.	S.	Knee bent inwards; loose state of joint; from relaxation of ligaments; enlargement of internal condyle; from injury.
349	Swain, pp. 204, 247; Pén. ta. 279.	Kemp, Arthur Exeter.	England.	B——, Ellen, Tiverton, England. "Gen'l health but little impaired."	F. 11	1 year's standing.	Nov. 17, 1860.	S.	Chronic arthritis; "limb bent and fixed."
350	Letter, 1872.	Gouley, J. W. S., New York.	America.	?	F. 25	.....	Fall, 1860.	S.	Chronic arthritis.
351	Smith's Price, p. 86.	Simon, John, 40 Kensington Square, W. London.	England.	England.	?	.....	Dec. 1860.	S.	Chronic arthritis.
352	Letter, 1872; Records, Hosp.	Kinlock, R.A. Charleston, S. Carolina.	Roper Hospital, Charleston, S. C.	Smith, Mrs., S. Carolina.	F. 30	.....	1860.	S.	Chronic arthritis; pulpy degeneration of synovial membrane; and erosion of cartilages.
653	Letter, 1872; Records, Hosp.	Kinlock, R.A. Charleston, S. Carolina.	Private practice, Charleston, S. C.	Miss ——, name forgotten.	F. 23	.....	1860.	S.	Chronic arthritis; pulpy degeneration of synovial membrane; and erosion of cartilages.
354	Lyon's ta. 26.	Mott, A. B., New York.	?	"General state bad."	M. 20	.....	1860.	S.	For disease; from a fall.
355	Lyon's ta. 27.	Mott, A. B., New York.	?	Great constitutional disturbance.	M. 14	8 years' standing.	1860.	S.	Chronic arthritis; "joint much swollen, with pain and crepitation."
356	Hodges' ta. 206; Pén. ta. 277.	Cadge, Wm., Norwich.	England.	?	M. 51	.....	1860.	S.	Chronic arthritis; pulpy degeneration of synovial membrane; destruction of cartilages; abscess extending down leg.
357	Pén. ta. 278.	Billroth, Th., Vienna, Austria.	Austria.	.....	? 51	.....	1860.	S.	Chronic arthritis.
358	Pén. ta. 282.	Esmarch, F., Keil, Germany.	Germany.	.....	? 2	.... .	1860.	S.	Chronic arthritis.
359	Hodges' ta. 201; Pén. ta. 283.	Humphry, C. M., Cambridge.	Addenbrooke Hospital, Cambridge.	England.	M. 40	.....	1860.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
343	?	Total; patella; 1 inch of femur; 1 inch of tibia.	Recovered, 1 year.	?	"Bony anchylosis; walked without support; nurse in hospital."	12	
344	?	Total excision, of 2 inches, and patella.	Recovered, 4 months.	?	Amputation Oct. 11, 1860, for caries of ends of bones.	4	
345	?	Total excision.	Recovered, 5 months.	?	"Leg was of good length as compared with the other."	5	
346	?	Total excision; thin slice of tibia and femur.	Died, after more than 6 weeks.	?	"Six weeks after operation, in a very shaky condition; tibia luxated backwards."	After 1½	
347	?	Total excision.	Died, rapid phthisis.	.....	"Wound nearly healed, and anchylosis partially completed."	?	
348	U	Total excision; patella; articulating surfaces of tibia and femur.	Recovered.	2	"Fibrous union, allowing limited motion: usefulness established; walks well with high heel."	After 4½	
349	⌣	Total excision; patella, and articular surfaces.	Recovered.	5 in 8 years.	At age of 17 years foot extended; walked 3 miles with aid of high-heeled boot; limb straight."	96	
350	⌣	Total excision; 1½ inches; ½ inch of tibia; 1 inch of condyles.	Recovered.	.....	No union after 6 weeks; bones spongy and diseased; amputation in six weeks.	?	
351	?	Total excision.	Died, 3 weeks, pyæmia.				
352	H	Total excision; patella; thin slice of tibia; whole diseased condyles of femur.	Recovered.	?	"Bony union; result perfect; able to walk any distance and work hard."	"Several years since."	"Was particular to remove diseased synovial membrane."
353	U	Total excision; patella; thin slice of femur and tibia.	Recovered.	?	Perfect as in last case.	"Several years since."	Married, and has borne children since operation.
354	?	Total excision; patella and articular surfaces.	Recovered.	.....	Amputation, after 5 months, for recurrence of disease.	After 5	
355	?	Total excision and patella.	Died, 6 weeks, exhaustion, from continuance of disease.				
356	?	Total excision; patella pared.	Recovered, 56 days.	.....	Amputation, 16th day, for suppuration, opening of wound, and failing health.	After 56 days.	
357	?	Total excision.	Died, 6 weeks, tubercular meningitis.	?			
358	?	Total excision.	Died.	.....	Amputation.		
359	H	Total excision; patella saved.	Died, 15 days after excision.	.....	Amputation, at 11 days, for disease of hard and soft structures of joint.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
360	Smith's Price, p. 103.	Hoffmann, Margate, England.	Margate Infirmary England.	"A man." England. "Bad condition."	M. ?	.....	1860.	S.	Chronic arthritis, with separation of the cartilages, and pulpy degeneration of synovial membrane.
361	Pén. ta. 285.	Szymanowsky, J., Kiew, Russia.	Russia.	Russia.	? 7	.....	1860.	S.	Chronic arthritis.
362	Pén. ta. 290.	Fearn.	?	?	F. 23	.....	1860.	S.	Chronic arthritis.
363	Pén. ta. 292; Med. Times and Gaz. April 21, 1860.	Tapp, W. D., Hillside, Cheltenham.	England.	England.	F. 7	.....	April 5, 1859.	S.	Chronic arthritis.
364	Pén. ta. 297.	Delore, Lyons, France.	France.	France.	M. 31	.....	1860.	S.	Chronic arthritis.
365	Pén. ta. 298.	Bardelaben, Griefswald.	Germany.	Germany.	?	.....	1860.	S.	Chronic arthritis.
366	Pén. ta. 299.	Langenbeck, B., Berlin.	Germany.	Germany.	F. 9	.....	1860.	S.	Chronic arthritis.
367	Pén. ta. 300.	Langenbeck, B., Berlin.	Germany.	Germany.	F. 9	.....	1860.	S.	Chronic arthritis.
368	Smith's Price, p. 105.	Sympson, T., Lincoln.	England.	Lincoln, England.	?	.....	1860.	S.	For disease.
369	Pén. ta. 301.	Holmes, T., London, England.	England.	England.	? 11	.....	1860.	S.	Chronic arthritis.
370	Pén. ta. 302.	Holmes, T., London, England.	England.	England.	? 10	.....	1860.	S.	Chronic arthritis.
371	Swain, p. 192; Pén. ta. 311.	Bowman, Wm 5 Clifford St., W. London.	King's College Hospital, London.	Haggerty, Jas England. Gen'l health bad, but improved by treatment.	M. 11	2 years' standing.	Mar. 2, 1861.	S.	Swelling and acute pain of joint; dislocation of tibia backwards; joint flexed angle 130°; anchylosis.
372	Swain, p. 211; Pén. ta. 304.	Square, Wm. J., 22 Portl'nd Sq. Plymouth.	England.	A——, Martha England.	F. 15	?	Mar. 13, 1861.	S.	Chronic arthritis.
373	Lyon's ta. 30; Pén. ta. 280.	Prichard, A., Clifton, Bristol.	England.	England.	? 22	.....	Mar. 19, 1861.	S.	Chronic arthritis.
374	Swain, p. 205.	Kemp, Arthur, Exeter.	England.	R——, Sarah, Whitstone, England. Very puny and delicate.	F. 8	3 mos. standing.	April 15, 1861.	S.	Chronic arthritis; right knee.
375	Boston Med. and Surg. Jour., lxxvi. 259.	Clark, H. G., Boston, Mass.	Mass. General Hospital, Boston.	R——, M. Weak, puny, scrofulous-looking.	F. 8	?	May 4, 1861.	S.	Acute arthritis; flexion of leg on thigh; knee swollen and painful.
376	Boston Med. and Surg. Jour., lxxvi. 260.	Clark, H. G., Boston, Mass.	Mass. General Hospital, Boston.	G——, J—, Scrofulous, debilitated, miserable-looking.	F. 37	4½ mos. standing.	May 11, 1861.	S.	"Swollen and tender joint with abscess of joint; luxation of tibia; synovitis from exposure."
377	Lancet, ii. 243, 1861; Swain, p. 116.	Price, P. C., London.	Great Northern Hospital, London.	England. Has cough and disease of left lung.	F. 14	?	May 23, 1861.	S.	"Extreme pain of joint abscess of external condyle; acute flexion of joint."
378	Lancet, ii. 243, 1861; Swain, p. 116.	Price, P. C., London.	Great Northern Hospital, London.	?	F. 6	2 mos. standing.	May 23, 1861.	S.	Lacerated wound of joint from cart wheel; destruction of joint; extensive suppuration and abscesses of thigh.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
360	?	Total excision.	Died, of irritation and hectic.				
361[c]	?	Total excision.	Recovered.	.....	Member useful; motion of knee.	?	
362	?	Total excision.	Died, 3 months, hemorrhage				
363	?	Total, but superficial excision; patella.	Recovered, 13 weeks.	.....	"Walked without support."	After 7	
364	?	Total excision; patella.	Died, 70 days after amputation, of hospital gangrene.	.....	Amputation.		
365	?	Total excision.	Recovered.	.....	.....	?	
366	I	Total excision.	Recovered.	.....	"Anchylosis."		
367	?	Total excision.	Recovered.	.....	"Member very useful; motion of knee."		
368	?	Total excision.	Died, in several hours.	.....	.....	.....	Cause of death not stated.
369	H	Total excision.	Recovered, 3 weeks.	?	....	?	
370	H	Total excision.	Recovered, 8 weeks.	1	.....	24	
371	U	Total excision; 1½ inches of femur; thin slice of tibia; patella saved.	Recovered, 8 months.	At 8 mos. 2½	"In 1865, great shortening from flexion; fibrous union; walked well."	48	
372	?	Total excision.	Died, of phthisis, several months after discharged.	?			
373	?	Total excision.	Recovered.	But little.	"Knee sound; able to walk well."	After 24	
374	?	Total excision; "patella and articular surfaces of femur and tibia."	Recovered.	?	"Doing well, with several sinuses when discharged."	.....	Made out-patient, in July, 1861.
375	U	Total excision; portions of condyles of femur; ¼ inch tibia.	Recovered.	?	"Is well; firm union; brings foot to ground; walks easily without a crutch."	8	
376	U	Total excision; 1¼ inches of condyles; ¼ inch of tibia.	Recovered.	?	"Leg firmly united to thigh; discharged well."	After 5	
377	Single transverse.	Total excision.	Recovered, 4½ months.	.....	"Bony union; a good and useful limb."	After 4½	
378	Single transverse.	Total excision; patella, and 1½ inches of bone.	Recovered.	.....	"Union permanently fibrous and flexible; a good and useful limb."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
379	Swain, p. 206; Pén. ta. 319.	Kemp, Arthur, Exeter, England.	? England.	H——, Wm., Exeter, England, "Greatly emaciated."	M. 8	6 mos. standing.	June 21, 1861.	S.	"Chronic arthritis, wit great pain of joint."
380	Hosp. Records tabulated by Surgeon Gray, U. S. A., 1872.	Parker, Willard, 41 East 12th St., New York.	New York Hospital.	Crichenbaum, L. ?	M. 32	.....	July 2, 1861.	P.	Years before, a gunsho wound of joint produce anchylosis, latter broke up by recent accident; pro fuse bleeding, and exte sive laceration of parts.
381	Lancet, ii. 102, 1862.	Hewett, Prescott G., 1 Chesterfield Street, W. London.	Saint George's Hospital, London.	B——, Wm. Health beginning to fail.	M. 11	4 mos. standing.	July 28, 1861.	S.	Suppuration; pulpy dege eration of synovial men brane, and ulceration cartilages of joint; fro blow of a stone.
382	Lancet, i. 30, 1862; Pén. ta. 317.	Price, P. C., London.	Great Northern Hospital, London.	England. "Emaciated little girl."	F. 11	?	Aug. 8, 1861.	S.	Abscess; caries; erosion cartilages of joint; flexio of leg; dislocation of tibi
383	Lancet, ii. 100, 1862.	Holmes, T., 31 Clarges St., Mayfair, W. London.	Hospital for Sick Children, London.	England. Healthy-looking boy.	M. 13	4 years' standing.	Aug. 9, 1861.	S.	Acute pain and flexion joint, with anchylosis an dislocation of tibia.
384	Swain, p. 205; Pén. ta. 313.	Kemp, A., Exeter.	England.	C——, George, England.	M. 18	2 years' standing.	Aug. 21, 1861.	S.	Chronic arthritis; articul ends of bones much di eased.
385	Lyon's ta. 35.	Terry, J. N., Bradford.	Bradford Infirmary England.	England. "Suffering from loss of sleep; emaciated."	M. 9	2 years' standing.	Aug. 23, 1861.	S.	Chronic arthritis; mu effusion in joint; luxati of tibia; nocturnal sta ings of limb.
386	Med. and Surg. Reporter, Phila. x. 331.	Bauer, L., St. Louis, Mo.	Brooklyn Med. and Surgical Institute.	McMahan, Ellen, Brooklyn, New York.	F. 16	9 years' standing.	Oct. 25, 1861.	S.	Chronic arthritis; joi swollen and flexed to rig angle; caries and necros
387	Letter, 1872.	Blankery, J., Maryville, E. Tennessee.	Monroe County E. Tenn.	Burns, John, Monroe Co.	M. 8	?	Dec. 12, 1861.	S.	Chronic arthritis; synovit severe pain and swelli of joint; from fall.
388	Swain, p. 206; Pén. ta. 316.	Kemp, Arthur Exeter.	Exeter, England.	W——, W—, Exeter, England.	M. 6	Many years' standing.	Dec. 16, 1861.	S.	Chronic arthritis.
389	Lancet, ii. 48, 1862; Pén. ta. 309.	Skey, F. C., 24 Mount St., London.	St. Bartholomew's Hospital, London.	M——, Thos., England. "Somewhat emaciated and in bad health."	M. 3½	Some mos. standing.	Dec. 17, 1861.	S.	Chronic arthritis; joi flexed and swollen; lim ed motion of; from injur
390	Lyon's ta. 38.	Lawson, Geo. 12 Harley St., W. London.	London.	England.	F. 14	Long standing.	1861.	S.	Chronic arthritis, with ries.
391	Lancet, ii. 101, 1862.	Critchett, G., 21 Harley St., W. London.	London Hospital.	England. Constitution badly broken down; hectic; strength failing.	M. 16	?	1861.	S.	Chronic arthritis; "supp ration and sinuses joint."
392	Pénières, p.105.	Canton, Edw., 30 Montague Place, W. C. London.	London.	England. A young boy.	M. ?	1 mos. standing.	1861.	S.	"Acute arthritis, followi contusion of joint."

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
379	Single transverse.	Total excision; patella and articular ends of tibia and femur.	Recovered, Sept. 1861.	?	Had synovitis of the other knee; leg in good position, with fair union; never regained his health.	.....	In 1864, died of tubercular meningitis.
380	?	Total excision; ¼ inch of surfaces of joint.	Recovered.	2½	"Walks well with aid of a cane; weight of body on limb causes no pain."	3	Bones wired together.
381	U	Total excision; patella and diseased surfaces of tibia and femur.	Recovered, 3½ months.	1½	"Solid union; sinuses discharging some."	After 3½	
382	H	Total excision; patella; 1¼ inches of femur; thin slice of tibia, and head of, gouged.	Recovered, 2 months.	?	Member firm and useful.	After 2	
383	U	Total excision; "patella; small slice of end of femur; thin section of head of tibia."	Recovered, 3 months.	3	"Limb quite straight and firm; a good and useful limb in every respect."	After 15	2½ inches shortening in 3 months, in 15 months 3 inches. He thinks operation more severe and more immediately fatal than amputation. See Surg. Dis. of Infancy and Childhood, p. 471. Thinks patella should be removed, as it often becomes diseased after the operation if permitted to remain.
384	U	Total excision; "articular ends of tibia and fibula."	Recovered, 2½ months.	3½	"With aid of high-heeled shoe walked about ward very well."	2½	
385	–	Total excision; patella.	Recovered, 3 months.	?	"Walked several miles daily; slight motion at knee."	18	
386	?	Total excision; 1½ inches of bone; patella.	Recovered, 10 months.	At 2 years 2	"Union perfect; limb well nourished and useful; constitution robust."	24	
387	Irregular.	Partial; portion of patella.	Recovered.	?	As good use of limb as before the injury.		
388	⌣	Total excision; patella and articular ends of bone.	Recovered, 4 months.	?	"Cicatrization incomplete; limb became flexed; was straightened; case ultimately did well."	After 12	
389	⌣	Total excision; patella; ¾ inch of femur; ¼ inch of tibia.	Recovered, 10 months.	Very little.	"Walks with freedom and ease; anchylosis."	After 10	Division of hamstring tendons, and forcible extension twice failed before operation.
390	?	Total excision; patella saved.	Recovered.	.....	Amputated at 9 months for caries.	9	
391	?	Total excision.	Recovered.	?	Health excellent; every prospect for a useful limb.	4	
392	?	Total excision.	Recovered, 5 months.	?	Recovered, 6 months.	6	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
393	Pénières, p.105; Med. Times, London, 1861.	Price, P. C., London.	London.	England.	? 9	2 mos. standing.	1861.	S.	Chronic arthritis from penetrating wound of joint; abscesses of leg; great œdema of thigh from obstruction of crural vein.
394	Lyon's ta. 39; Pén. ta. 320.	Clark, F. Le Gros, 14 St. Thomas St. S. E. London.	London.	England.	M. 62	?	Jan. 2.	S.	Chronic arthritis.
395	Lancet, ii. 101, 1862.	Critchett, G., see Case 333.	London Hospital.	England. A delicate young woman	F. ?	?	Jan. 9, 1862.	S.	Chronic arthritis; rectangular anchylosis; ulceration of cartilages; degeneration of synovial membrane.
396	Lancet, ii. 100, 1862; Pén. ta. 336.	Holmes, T., see Case 322.	Hospital for Sick Children, London.	T——, Frank.	M. 13	6 years' standing.	Jan. 21, 1862.	S.	Chronic arthritis; flexion of joint 90°; limb 3 inches short; anchylosis; abscesses; necrosis; softening of bone; sub-luxation of tibia.
397	Lancet, ii. 48, 1862.	Paget, Sir Jas. 1 Harwood Pl. W. London.	St. Bartholomew's Hospital, London.	B——, Jos., England. "Health improved under treatment."	M. 14	5 mos. standing.	Feb. 1, 1862.	S.	Chronic arthritis; suppuration of, with joint largely swollen; abscess of head of tibia.
398	Letter, Jan. 1873.	Walter, A. G. Pittsburg, Penna.	Walter's Hospital, Pittsburg	Tutters, John, Allegheny City, Penna. "Scrofulous constitution."	M. 12	2 years' standing.	Feb. 17, 1862.	S.	Chronic arthritis; caries; articulating surfaces of tibia, femur, and patella; right knee.
399	Butch. Oper. & Cons. Surg. p. 154.	Butcher, R.G. Dublin.	Mercer's Hospital, Cambridge.	Magher, Jos., England. Great emaciation; hectic.	M. 20	18 mos. standing.	Feb. 19, 1862.	S.	Chronic arthritis; great pain and swelling of joint; sero-purulent effusion in joint and in lateral bursæ; degeneration of synovial membrane; ulceration of cartilages; caries; leg flexed.
400	Lyon's ta. 41.	Hare, Wm., Shoreham, England,	England.	England.	M. 8	?	Feb. 21, 1862.	S.	Chronic arthritis.
401	Lancet, ii. 102, 1862; Pén. ta. 325.	Critchett, G., see Case 333.	London Hospital.	England. "Strumous."	M. 6	?	Mar. 13, 1862.	S.	Chronic arthritis.
402	Lancet, 532, 1863.	Fergusson, Wm., see Case 45.	King's College Hospital.	B——, Jane, England. Health fair.	F. 24	9 years' standing.	Mar. 28, 1862.	S.	Chronic arthritis; partial anchylosis; limb slightly bent; sinuses; sequestrum; caries; ulceration of cartilages.
403	Swain, p. 187; Lyon's ta. 49.	Wood, John, 68 Wimpole Street, W. London.	King's College Hospital.	England. Very strumous; scrofulous sores on neck.	M. 28	?	May 9, 1862.	S.	Chronic arthritis; ulceration of cartilages, and extensive caries of head of tibia.
404	Lancet, 31, 1863; Swain, p. 184.	Fergusson, Wm., see Case 45.	King's College Hospital.	C——, Robt., England. Pale, delicate and strumous; convalescing from scarlatina.	M. 6	18 mos. standing.	May 17, 1862.	S.	Chronic arthritis; pulpy degeneration; suppuration; anchylosis; absorption of cartilages; softening of bones of joint; from fall had after scarlet fever.
405	Lyon's ta. 42.	Enos.	? U. S.	United States.	M. 6	?	May, 1862.	S.	Chronic arthritis; suppuration and destruction of joint.
406	Pénières, p. 78.	Lefort, L., Paris, France.	France.	M——, Claude France. "General health good."	M. 9	2 years' standing.	June 3, 1862.	S.	"Chronic arthritis; from rheumatism of joint; loose state of joint; abscess and swelling of joint; subluxation of tibia."

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
393	H	Total excision.	Recovered.	?	?	?	Operator died Nov. 13, 1864.
394	?	Total excision.	Recovered, 18 months.	?	"Could walk 10 miles with considerable ease."	After 18	
395	?	Total excision; 2 slices of femur; 1 slice of tibia.	Died, 10 days, exhaustion.	?			
396	Single transverse.	Total excision; patella; femur 2 in. above condyles; tibia not touched.	Recovered, 2 months.	?	Amputated lower third of thigh, Feb. 1, 1862.	After 2	Operator was not permitted to elect amputation at the time of the operation, when he saw the condition of the parts.
397	U	Total excision; "slices of condyles and head of tibia."	Recovered, 43 days.	2½	Firm union; limb a little bent; femur somewhat in front of tibia.	1½	
398	U	Total excision; patella gouged; ¾ in. of femur; articular facet of tibia.	Recovered, 5 months.	1½	Semi-anchylosis; very limited voluntary motion at knee.	36	
399	H	Total excision; "patella; 1½ inches of femur; ½ inch of tibia."	Recovered, 40 days.	2	"Perfect use of hip and ankle joints; firm bony union; walks freely without support; plants foot fairly on ground; wound healed; health robust."	After 9	
400	?	Total excision.	Recovered, 16 months.	?	"Could walk without a stick, but generally used one."	After 16	
401	?	Total excision; patella saved; thin layers of ends of bones.	Recovered.	.....	"Walks, and able to jump."	?	
402	Single transverse.	Total excision; patella; 1½ inches of femur; thin slice of tibia.	Died, 12 days, pyæmia.				
403	?	Total excision; internal condyle not removed; patella.	Recovered, 10½ months.	.....	Amputation for caries of internal condyle, which was not removed at first operation.	10½	
404	Single transverse.	Total excision; patella, and wedge-shaped portion of femur and tibia.	Recovered, 99 days.	¾	Wound healed; walks about all day; limb straight; had abscesses about joint, which finally healed.	3½	
405	?	Total excision; patella; 2 inches of femur; epiphysis entirely; ½ inch of tibia.	Recovered.	?	"Knee moderately flexed. from walking too soon; walked very well."	After 18	
406	Transverse.	Total excision; patella saved.	Recovered, 4 months.	?	Walks and runs without support.	48	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
407	Swain, p. 113; Pén. p. 105.	Kemp, Arthur Exeter.	Exeter.	Fewings, Jno. Exeter, England.	M. 13	1 hour before oper.	June 10, 1862.	P.	Lacerated wound of joint; from an accident in civil life.
408	Swain, p. 183.	Fergusson, Wm., see Case 45.	King's College Hospital.	England. "Strumous."	M. 15	6 years' standing.	June 14, 1862.	S.	Chronic arthritis; partial anchylosis; soft parts about joint much thickened; leg flexed.
409	Lyon's ta. 43.	Krackowizer, New York.	New York. ?	United States.	F. 1¾	3 mos. standing.	June 1862.	S.	Chronic arthritis; joint opened by a deep-seated abscess.
410	Swain, p. 184.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	F. 10	18 mos. standing.	July 26, 1862.	S.	Re-excision for non-union, from 1st operation, 18 mos. before; done for extensive disease.
411	Swain, p. 185.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	F. 13	?	1, July, 1862. 2, Mar. 1863.	S.	1st. Chronic arthritis; gelatiform degeneration synovial membrane. 2d. For angular anchylosis.
412	Lyon's ta. 44.	Olcott, C., United States.	U. S.	United States. General state bad; emaciation; hectic.	M. 14	?	Oct. 14, 1862.	S.	Chronic arthritis; joint discharging freely from numerous fistulæ.
413	Swain, p. 185.	Fergusson, Wm., see Case 45.	King's College Hospital, London.	England. Strumous.	M. 7	?	Nov. 1, 1862.	S.	Chronic arthritis; strumous ulceration of cartilages.
414	Swain, p. 204; Pén. ta. 330.	Kemp, A., Exeter, England.	Exeter.	H——, Wm., Ipplepen, England. Health much reduced.	M. 16	?	Nov. 10, 1862.	S.	Acute synovitis, with abscess in popliteal region.
415	Lyon's ta. 45; Pén. ta. 334.	Spencer, England.	England.	? England.	M. 24	?	1862.	S.	Chronic arthritis.
416	Lyon's ta. 46; Pén. ta. 333.	Edwards, A. M., Kildar Gardens, Edinburgh.	Scotland.	Scotland.	F. 13	3 years' standing.	1862.	S.	Chronic arthritis.
417	Braith. Retro. Part 41, p. 119; Smith's Price p. 96; Pén. p. 105.	Canton, E., see Case 296.	Charing-Cross Hospital, London.	England.	M. 8	?	1862.	S.	Chronic arthritis; suppuration of joint; non-retention of parts; separation of lower epiphysis of femur; from foot being caught in spokes of a carriage wheel.
418	Pén. ta. 326.	Dusséris.	France.	France.	M. 9	?	1862.	S.	Chronic arthritis.
419	Pén. ta. 331.	Dusséris.	France.	France.	M. 7	?	1862.	S.	Chronic arthritis.
420	Pén. ta. 335.	Richard, A.	?	?	? 10	?	1862.	S.	Chronic arthritis.
421	Pén. ta. 337.	Richard, A.	?	?	? 12	?	1862.	S.	Chronic arthritis.
422	Pén. ta. 339.	Gosselin, Paris.	? France.	France. "Exhausted."	?	?	1862.	S.	Chronic arthritis.
423	Pén. ta. 340.	Bardeleben, Greifswald, Germany.	Germany.	Germany.	F. 11	?	1862.	S.	Chronic arthritis.
424	Pén. ta. 341.	Giraldes, Paris.	France. ?	France. ?	? 9	?	1862.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
407	?	Total excision.	Recovered, 3 months.	?	Walks well; apparently no inconvenience from operation; seen loading a railroad car months after operation.	After 3	
408	H	Total excision.	Recovered, over 40 days.	Not much	Incisions healed; union being perfected.	After 1½	
409	?	Total excision; patella; ½ inch of femur; ¼ inch of tibia.	Died, within 1 week, diarrhœa and convulsions.				
410	H	Total excision, 1st operation; 2d, removal of wedge-shaped portion of bone at joint.	Recovered, 40 days from 2d operation.	?	"Straight limb; union firm; 1st operation failed from child walking too much."	After 1½	
411	H	1st. Total excision. 2d, 2 wedge-shaped portions at seat of joint.	Recovered, 42 weeks after 2d operation.	.....	1st failed from bed sores and non-retention of splints; after 2d, "limb firm, straight, but much shortened."		
412	?	Total excision; patella; 1½ inches of femur; ¼ inch of tibia.	Recovered.	3	"Able to walk with a sole 3 inches thick; in good health."	22	
413	H	Total excision.	Recovered, 3 months.	.....	Limb straight; union firm; bony parts about seat of operation sound.	3	
414	?	Total excision; patella.	Recovered, 5 months.	?	?	5	
415	?	Total excision.	Died, 3 days, exhaustion, from hemorrhage				
416	?	Total excision; patella.	Recovered.	?	"Abscesses of the thigh occurred during the course of the recovery; wound healed; could walk about room."	2	
417	?	"Total excision; patella; epiphysis of femur, and thin slice of tibia."	Recovered, rapidly.	.....	"Flail-like union of parts; parents demanded amputation, which was done; inspection of parts afterwards, showed fibrous union, and that a good result would have probably followed excision."	?	
418	?	"Total excision; patella gouged."	Recovered, 4½ months.	Considerable.	"Able to go about with agility; a little mobility and sub-luxation; walks on toes."	After 4½	
419	?	Total excision; (2 inches); patella saved.	Recovered, 72 days.	?	Walks with cane; mobility; flexion; slight lameness.	2½	
420	?	Total excision.	Recovered.	?	"Walks; member bowed."	?	
421	?	Total excision.	Died.	.....	Amputation.		
422	?	Total excision.	Died, in several days.	?	An attempt "in extremis."		
423	?	Total excision.	Died, exhaustion.	?			
424	?	Total excision.	Died.	?			

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
425	Pén. ta. 342.	Giraldes, Paris.	France.	France.	? 9	?	1862.	S.	Chronic arthritis.
426	Pén. ta. 343.	Passavant, G. probably Berlin.	Germany.	Germany.	F. 15	?	1862.	S.	Chronic arthritis.
427	Phila. Med. and Surg. Reporter, viii. 281.	Higgenson, Montreal, Canada.	Hôpital de la Sainte Famille, Montreal, Canada.	Canada.	?	?	1862.	S.	Not stated what for.
428	Pén. ta. 344.	Edwards, A. M., see Case 416.	Scotland.	Scotland.	M. 22	?	1862.	S.	Chronic arthritis.
429	Lyon's ta. 47.	Hutchinson, J. C., Brooklyn, New York.	Brooklyn, N. York.	United States.	M. 7	?	Jan. 30, 1863.	S.	Chronic arthritis; abscesses leading to diseased bone; leg flexed on thigh; partial anchylosis.
430	Lyon's ta. 48.	Voss.	Jews' Hospital, New York.	United States. Emaciation.	F. 5	2 years' standing.	Mar. 27, 1863.	S.	Chronic arthritis; knee swollen and painful; sinuses.
431	Swain, p. 185.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	M. 32	4 mos. standing.	April 18, 1863.	S.	Chronic arthritis, resulting from articular rheumatism.
432	Swain, p. 186.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	M. 8	?	1st, May 23, 1863. 2d, Jan. 28, 1864.	S.	1st. Chronic arthritis; thickening of synovial membrane. 2d. For non-union of bones, and necrosis of upper end of tibia.
433	Lyon's ta. 50; Pén. ta. 350.	Hancock, Henry, 76 Harley St., W. London.	England.	England. "Emaciation extreme."	F. 10	5 years' standing.	June 20, 1863.	S.	Chronic arthritis; joint much swollen, and painful; luxation of tibia; from a fall.
434	Swain, p. 186.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	F. 37	?	July 10, 1863.	S.	Chronic arthritis; ulceration of cartilages; partial adhesion between ends of bones.
435	Swain, p. 186.	Fergusson, Wm., see Case 45.	King's College Hospital.	England.	M. 24	?	July 11, 1863.	S.	Chronic arthritis; partial anchylosis; repeated attacks of acute inflammation of knee.
436	Lancet, 385, 1865.	Clark, F. Le Gros, see Case 224.	Saint Thomas' Hospital, London.	England. "Delicate and strumous."	F. 18	7 mos. standing.	Aug. 18, 1863.	S.	Chronic arthritis; superficial caries; partial loss of cartilages; purulent infiltration of joint; from rheumatic arthritis.
437	Butch. Cons. Surg. p. 164.	Butcher, R.G., Dublin.	Mercer's Hospital, Dublin.	Hughes, Francis, Ireland. "Sweating rigors; hectic."	M. 21	16 mos. standing.	Sept. 5, 1863.	S.	Chronic arthritis; swelling, pain, and flexion of joint; erosion and detachment of cartilages; pulpy degeneration of synovial membrane; from jumping from a railroad car.
438	Swain, p. 207; Pén. ta. 351.	Kemp, A., Exeter.	England.	A——, Wm., Torquay, England. Health much impaired.	M. 22	3 years' standing.	Sept. 18, 1863.	S.	Chronic arthritis.
439	Lyon's ta. 51.	Terry, J. N., Bradford.	Bradford Infirmary England.	England.	M. 25	Disease dated from childhood.	Oct. 30, 1863.	S.	Chronic arthritis; pyarthrosis; luxation of tibia and nocturnal exacerbation of pain.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
425	?	Total excision.	Recovered.	?	"Anchylosis of knee, and cicatrization of wound complete."	14	Died of phthisis 14 months after.
426	?	Total excision.	Recovered.	?	Amputation.	?	
427	?	Total excision.	Recovered.	?	Successful.	?	
428	?	Total excision; patella.	Recovered.	?	?	?	
429	?	Total excision; patella.	Recovered, 3 months.	¾	"Wound healed; health good; bony anchylosis; runs streets without apparatus; no disease or tenderness of limb."	18	
430	?	Total excision; patella; ¾ inch of femur; ½ inch of tibia.	Recovered.	?	"Amputation 12th day for necrosis of end of femur, tibia, and exhaustion."	?	Necrosis attributed to unruly displacement of the bones.
431	H	Total excision.	Recovered, 100 days.	3	?	3½	
432	H	1st. Total excision. 2d. Slice from tibia and femur.	Recovered, 10¾ months from 1st operation.	Very short.	"Limb straight and firm."	10¾	
433	?	Total excision; "large portion of tibia."	Recovered, 4 months.	?	"Firm bony union; goes about on crutches; prospects good for useful limb."	4	
434	H	Total excision.	Died, 73 days, pyæmia, following gluteal abscess.				
435	H	Total excision.	Recovered, 74 days.	1	"Straight limb."	2½	
436	.....	Total excision; patella and diseased surfaces of joint.	Died, secondary hemorrhage few days after amputation.	.....	"Amputated Oct. 1864, for necrosis of ends of bone; bony union had taken place in front part of joint."	?	
437	H	Total excision; 2 inches of femur; ¼ inch of tibia.	Died, pyæmia, from erysipelas, latter early in Dec. 1863.	.....	"Bony union; limb straight, when took erysipelas."	?	Pulpy synovial membrane cut away.
438	Transverse.	Total excision; patella, and articular surfaces.	Recovered, 4 months.	?	"Able to walk at the rate of 3 miles an hour."	24	
439	?	Total excision; patella; a considerable portion of tibia and fibula.	Recovered, 10 weeks.	1½	"Able to walk several miles daily."	After 5	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
440	Lancet, 386, 1865; Pén. ta. 353.	Clark, F. Le Gros, see Case 224.	Saint Thomas' Hospital, London.	England. "Delicate and strumous."	M. 10	?	Oct. 1863.	S.	Chronic arthritis; abscess of joint, and disease of surfaces of joint.
441	Lyon's ta. 52; Pén. ta. 355.	Harrison.	?	?	M. ?	?	1863.	S.	Chronic arthritis.
442	Lyon's ta. 53; Pén. ta. 356.	Coe.	?	?	? 15	?	1863.	S.	Chronic arthritis.
443	Lyon's ta. 54; Pén. ta. 357.	Coe.	?	?	M. 40	?	1863.	S.	Chronic arthritis.
444	Pén. ta. 346.	Michael, Nancy, France.	France. ?	France.	F. 32	?	1863.	S.	Chronic arthritis.
445	Pén. ta. 352.	Roberts, A., Sidney, England.	England.	England.	F. 34	?	1863.	S.	Chronic arthritis.
446	Pén. ta. 358.	Lefort, Lèon, Paris, France.	France.	.....	M. 6	?	1863.	S.	Chronic arthritis.
447	Pén. ta. 359.	Roberts, A., Sidney, England.	England.	England.	M. 29	?	1863.	S.	Chronic arthritis.
448	Pén. ta. 360.	Bardeleben, Greifswald.	Germany.	Germany.	? 7	?	1863.	S.	Chronic arthritis.
449	Pén. ta. 361.	Bardeleben, Greifswald.	Germany.	Germany.	? 7	?	1863.	S.	Chronic arthritis.
450	Pén. ta. 362.	Langenbeck, B., Berlin.	Germany.	Germany.	M. 22	?	1863.	S.	Chronic arthritis.
451	Pén. ta. 363.	Smith, Th., 5 Stratford Pl., W. London.	London.	England.	M. 6	?	1863.	S.	Chronic arthritis.
452	Boston City Hosp. Reports, p. 104, 1870.	Cheever, D. W., Boston, Mass.	Mass.	C——, Mary A., United States. Has lithiasis.	F. 34	2½ years' standing.	Probably. 1863.	S.	Chronic arthritis; caries and necrosis of joint.
453	Pén. ta. 369; Swain, p. 211.	Whipple, J., Plymouth, England.	South Devon. Hospital, England.	P——, Rich'd, England. "A waiter."	M. 25	?	Jan. 15, 1864.	S.	Chronic arthritis.
454	Swain, p. 207; Pén. ta. 327.	Kemp, A., Exeter, England.	Exeter, England.	H——, Jos., Exeter, England. "Health much impaired."	M. 18	8 mos. standing.	Feb. 2, 1864.	S.	Chronic arthritis; pain of joint increasing.
455	Lyon's ta. 55.	Wood, J. R., 80 Irving Pl., New York.	Bellevue Hospital, New York.	United States, "Tuberculous lungs and cirrhotic liver."	M. 38	8 years' standing.	Feb. 6, 1864.	S.	Chronic arthritis; joint swollen and very painful; partially flexed and ankylosed; nocturnal startings.
456	Lyon's ta. 56.	Krackowizer, Ernst, New York.	Jews' Hospital, New York.	United States. "Has hectic."	M. 9	Long standing.	Feb. 12, 1864.	S.	Chronic arthritis; sinuses of joint.
457	Swain, p. 187.	Fergusson, Wm., see Case 45.	King's College Hospital.	England. "Strumous."	F. 14	11 years' standing.	Feb. 13, 1864.	S.	Chronic arthritis; bone affected; from typhus fever.
458	Boston Med. & Surg. Jour. lxx. 500; Pén. ta. 405.	Hodges, R.M., Boston.	Boston General Hospital.	C——, M., United States. "General health good."	M. 15	8 years' standing.	May 14, 1864.	S.	Chronic arthritis; knee flexed at 110°; anchylosed; painful; swollen; sinuses; limb distorted; from taking cold swimming.
459	Swain, p. 187.	Fergusson, Wm., see Case 45.	King's College Hospital.	England. "Strumous."	F. 9	6 years' standing.	May 19, 1864.	S.	Chronic arthritis; abscess of head of tibia.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
440	?	Total excision; diseased surfaces of entire joint.	Recovered, 11 months.	?	Anchylosis of bones; can bear some weight on limb; wears a leather splint around joint; discharge nearly ceased.	11	
441	?	Total excision.	Recovered.	?	"When last seen he said he was able to walk 20 miles a day."	?	
442	?	Total excision.	Recovered.	?	"Amputation for painful œdema of foot; knee admirably restored."	?	
443	?	Total excision.	Died, within 10 days after operation, exhaustion.				
444	?	Total excision.	Recovered, 6 months.	2	"Slight mobility at knee; walks with a heel 2 in. high."	24	
445	?	Total excision; patella.	Recovered, 7 months.	?	"Recovery perfect; member useful."	7	
446	Transverse.	Total excision.	Died.	?	Amputated by another surgeon.	?	
447	?	Total excision.	Recovered, 7 months.	.....	"Health very good; member very useful; labors."	24	
448	?	Total excision.	Died, cerebral emboli.				
449	?	Total excision.	Recovered.	?	?	?	
450	I	Total excision.	Recovered.	?	"Walked very well with a high heel."	?	
451	?	Total excision.	Recovered.	?	Result uncertain.	?	
452	U	Total excision.	Recovered, 288 days.	.....	Amputation for necrosis 150th day.	$9\frac{18}{30}$	
453	?	Total excision.	Died, 1 month.				
454	U	Total excision; "patella; articular surfaces of femur and tibia, and a further slice of femur."	Recovered, 2 months.	?	"Bones firmly united; wound not healed."	4	
455	?	Total excision; patella; $1\frac{1}{2}$ inches of femur; $\frac{1}{4}$ inch of tibia, and articular cartilages.	Died, 23 days, pyæmia.				
456	?	Total excision; patella; 1 inch of femur; $\frac{1}{4}$ inch tibia.	Recovered.	?	Amputation 25th day for extensive necrosis of ends of bones.	?	
457	H	Total excision.	Died, 3d day, exhaustion, from hemorrhage	?			
458	Single transverse.	Total excision; patella; 2 inches.	Recovered.		"Stiffening of bones; less suppuration of limb; in promising condition."	1	
459	H	Total excision.	Died, 12 days, pyæmia.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
460	Swain, p. 208.	Kemp, A., Exeter, England.	England.	J——, Elizabeth, England.	F. 33	4 years' standing.	May 25, 1864.	S.	Chronic arthritis; ends of bones much diseased.
461	Rank. Abst. liii. 216, 1871; Swain, p. 211.	Swain, Wm. P., Devonport, England.	Royal Albert Hospital, London.	L——, M. Ann England. "Pale, strumous; had cough 2 months."	F. 16	5 years' standing.	May 28, 1864.	S.	Chronic arthritis; cartilages detached; caries; rectangular flexion, and no motion of joint; joint swollen and painful.
462	Swain, p. 208; Pén. ta. 374.	Kemp, A., Exeter, England.	England.	S——, Wm., Tiverton, England. "Much emaciated."	M. 9	Some years' standing.	June 1, 1864.	S.	Chronic arthritis; "severe pain in joint."
463	Letter, 1873.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Pa.	At patient's home.	Brehmer, Peter, Birmingham, Penna. "Healthy constitution."	M. 14	4 w'ks' standing.	July 10, 1864.	S.	Compound comminuted fracture of knee, by crushing power.
464	Letter, 1872.	Sterling, E., Cleveland, Ohio.	Patient's home.	Tittlebach, P. Cleveland, Ohio.	M. 13	July 20, 1864.	July 20, 1864.	P.	Compound separation at the lower epiphysis of femur; opening in popliteal space; lower end of femur would not remain adjusted until after resection joint opened.
465	Swain, pp. 188 and 65 (note).	Smith, Henry, 82 Wimpole Street, W. London.	King's College Hospital.	England. "Strumous."	M. 7	5 mos. standing.	Oct. 22, 1864.	S.	Chronic arthritis; suppuration of joint.
466	Lancet, p. 206, 1872.	Terry, John N., Bradford, England.	Bradford Infirmary England.	D——, D., England.	M. 26	Existed from childhood.	Oct. 30, 1864.	S.	Chronic arthritis; swelling and disorganization of joint; flexion of limb; pulpy degeneration.
467	Lancet, 456, 1865; Pén. ta. 371.	Grant, G. A., Ottawa, Canada.	Canada.	Canada.	M. 40	?	Oct. 1864.	S.	Chronic arthritis.
468	Boston City Hosp. Reports, p. 104, 1870; Letter, 1872.	Buckingham, C. E., Boston, Mass.	Boston City Hospital.	R——, Wm., United States. "Case complicated with bed-sores."	M. 25	3 years' standing.	Dec. 31, 1864.	S.	Chronic arthritis; caries from kick of a horse.
469	Pén. ta. 367.	Beck, B.	Germany.	Germany.	? 20	?	1864.	S.	Chronic arthritis.
470	Pén. ta. 368.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland. "Phthisical."	F. 23	?	1864.	S.	Chronic arthritis.
471	Pén. ta. 370.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland.	M. 18	?	1864.	S.	Chronic arthritis.
472	Pén. ta. 373.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland.	F. 32	?	1864.	S.	Chronic arthritis.
473	Pén. ta. 375.	Langenbeck, B., Berlin.	Germany.	Germany.	F. 8	?	1864.	S.	Chronic arthritis.
474	Pén. ta. 376.	Bardeleben, Greifswald.	Germany.	Germany.	? 6	?	1864.	S.	Chronic arthritis.
475	Pén. ta. 378.	Bardeleben, Greifswald.	Germany.	Germany.	? 4	?	1864.	S.	Chronic arthritis.
476	Pén. ta. 380.	Bardeleben, Greifswald.	Germany.	Germany.	? 9	?	1864.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
430	U	Total excision; patella, and articular surfaces of tibia and femur.	Recovered.	?	"A most useful limb was procured."	?	
431	U	Total excision; 1⅛ inches of femur; 1¼ inches of tibia; afterwards thin slice from, and both bones (ends) gouged.	Recovered, 6 months.	3½	"After recovering from the fracture walked with a high heel, and got about capitally; short 4 inches; ½ inch from fracture."	19	After leaving hospital, fell and fractured femur 2 inches above knee.
462	Single transverse.	Total excision; patella, and articular surfaces.	Died, 47 days, tubercular meningitis.				
463	U	Total excision; patella gouged; 1 in. of femur; articular facets of tibia.	Recovered, 4 months.	1¾	"Walks with comfort and ease."	48	
464	None.	One inch of the lower end of femur.	Recovered.	.....	"Can skate and dance well."	84	
465	Transverse.	Total excision.	Recovered, 48 days.	?	"Wound healed; no tendency for the bones to become united."	$1\frac{18}{30}$	
466	U	Total excision; ½ in. of femur; ¼ inch of tibia.	Recovered, 83 days.	?	"Healed; perfect use of limb; runs with freedom; leads an active life."	85	
467	?	Total excision; patella; 2½ inches.	Recovered, 3 months.	2½	"Walks with a cane."	3	
468	?	Total excision; 2 in. of femur; 1 inch of tibia.	Recovered, 70 days.	?	Amputation 5 hours after operation for uncontrollable hemorrhage.	?	
469	?	Total excision; 2½ inches.	Recovered, 6 months.	$1\frac{7}{12}$	"Recovery complete."	6	
470	Transverse over middle patella.	Total excision; patella scraped.	Died, 15 days, phthisis.				
471	Transverse over middle patella.	Total excision; patella saved.	Died, 3½ months.	.....	Amputation for severe hemorrhage.	.....	There were fistulæ leading behind patella.
472	Transverse over middle patella.	Total excision.	Died, 3 months, phthisis.				
473	I	Total excision.	Died.				
474	?	Total excision.	Died, acute meningitis.				
475	?	Total excision.	Recovered.	.....	"Anchylosis."		
476	?	Total excision.	Recovered.	.....	"Tolerable use of member."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
477	Pén. ta. 377.	Boeckel, E., Strasbourg.	Germany.	Germany. Exhausted.	M. 8	?	1864,	S.	Chronic arthritis.
478	Pén. ta. 381.	Jeroksburg.	Probably U. S.	Probably United States.	M. 19	?	1864.	S.	Chronic arthritis.
479	Pén. ta. 382.	Ollier, Lyons.	France.	France.	?	?	1864.	S.	Chronic arthritis.
480	Pén. ta. 383.	Watson, P. H., Glasgow.	Scotland.	Scotland.	M. 24	?	1864.	S.	Chronic arthritis.
481	Pén. ta. 384.	Spence, J., Bedale, Yorkshire.	England.	England.	M. 21	?	1864.	S.	Chronic arthritis.
482	Swain, p. 188.	Smith, Henry, 82 Wimpole Street, W. London.	King's College Hospital.	England. "Strumous."	F. 21	9 years' standing.	Jan. 12, 1865.	S.	Chronic arthritis; ulceration of cartilages; abscess of head of tibia; partial anchylosis.
483	Swain, p. 209.	Reported by Delagarde, Exeter. England.	Exeter Hospital.	P——, John, England. "Sinking health."	M. 13	?	Feb. 4, 1865.	S.	Chronic arthritis; abscesses and ulceration of cartilages of joint.
384	Swain, p. 209.	Reported by Delagarde, Exeter, England.	Exeter Hospital.	W——, Geo., England. "Failing health."	M. 16	?	Feb. 16, 1865.	S.	Chronic arthritis; abscesses and ulceration of cartilages of joint.
485	Swain, p. 209.	Reported by Delagarde, Exeter, England.	Exeter Hospital.	W——, Jas., England. "Failing health."	M. 12	?	Feb. 22, 1865.	S.	Chronic arthritis; ulceration of cartilages, and abscess of joint; contraction of limb.
486	Swain, p. 209.	Reported by Delagarde, Exeter, England.	Exeter Hospital.	H——, Jos., England. "Failing health."	M. 16	?	Feb. 27, 1865.	S.	Chronic arthritis; ulceration, cartilages, and abscess of joint.
487	Swain, p. 211; Pén. ta. 389.	Whipple, Jno. 3 Mulgrave Place, Plymouth.	South Devon. Hospital.	B——, Eliza, England. Dressmaker.	F. 25	?	Feb. 17, 1865.	S.	Chronic arthritis.
488	Boston City Hosp. Reports, 1870, and Letter.	Buckingham, C. E., Boston, Mass.	Boston City Hospital.	C——, Ellen, United States. "Bed-sores."	F. 7	3 years' standing.	Mar. 22, 1865.	S.	Chronic arthritis; caries; sinuses, and anchylosis of joint.
489	Swain, p. 209.	See Case 483.	Exeter, England.	T——, Elizabeth, England. "Failing health."	F. 33	?	May 25, 1865.	S.	Chronic arthritis; ulceration, and abscess of joint.
490	Pénières, p. 111.	Verneuil, Prof., Paris.	France.	France.	M. 28	June 20, 1862.	June 27, 1865.	S.	Compound fracture of lower end and condyles of right femur; joint penetrated; from a fall.
491	Swain, p. 189; Pén. ta. 402.	Smith, Henry, see Case 465.	King's College Hospital.	B——, M., England. "Strumous."	F.	11 mos. standing.	Sept. 6, 1865.	S.	Chronic arthritis; joint swollen, painful, and flexed, and greatly disorganized; degeneration of synovial membrane.
492	Swain, p. 189; Pén. ta. 399.	Wood, John, see Case 403.	King's College Hospital.	D——, H., England. "Pale; strumous; flabby-looking."	M. 4	?	Oct. 21, 1865.	....	Chronic arthritis; knee swollen; soft; joint semi-flexed; immovable; sinuses; suppuration; small abscess of head of tibia.
493	Lancet, p. 561, 1867.	Clark, F. Le Gros, see Case 224.	Saint Thomas' Hospital, London.	L——, Rich'd, England. "Emaciated."	M. 30	5 years' standing.	Dec. 13, 1865.	S.	Chronic arthritis; scarcely trace of cartilages; surface of ends of bones diseased; suppuration.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
477	?	Total excision.	Died, 6 days, from sloughing over sacrum and abscesses of thigh.				
478	?	Total excision, and patella.	Recovered.				
479	On external side-joint 1.	Total excision.	Died, 10 months.				
480	Transverse.	Total excision; 1 inch; patella.	Recovered.	?	Walks easily with a heel 1 inch high.	?	
481	?	Total excision; patella.	Recovered, 3 weeks.	?	Anchylosis; walks well.	After $\frac{3}{4}$	
482	Transverse.	Total excision.	Died, 9 days, pyæmia.	?			
483	?	Total excision.	Recovered.	?	Amputated at 86th day for non-union.	?	
484	?	Total excision.	Recovered.	?	Good union.	?	
485	?	Total excision.	Recovered, 50 days.	?	Good union.	?	
486	?	Total excision.	Recovered.	?	Good union.	?	
487	?	Total excision.	Recovered, 7 months.	?	"Made a good recovery."	7	
488	U	Total excision; 2 in. of femur; $\frac{1}{4}$ inch of tibia.	Recovered, 275 days.	?	"Union firm; no external discharge."	$9\frac{1}{6}$	
489	?	Total excision.	Recovered.	.....	"Good union."		
490	H	Partial excision; lower $\frac{1}{4}$ of femur; patella saved.	Died, July 15, 1865.				
491	Transverse.	Total excision; lower end of femur and articular extremity of tibia.	Died, 18 days, pyæmia.	.....	"Bones became displaced."		
492	?	Total excision; patella saved; lower end femur; all the epiphysis of tibia.	Recovered.	?	"Anchylosis; very beautiful result."	1866	
493	U	Total excision; thick sections of ends of bones.	Died of acute disease of kidneys, in Oct. 1866.	?	"In July, 1866, firm union; could get about with support; wound not healed; when he died joint quiet and tending to recovery."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
494	Swain, p. 201.	Lee, Henry, 9 Savile Row, W. London.	Saint George's Hospital, London.	N——, Chas., England.	M. 11	?	Dec. 14, 1865.	S.	Chronic arthritis.
495	Pénières, p. 112.	Doutrelepont, Prof., Bonn.	Germany. ?	Germany.	M. 38	?	1865.	S.	Penetrating lacerated wound of joint, with protrusion of inner condyle, and gangrene over this point; from injury by end of tongue of sled.
496	Pénières, p. 105 and No. 409.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland.	M. 24	?	1865.	S.	1st. Puncture of acutely inflamed hydrops articuli. 2d. Re-excision.
497	Pén. ta. 385.	Watson. P. H., Glasgow.	Glasgow Hospital.	Scotland.	F. 30	?	1865.	S.	Chronic arthritis.
498	Pén. ta. 390.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland.	F. 21	?	1865.	S.	Chronic arthritis.
499	Lancet, p. 552, 1865; Pén. ta. 393.	Gayet, Lyons.	Hôtel Dieu, Lyons.	France.	M. 29	?	1865.	S.	Chronic arthritis and caries.
500	Pén. ta. 386.	Vanzetti, Prof., Padua, Italy.	Italy.	Italy.	M. 9	?	1865.	S.	Chronic arthritis.
501	Pén. ta. 387.	Vanzetti, Prof., Padua, Italy.	Italy.	Italy.	M. 25	?	1865.	S.	Chronic arthritis.
502	Pén. ta. 388.	Fenwick, G. E., Montreal.	Canada.	Canada.	?	?	1865.	S.	Chronic arthritis.
503	Pén. ta. 391.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland.	M. 18	?	1865.	S.	Chronic arthritis.
504	Swain, p. 211; Pén. ta. 396.	Whipple, J., see Case 487.	South Devon. Hospital.	H——, Carnetie, England. "Servant."	F. 32	?	1865.	S.	Chronic arthritis.
505	Pén. ta. 397; Langenbeck's Arch., 1867, (9, 1), by Satterthwaite.	Koenig, F., Rostock.	Germany.	Knoblauch, Marie, Germany.	F. 7	?	1865.	S.	Chronic arthritis of left joint; sinuses.
506	Pén. ta. 398; Lang., loc. cit.	Koenig, F., Rostock.	Germany.	Gluck, ——, Germany.	M. 7	?	1865.	S.	Chronic arthritis; caries of fibula, and acute abscess in joint.
507	Pén. ta. 403.	Hodges, R. M. Boston.	Mass.	United States.	M. 26	?	1865.	S.	Chronic arthritis; caries of fibula, and acute abscess in joint.
508	Pén. ta. 400.	Simon, Rostock.	Germany.	Germany.	F. 13	?	1865.	S.	Chronic arthritis; caries of fibula, and acute abscess in joint.
509	Pén. ta. 401.	Simon, Rostock.	Germany.	Germany.	M. 36	?	1865.	S.	Chronic arthritis; caries of fibula, and acute abscess in joint.
510	Pén. ta. 406; Lancet, 1866, p. 323.	Callender, G. W., 47 Queen-Ann Street, W. London.	England.	England.	M. 7	?	1865.	S.	Chronic arthritis; partial dislocation at knee; softening of end of femur.
511	Pén. ta. 410.	Gayet, Lyons, France.	France.	France.	M. 16	?	1865.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
494	?	Total excision.	Recovered, 4½ months.	2	"Firm union."	4½	
495	?	Partial excision; end of femur only.	Recovered.	1	"Walked."	?	
496	Transverse middle patella.	Total excision; 1st. Patella, and afterwards of the two bones. 2d. Portion of end of tibia.	Died, 4 months, exhaustion.	?			
497	Transverse middle patella.	Total excision; patella saved.	Recovered, 2½ months.	?	"Walked 3 miles an hour in 1867."	1867	
498	Transverse middle patella.	Total excision; 2 inches; patella saved.	Recovered, 4½ months.	1½	"Walked very easily with a high heel."	4½	
499	○	Total excision; patella.	Recovered, 1 year.	?	"Recovery slow; able to walk some distance with aid of stick; sequestrum thrown off; sinuses not healed."	After 12	
500	?	Total excision; patella.	Recovered, 95 days.	?	Walked in 1867 several miles per hour with aid of high heel.	1867	
501	?	Total excision; near 4 inches; head of fibula; patella saved.	Recovered, 11 months.	2.08	"Member very useful; patella movable."	?	
502	?	Total excision.	Recovered.	?	?	?	
503	Transverse middle patella.	Total excision; 1¼ inches.	Recovered, 4 months.	?	Walks easily 2 miles.	4	
504	?	Total excision.	Recovered.	?	"Still a fistula."	10	
505	H	Total excision; patella; ½ inch of femur; one-sixth in. of tibia.	Recovered, 12 months.	Near 2	"Could go about all day with the power of slight motion in the joint; general health good."	12	Previously bent limb straightened by forced flexion; surfaces of joint afterward became carious; plaster of Paris dressings.
506	⊥	Fibula; 1 inch of condyles; 2 inches of patella; small disk of tibia.	Recovered, 5 months.	Near 2	"Limb somewhat bent; can run on it without using a stick; health good."	5	Plaster of Paris dressings; in this and previous case transverse cuts sewed up, others left open.
507	?	Total excision; patella.	Recovered.	?	Anchylosis.	?	
508	?	Total excision.	Died, exhaustion.				
509	?	Total excision.	Died, 9 months, from repetition of operation.				
510	?	Total excision; end of femur and tibia.	Recovered.	Great	"Shortening from the fracture."	?	In flexing knee, fracture at the epiphysis occurred.
511	○	Total excision; 3 in.	Died, 6 days, pyæmia.	?	Bones not in apposition.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
512	Pén. ta. 413.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland.	F. 26	?	1865.	S.	Chronic arthritis.
513	Pén. ta. 414.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland.	F. 30	?	1865.	S.	Chronic arthritis.
514	Pén. ta. 415; Smith's Price, p. 77.	Watson, P. H., Glasgow.	Glasgow Hospital.	Scotland.	M. 35	?	1865.	S.	Chronic arthritis.
515	Pén. ta. 416.	Smith, H., see Case 465.	King's College Hospital, London.	England.	F. ?	?	1865.	S.	1st. Chronic arthritis; abscess of head of tibia. 2d. Re-excision.
516	Boston City Hosp. Reports, 1870; Letter, 1872.	Buckingham, C. E., Boston.	Boston City Hospital, Mass.	D——, Michael, United States.	M. 13	9 years' standing.	Probably 1865.	S.	Chronic arthritis; caries.
517	Swain, p. 210.	Lee, Henry, see Case 494.	Saint George's Hospital, London.	N——, Henry, England.	M. 13	?	Jan. 18, 1866.	S.	Chronic arthritis; periostitis of lower end of femur, causing great swelling and abscess in joint.
518	Letter, 1873.	Walter, A. G., Pittsburg, Pa.	Pittsburg	Anderson, Addison, Bellair, Ohio.	M. 6	2 years' standing.	Mar. 7, 1866.	S.	Chronic arthritis; caries; extensive collection of matter in bursæ above patella, and among femoral muscles.
519	Swain, p. 191.	Fergusson, Sir William, see Case 45.	King's College Hospital.	England.	F. 21	15 mos. standing.	April 7, 1866.	S.	Chronic arthritis; gelatiniform degeneration of synovial membrane.
520	Swain, p. 190.	Smith, H., see Case 465.	King's College Hospital.	England.	F. 43	19 years' standing.	April 14, 1866.	S.	Chronic arthritis; ulceration of cartilages; thickening of synovial membrane; frequent attacks of inflammation of joint.
521	Lancet, 1867, p. 560.	Clark, F. Le Gros, see Case 224.	Saint Thomas' Hospital, London.	D——, Frederick, England. "Strumous; health greatly impaired."	M. 8	Some mos. standing.	April 21, 1866.	S.	Chronic arthritis; much swelling and pain, with suppuration and disorganization and sinuses of joint; cancellous structure of bones softened and compressible.
522	Lancet, 1867, p. 439.	Lansdown, P. F., Bristol, England.	Bristol General Hospital.	L——, Fras., England. "Much emaciated, but health improved by treatment."	M. 15	10 mos. standing.	May 24, 1866.	S.	Chronic arthritis; rectangular anchylosis; dislocation of tibia; some suppuration; no assignable cause.
523	Swain, p. 209.	Reported by Delagarde, Exeter, England.	Exeter Hospital.	F——, Wm., England. "Failing health."	M. 45	?	June 10, 1866.	S.	Chronic arthritis; ulceration of cartilages, and abscess of joint.
524	Swain, p. 191; Pén. ta. 404.	Smith, H., see Case 465.	King's College Hospital.	England. Health bad.	M. 16	?	July 7, 1866.	S.	1st. Chronic arthritis; destructive infiltration of joint from slight injury. 2d. Re-excision.
525	Swain, p. 209.	Reported by Delagarde, Exeter, England.	Exeter General Hospital.	L——, Wm., England. "Failing health."	M. 18	?	July 16, 1866.	S.	Chronic arthritis; ulceration of cartilages, and abscess of joint.
526	Swain, p. 202.	Lee, Henry, see Case 494.	Saint George's Hospital, London.	P——, Rich'd, England.	M. 15	Long standing.	Aug. 30, 1866.	S.	Chronic arthritis; abscess, dislocation, and anchylosis of knee.
527	Swain, p. 196; Pén. ta. 408.	Smith, H., see Case 465.	King's College Hospital.	England. "Strumous."	M. 12	?	1st, Aug. 1866. 2d, Feb. 9, '67.	S.	1st. Chronic arthritis. 2d. Necrosis of femur; abscess of head of tibia.
528	Swain, p. 209.	Reported by Delagarde, Exeter,	Exeter Hospital, England.	P——, Maria, England. "Phthisical."	F. 46	?	Sept. 29, 1866	S.	Chronic arthritis; chronic synovitis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
512	—	Total excision.	Recovered, 4 months.	1	Walks without support.	After 4	
513	—	Total excision.	Recovered, 4½ months.	1	"Walks very well."	4½	
514	—	Total excision.	Died, 18 days.				
515	H	Total excision.	Died, soon after re-excision.	?	Re-excision at 8 months.		
516	U	Total excision; entire articular surfaces.	Recovered, 369 days.	?	"3 years afterward, knee insecure, walking with a cane."	36	
517	?	Total excision.	Recovered, 5 months.	?	?	5	
518	U	Total excision; slice of articulating surface of tibia and femur; patella.	Died, 10 days.				
519	H	Total excision.	Died, 22 days, pyæmia.				
520	Transverse.	Total excision.	Died, 80 days, embolism.	?	Wound healed, and firm bony union.		
521	?	Total excision; portion of ends of tibia and femur.	Recovered, 6 months.	?	"Well; tendency to slight flexion; obviated by splint; limb strong and serviceable."	6	
522	U	Total excision; thin slice of tibia; condyles of femur.	Recovered, 9 weeks.	2	"Wound healed; aid of high heel can walk any distance."	9	
523	?	Total excision.	Recovered.	?	"Good union."	?	
524	—	Total excision.	Recovered, 56 days.	?	After 1st operation wound healed; fair amount of union; Feb. 9, 1867, re-excised; discharged with a serviceable limb; union fibrous.	After 7	
525	?	Total excision.	Recovered.	?	"Good union."	?	
526	?	Total excision.	Recovered, 6½ months.	?	"Oct. 1st, wound phagedenic; wound nearly healed; walked with crutches."	6½	
527	—	1st. Total excision; thin slice of tibia and femur. 2d. Thin slice of tibia and femur.	Recovered, 7 months.	3	"Walks with stick; all discharge ceased."	8	Ligature found in wound left from first operation.
528	?	Total excision.	Died, phthisis, Feb. 18, 1867.	.....	No union.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
529	Swain, p. 191.	Wood, J., see Case 403.	King's College Hospital.	England. Health much affected.	M. 25	16 years' standing.	Sept. 29, 1866.	S.	Chronic arthritis; cartilages ulcerated; abscesses of lower end of femur.
530	Swain, p. 199.	Wood, J., see Case 403.	King's College Hospital.	B——, D.	? 10	?	Nov. 3, 1866.	S.	Chronic arthritis; abscess in each condyle; degeneration of synovial membrane; knee contracted, swollen, and painful.
531	Swain, p. 209.	Reported by Delagarde, Exeter, England.	Exeter Hospital.	W——, Richard, England. "Failing health."	M. 7	?	Nov. 3, 1866.	S.	Chronic arthritis; ulceration of cartilages, and abscess of joint.
532	Med. and Surg. Report'r, Phila. xv. 405.	Tewksbury, S. H., Portland, Maine.	?	Sweet, ——, Falmouth, Maine.	M. ad't	Sev. years' standing.	1866.	S.	Chronic arthritis; ulcerative disease; from fall from a tree.
533	Pénières, p. 105.	Volkmann, R. Prof., Halle, Germany.	Germany.	Germany.	M. 26	1 mo. standing.	1866.	S.	"Traumatism and burn sloughing; 4 weeks after the joint opened; necrosis of femur; abscess in front of thigh, and in popliteal region."
534	Pénières, p. 112.	Watson, P. H., Glasgow.	Glasgow, Scotland.	Scotland.	F. 32	.....	1866.	P.	Penetrating wound of joint and fracture of femur from jumping from window.
535	Swain, p. 198.	Fergusson, Sir William, see Case 45.	King's College Hospital, London.	H——, A., England. "Wretched health."	F. 25	?	Jan. 12, 1867.	S.	Chronic arthritis; extensive disease of bones, and synovial membrane of joint; great deformity.
536	Swain, p. 195.	Smith, H., see Case 465.	King's College Hospital, London.	C——, A., England. "Health much reduced."	F. 20	?	Jan. 12, 1867.	S.	Chronic arthritis; extreme pain in, and anchylosed and swollen joint; abscess in head of tibia.
537	Swain, p. 197.	Smith, H., see Case 465.	King's College Hospital, London.	P——, N., England. "A strumous and wretched-looking object."	M. 10	Dis. had existed for some time.	Mar. 9, 1867.	S.	Chronic arthritis; "knee contracted, swollen, and painful; degeneration of synovial membrane."
538	Swain, p. 202.	Lee, H., see Case 494.	Saint George's Hospital, London.	K——, Edw., England. "Strumous."	M. 7	?	Mar. 14, 1867.	S.	Chronic arthritis; abscess of joint.
539	Swain, p. 202.	Lee, H., see Case 494.	Saint George's Hospital, London.	C——, Wm., England.	M. 21	?	April 4, 1867.	S.	Chronic arthritis; end of bones softened; osteomyelitis of end of femur.
540	Swain, p. 202.	Lee, H., see Case 494.	Saint George's Hospital, London.	W——, Luther	M. 4	?	May 15, 1867.	S.	Chronic arthritis; abscess of lower end of femur communicating with joint.
541	Swain, p. 197; Rank. Abst., lix. 226; Pén. ta. 420.	Smith, H., see Case 465.	King's College Hospital, London.	M——, C., England. "Strumous."	M 12	4 years' standing.	May 19, 1867.	S.	Chronic arthritis; degeneration of synovial membrane; deformity.
542	Swain, p. 202.	Lee, H., see Case 494.	Saint George's Hospital, London.	B——, Anthony. England.	M. 9	?	June 6, 1867.	S.	Chronic arthritis.
543	Swain, p. 202.	Lee, H., see Case 494.	Saint George's Hospital, London.	S——, J., England.	F. 5	12 mos. standing.	June 8, 1867.	S.	"Chronic arthritis; green degeneration of synovial membrane; bones healthy."
544	Boston City Hosp. Reports, 1870.	Buckingham, C. E., Boston, Mass	Boston City Hospital.	C——, Patrick United States.	M. 30	4 mos. standing.	June 21, 1867.	S.	Chronic arthritis; caries.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
529	?	Total excision.	Died, 19 days, erysipelas and secondary hemorrhage				
530	?	Total excision.	Recovered, 47 days.	.....	"Recovered rapidly."	1½	
531	?	Total excision.	Recovered.	.....	Amputated at 3 weeks for non-union.		
532	?	Total excision.	Recovered.	Very little.	Stiff knee; perfect limb.	?	
533	—	Total excision.	Recovered.	?	?	?	
534	?	Partial excision; end of femur.	Died.				
535	H	Total excision.	Recovered, 9 months.	2½	"Union had taken place, but not yet firm; several exfoliations."	9	
536	—	Total excision.	Died, 10 days, pyæmia.				
537	—	Total excision.	Recovered, 7 weeks.	Hardly perceptible.	Straight limb; firm fibrous anchylosis.	6	
538	?	Total excision.	Recovered, 2 months.	.....	Sent to Margate, May 16, 1867; in 1868 removal of soft fibrous substance between ends of bones.	1868	
539	?	Total excision.	Died, 20 days, pyæmia.				
540	?	Total excision.	Recovered, 5 months.	?	?	?	
541	—	Total excision; small sections of ends of tibia and femur; left half of each epiphysis.	Recovered, 3 months.	1	"Limb slightly bowed out; bony anchylosis; can move about with the greatest agility without support."	6	
542	?	Total excision.	Recovered, 4 months.	1¼	"Wound healed; union firm."	4	
543	?	Total excision.	Died, 18 days, pyæmia.	.....	.....	.....	"Post mortem showed diffuse suppuration of end of tibia and femur; abscesses in lungs, kidneys, and spleen."
544	Transverse	Total excision; patella, and articular surfaces.	Recovered, 273 days.	.....	"Wound discharges still; weak; walks with crutches."	18	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
545	Swain, p. 199.	Fergusson, Sir William, see Case 45.	King's College Hospital, London.	T——, E., England. Health bad.	? 6	3 years' standing.	June 22, 1867.	S.	Chronic arthritis; "extreme disease of joint."
546	Swain, p. 198.	Partridge, R., see Case 154.	King's College Hospital, London.	V——, F., England.	M. 14	?	July 24, 1867.	S.	Chronic arthritis; ulceration of cartilages and bones; tibia dislocated; anchylosis; great deformity; thickening of synovial membrane.
547	Swain, p. 198.	Partridge, R., see Case 154.	King's College Hospital, London.	W——, H., England.	M. 8	?	July 1867.	S.	Chronic arthritis; contraction; knee joint swollen and very painful.
548	Lancet, 1870, p. 336.	Pemberton, O. Birmingham, England.	Near Birmingham, England.	E. "Healthy."	M. 17	Aug. 6, 1867.	Aug. 7, 1867.	P.	Compound comminuted fracture of patella.
549	Swain, p. 200.	Fergusson, Sir William, see Case 45.	King's College Hospital.	M——, J., England. Health bad.	M. 23	?	Nov. 21, 1867.	S.	Chronic arthritis; caries of outer condyle; sinuses of joint stiff and painful.
550	Swain, p. 210.	Reported by Delagarde, Exeter.	Exeter Hospital.	S——, Mary Ann, England. "Failing health."	F. 24	?	Oct. 2, 1867.	S.	Chronic arthritis; ulceration of cartilages, and abscess of joint.
551	Swain, p. 191.	Fergusson, Sir William, see Case 45.	King's College Hospital.	England.	F. 25	?	Nov. 16, 1867.	S.	Chronic arthritis; gelatiniform degeneration of synovial membrane.
552	Swain, p. 200; Pén. ta. 424.	Fergusson, Sir William, see Case 45.	King's College Hospital.	Hendle, ——, England.	M. 14	?	Nov. 21, 1867.	S.	Chronic arthritis; extensive disease; luxation of tibia.
553	Swain, p. 210.	Reported by Delagarde, Exeter.	Exeter Hospital.	W——, Anna, England.	F. 41	?	Nov. 23, 1867.	S.	Chronic arthritis; ulceration of cartilages, and abscess of joint.
554	Swain, p. 196.	See Case 154.	King's College Hospital.	P——, W., England. "Strumous."	M. 15	?	Nov. 1867.	S.	Chronic arthritis.
555	Swain, p. 192; Rank. Abst., xlix. 226.	See Case 465.	King's College Hospital.	England. "Health wretched."	F. 12	9 years' standing.	Dec. 14, 1867.	S.	Chronic arthritis; extensive synovitis and deformity of limb.
556	Swain, p. 203.	Lee, Henry, see Case 494.	Saint George's Hospital, London.	K——, Stephen, England.	M. 12	Long standing.	Dec. 14, 1867.	S.	Chronic arthritis; abscess of femur opening into joint; acute flexion of, and limb undeveloped.
557	Pén. ta. 419.	Stokes, W.	England.	England.	F. 23	?	1867.	S.	Chronic arthritis.
558	Pén. ta. 422.	Maconchy.	?	?	M. ad't	?	1867.	S.	Chronic arthritis.
559	Pén. ta. 423.	Giraldes, Paris, France.	?	?	M. 10	?	1867.	S.	Chronic arthritis.
560	Lancet, 1872, p. 206.	Terry, John N., Bradford, England.	Bradford Infirmary	S——, A. S., England. Gen'l health suffering.	M. 12	?	Jan. 24, 1868.	S.	Chronic arthritis; pulp degeneration; much swelling; acute pain; sinuses suppuration and rectangular flexion of joint.
561	Swain, p. 210.	Lee, Henry, see Case 494.	Saint George's Hospital, London.	B——, Benj., England.	M. 8	?	April 23, 1868.	S.	Chronic arthritis; abscess of internal condyle of femur.
562	Swain, p. 210.	Reported by Delagarde, Exeter.	Exeter Hospital, England.	C——, Ellen, England. "Failing health."	F. 16	?	May 16, 1868.	S.	Chronic arthritis; ulceration of cartilages, and abscess of joint.
563	Swain, p. 218.	Bulteel, E. J.	England.	L——, Rosina, "Rheumatic subject."	F. 42	18 mos. standing.	Aug. 8, 1868.	S.	"Chronic arthritis; ulceration of cartilages; pulp degeneration of synovial membrane; dislocation of tibia and fibula."

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
545	H	Total excision.	Recovering under treatment.	?	"Health good; under treatment."	?	
546	?	Total excision.	Recovered.	.....	Wound nearly healed; under treatment.	?	
547	?	Total excision.	Recovered, 8 weeks.	?	Straight leg, and fibrous anchylosis.	2	
548	U	Total excision; fragments of patella, and thin slice of tibia and femur.	Died, 3 days, probably of persistence of shock.				
549	H	Total excision.	Recovered.	?	"Health good; fibrous union; moving about on crutches."	?	
550	?	Total excision.	Recovered, 50 days.	.....	Good union.	1⅔	
551	H	Total excision.	Died, 16 days, from depression of chloroform.	.....	Doing well until chloroform was given in dressing wound.		
552	H	Total excision; patella; a long sequestrum removed.	Recovered, 3 months.	?	"Was seen making good use of a firm and serviceable limb."	After 3	
553	?	Total excision.	Recovered.	?	Amputated at 17 weeks for non-union.	?	
554	?	Total excision.	Recovered, 4 months.	?	"Limb straight; firm fibrous union; useful limb."	10	
555	?	Total excision.	Recovered.	1¼	Walks well without support; bony union; limb a little flexed.	?	
556	?	Total excision.	Recovered, 6 months.	?	"Wound healed; walked with aid of a peg attached to heel of laced shoe."	6	
557	?	Total excision.	Died, 1½ months, tuberculosis.				
558	?	Total excision; patella.	Recovered, 4½ months.	.....	Solidity of member not complete.	After 4½	
559	?	Total excision; patella.	Died, 4½ months, phthisis.				
560	U	Total excision; patella; 1 inch of femur; ½ inch of tibia.	Recovered, 15 weeks.	?	"Perfect limb; walks and runs with freedom; scarcely shows lameness in walking."	34	
561	?	Total excision.	Recovered, 3 months.	?	"Anchylosis; wound healed; walks and runs with facility."	8	
562	?	Total excision.	Recovered.	.....	"Good union."	?	
563	?	Total excision; 1¼ inches of femur; ¾ inch of tibia.	Recovered, 7 months.	2	"Slight antero-posterior motion; none laterally; can rest whole weight on limb, and go about with aid of stick."	7	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
564	Swain, p. 210.	Reported by Delagarde, Exeter.	Exeter Hospital, England.	A——, Thos., England. "Failing health."	M. 26	?	Sept. 19, 1868.	S.	Chronic arthritis; ulceration of cartilages, and abscess of joint.
565	Letter, 1872.	Barden, E. E., Alexandria, Minn., U. S.	"At his home."	Rice, Lewis, Minneapolis, Minn. "Has phthisis."	M. 29	3 mos. standing.	Oct. 22, 1868.	S.	Chronic arthritis; caries from injury.
566	Letter, 1872.	Vedder, Moses R., cor. 57th St., New York.	New York, private case.	Fowler, Benj. Little Nick, Queens Co., New York. Gen'l health impaired.	M. 47	15 years' standing.	Nov. 7, 1868.	S.	Chronic arthritis; chronic synovitis; leg atrophied bones not involved.
567	Swain, p. 220.	Bulteel, E. J.	England.	M——, Jane. "Strumous-looking; florid complexion."	F. 19	4 mos. standing.	Nov. 28, 1868.	S.	Chronic arthritis; synovitis untraceable to traumatic cause; joint distended with sero-purulent fluid.
568	Lancet, 1870, p. 558; Pén. p. 81.	Lefort, Léon, Paris.	l'Hôpital Cochin, Paris.	L——, Elisa, France. "Scrofulous; usual health fair."	F. 28	6 years' standing.	Nov. 30, 1868.	S.	Chronic arthritis; synovitis beginning in first pregnancy; caries; sinuses; abscess; suppuration; subluxation of tibia.
569	Pén. ta. 425.	Cabot, S., United States.	U. S.	? United States.	F. 52	?	1868.	S.	Chronic arthritis.
570	Pén. ta. 426.	Hodges, R. M., Boston, Mass.	Mass.	United States.	M. 27	?	1868.	S.	Chronic arthritis.
571	Pén. ta. 427.	Biglow, H. J., Boston, Mass.	Mass.	United States.	M. 12	?	1868.	S.	Chronic arthritis.
572	Pén. ta. 429.	Giraldes, Paris, France.	France.	France.	M. 11	?	1868.	S.	Chronic arthritis; before operation great shortening; from old fracture with flexion of limb.
573	Gant's Surgery, p. 625.	Gant, F. J., 16 Connaught Sq W. London.	Royal Free Hospital, London.	H——, Sarah A., England. "Marked anæmia; scrofulous."	F. 18	12 years' standing.	Feb. 2, 1869, admit'd.	....	Ch. arthritis (morb. cox. caries of end of tibia and femur; ulceration of cartilages; traumatic origi.
574	Pén. p. 95.	Gayet, Lyons.	l'Hôtel Dieu, Lyons.	B——, Maria, France.	F. 42	3 years' standing.	April 5, 1869.	S.	Fibrous hygromatous tum enveloping the joint; fro a blow.
575	Gant's Surgery, p. 626.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital, London.	R——, Emily, England. "Health irregular; scrofulous."	F. 20	1 year's standing.	Admit'd April, 1869.	....	Ch. arthritis (morb. cox caries of ends of tibia a femur; ulceration of c tilages; traumatic.
576	Lancet, 1870, p. 534.	Pemberton, Oliver, Birmingham.	General Hospital, Birmingham.	B——, W., England.	M. 19	3 years' standing.	May 19, 1869.	S.	Chronic arthritis; dislo tion of tibia; flexion limb 30°; destruction cartilages and synov membrane; absorption bone; anchylosis.
577	Pén. p. 106.	Verneuil, Prof., Paris.	Lariboisiere Hospital, Paris.	P——, France. "Robust; diarrhœa and insomnia."	M. 44	May 29, 1869.	June 16, 1869.	Int.	Contused wound over in condyle; suppuration opening of joint; inter articular fracture of mur; pain and swellin leg and joint; suppurat of joint.
578	Gant's Surgery, p. 625.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital, London.	A——, Wm., England. Health good.	M. 27	5 years' standing.	Admit'd July, 1869.	....	Ch. arthritis (morb. co pulpy thickening of sy vial membrane; ulcerat of cartilages; superfi caries of ends of fe and tibia; constitutio origin.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
564	?	Total excision.	Under observation	.....	"Making a good recovery."		
565	H	Total excision; articular surfaces of femur and tibia.	Died, phthisis pulmonalis, Feb. 1869.	?	Had not much use of joint when died, but it improved up to the day of his death.		
566	U	Total excision; patella left; $\frac{5}{8}$ inch of femur; $\frac{1}{4}$ inch of tibia.	Recovered, 6 weeks.	.....	Bony union; limb perfectly satisfactory; walks naturally, except joint is stiff.	25	
567	?	Total excision.	Died, after $6\frac{1}{2}$ months of exhaustion from diarrhœa.	.....	Limb amputated at 6 mos. for imperfect union and suppuration of joint.		
568	U	Total excision; patella gouged; several sections of femur; articular surface of tibia.	Recovered, 5 months.	$1\frac{1}{2}$	Walks as desires with aid of a sole $1\frac{1}{2}$ inches thick.	5	
569	?	Total excision; patella saved.	Recovered.	?			
570	?	Total excision.	Recovered, 5 months.	?	Amputation.	5	
571	?	Total excision; patella.	Recovered.	?			
572	?	Total excision; patella.	Recovered, 7 months.	4.7	Anchylosis; complete recovery; walked with a high heel.	7	
573	U	Total excision.	Recovered, 1 month.	.....	Femur project'd, for which a re-excision of its lower end was done on 5th day; sloughing of calf followed, and thigh amputated at middle third, a few days after re-excision.	6	
574	()	Total excision; patella, with the mass of the tumor; femur to below condyles; three-tenths inch of tibia.	Died, Jan. 10, 1869, from exhaustion, sloughing, bed-sores, and suppuration.	?			
575	U	Total excision.	Recovered, 3 months.	.....	"Partial firm union; abscess and sinuses about callus, with profuse discharge; amputation, from which she recovered after 1 month."	4	
576	U	Total excision; patella; $1\frac{3}{4}$ inches of femur; $1\frac{1}{4}$ inches of tibia.	Recovered, 7 weeks.	?	Anchylosis; when discharged went to pushing hand-car ladened with coals, at which he continues.	8	
577	H	Total excision; patella; 1 inch of femur; $\frac{1}{2}$ inch of tibia.	Died, 4 days, pyæmia.				
578	U	Total excision.	Recovered, 3 months.	.....	"Firm osseous union; useful limb; subsequently limb slightly bowed."	3	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
579	Gant's Surgery, p. 626.	Gant, F. J., see Case 294.	Royal Free Hospital, London.	G——, Elizabeth A., England. "Scrofulous; health good."	F. 5	3½ years' standing.	Admitt'd July 1869.	....	Ch. arthritis (morb. cox.); caries of ends of tibia and femur; ulceration of cartilages; supposed traumatic origin.
580	Gant's Surgery, p. 627.	Gant, F. J., see Case 294.	Royal Free Hospital, London.	W——, Thos., England. "Scrofulous; health delicate."	M.	7 years' standing.	Admitt'd Oct. 1869.	...	Ch. arthritis (morb. cox.); caries; partial ulceration of cartilages; fibrous anchylosis; retraction of leg; partial dislocation.
581	Lancet, 1871, p. 467.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital, London.	G——, Henry, England. "Health good."	M. 20	1 year's standing.	Oct. 28, 1869.	S.	Chronic arthritis; synovitis; ulceration of cartilages; retraction of leg; subluxation of femur; from injury.
582	Lancet, 1871, p. 467.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital, London.	H——, Henry, England. "Health good."	M. 17	14 years' standing.	Nov. 27, 1869.	S.	Chronic arthritis; scrofulous caries; ulceration of cartilages; dislocation of femur; retraction of leg; from injury.
583	Lancet, 1871, p. 467.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital, London.	S——, Sarah, England. "1 month pregnant; health reduced."	F. 20	14 years' standing.	1869.	S.	Chronic arthritis; scrofulous caries; ulceration of cartilages; retraction of leg; limited fibrous anchylosis; from fall.
584	Gant's Surgery, p. 629.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital.	M——, Harriett.	F. 16	13 years' standing.	1869.	S.	Ch. arthritis (morb. cox.); from fall at first, and six months before from punctured wound with crotchet needle; partial anchylosis; ulceration and dislocation of cartilages; retraction of leg.
585	Gant's Surgery, p. 629.	Gant, F. J., see Case 584.	Royal Free Hospital.	B——, Wm., England.	M. 9	10 mos. standing.	1869.	....	Ch. arthritis (morb. cox.); partial ulceration and dislocation of cartilages; fibrous anchylosis; retraction of leg; traumatic origin.
586	Lancet, 1869, p. 489.	Hancock, H., 76 Harley St., W. London.	Charing-Cross Hospital, London.	England.	F. 10	?	1869.	S.	Chronic arthritis; "disease of cartilages and bones of joint."
587	Phila. Med. Times, Oct. 16, 1871.	Packard, J.H. 1928 Spruce St Philadelphia.	Episcopal Hospital, Philada.	Keernan, Francis, United States.	M. 12	3 years' standing.	1869.	S.	Chronic arthritis; suppuration of joint; from fall.
588	Pén. p. 104.	Nankiville.	?	?	M. 44	?	1869.	P.	Crushing wound of knee (not gunshot).
589	Pén. ta. 430.	Sedillot, C., Strasbourg, Germany.	Germany.	Germany.	M. 21	?	1869.	S.	Chronic arthritis.
590	Pén. ta. 431.	Sarrazin, France.	France.	France.	M. ad't	?	1869.	S.	Chronic arthritis; a large abscess in thigh.
591	Letter, 1872.	Hitchcock, H. O., Kalamazoo, Michigan.	Home.	Quick, Isaac, Kalamazoo, Michigan.	M. 20	?	Jan. 13, 1870.	S.	Chronic arthritis; caries of head of tibia, and condyles of femur.
592	Lancet, 1870, p. 535.	Pemberton, O. Birmingham.	General Hospital, Birmingham.	S——, J., England. "Strumous; gen'l health good."	M. 17	9 years' standing.	Jan. 26, 1870.	S.	Chronic arthritis; dislocation and flexion at knee; destruction of cartilages and synovial membrane.
593	Letter, 1872.	Temple, T., Amherst, Mass.	Patient's home.	Hamilton, George, Amherst, Mass., U. S.	M. 19	5 years' standing.	Feb. 18, 1870.	S.	Chronic arthritis; joint painful and swollen; fracture of condyle; from injury.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
579	U	Total excision; through the epiphyses.	Recovered, 4 months.	.....	"Firm bony union, and useful limb."	4	
580	U	Total excision; through epiphysis.	Recovered, 2¼ months.	.....	"Firm bony union, and useful limb."	15	
581	⌣	Total excision.	Recovered, 2½ months.	?	"Thoroughly firm bony union, and useful limb."	12	
582	⌣	Total excision.	Recovered, 2 months.	?	"Firm bony union; wound healed; walked 24 miles in a day."	9	
583	U	Total excision.	Recovered, 3 months.	?	"Firm bony union; walks with crutches; parturition at full term; mother and child doing well."	After 8	
584	U	Total excision.	Died, 18 days, tetanus.	.....	"Wound sloughed slightly, but union took place by tags of lymph between bones; pus around ends of bones."		
585	⌣	Total excision; tibial epiphysis accidentally detached and removed with patella and femur through its epiphysis.	Recovered, 5 months.	.....	Recovered without a bad symptom.	5	
586	H	Total excision; articular ends of bones.	?	?	?	?	
587	U	Total excision; a mere slice of tibia and femur.	Died, bronchitis, from draft air.	?	"Firm union; wound quite healed."		Packard's bracket splint; for description see Med. and Surg. Report, May 21, 1874, p. 261.
588	?	Total excision.	Died, 4 days, pyæmia.	?			
589	U	Total excision; patella.	Died, 14 days, pyæmia.	?	Amputation 12th day.		
590	?	Total excision; patella; tibia gouged.	Died, 14 days.	?			
591	U	Total excision; 2 in. of femur; ¾ inch of tibia.	Recovered.	.....	Amputation March 27, 1870, for non-union and caries.	24	
592	U	Total excision; 1¾ inches and patella.	Died, 8 days, from gangrene of limb.	?			
593	Longitudinal.	Partial excision; an irregular portion of articular surface of femur 1 inch by ¾ and ⅛ inch thick.	Recovered, 12 days.	?	.....	.....	Says this was not a false cartilage.

Tabular Statement of Excisio

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
594	Am. Jour. Med. Sci. N.S. lx. 219, and his Surgery; Letter.	Ashhurst, John, Jr., 2000 W. Delancy Place, Phila.	Episcopal Hospital, Philada.	Callehan, Charles, Philadelphia. "Health very good."	M. 10	4 years' standing.	Mar. 9, 1870.	S.	Chronic arthritis, with partial anchylosis; also had old fracture of femur same side.
595	Letter, 1872.	Barden, E. E., Alexandria, Minnesota.	Hudson, Minn.	White, John, Hudson, Minn.	M. 19	1 year's standing.	Oct. 3, 1870.	S.	Chronic arthritis; caries.
596	Letter.	Blackmer, F. A.	Albert Lea Co. Infirmary Minn.	Anderson, John, United States.	M. 18	?	Fall, 1870.	S.	Chronic arthritis; necrosis of fibula and tibia involving heads of both.
597	Ed. Med. Jour., Feb. 1871; Syd. Bi-an., 1871–72, 223.	Gillespie, Scotland.	Scotland.	Scotland.	Y'g ad't	.....	1870.	....	Chronic synovitis and arthritis.
598	Ed. Med. Jour., Feb. 1871; Syd. Bi-an., 1871–72, 223.	Gillespie, Scotland.	Scotland.	Scotland.	Y'g ad't	.....	1870.	....	Chronic synovitis and arthritis.
599	Ed. Med. Jour., Feb. 1871; Syd. Bi-an., 1871–72, 223.	Gillespie, Scotland.	Scotland.	Scotland.	M. 14	.....	1870.	....	Chronic synovitis and arthritis.
600	St. Thomas' Hosp. Reports, ii. 283; Syd. Bi-an., 1871–72, 223.	Jones, Sidney, 15 St. Thomas Street, S. E. London.	Saint Thomas' Hospital, London.	England.	F. 34	.....	1870.	....	Not stated.
601	St. Thomas' Hosp. Reports, ii. 283. Syd. Bi-an., 1871–72, 223.	Jones, Sidney, 15 St. Thomas Street, S. E. London.	Saint Thomas' Hospital, London.	England.	M. 21	.....	1870.	....	Not stated.
602	St. Thomas' Hosp. Reports, ii. 283; Syd. Bi-an., 1871–72, 223.	Jones, Sidney, 15 St. Thomas Street, S. E. London.	Saint Thomas' Hospital, London.	England.	M. 30	.....	1870.	....	Not stated.
603	St. Thomas' Hosp. Reports, ii. 283. Syd. Bi-an., 1871–72, 223.	Jones, Sidney, 15 St. Thomas Street, S. E. London.	Saint Thomas' Hospital, London.	England.	M. 13	.....	1870.	....	Not stated.
604	Med.-Chir. Rev. April, 1871, 487; Syd. Bi-an., 1871–72, 223.	Moxhay, W. W., Reading, England.	Hospital Case, England.	England.	F. 40	.....	Before 1871.	....	?
605	Med.-Chir. Rev. April, 1871, 487; Syd. Bi-an., 1871–72, 223.	Moxhay, W. W., Reading, England.	Hospital Case, England.	England.	M. 29	.....	Before 1871.	....	?
606	Med.-Chir. Rev. April, 1871, 487; Syd. Bi-an., 1871–72, 223.	Moxhay, W. W., Reading, England.	Hospital Case, England.	England.	M. 11	.....	Before 1871.	....	
607	Med.-Chir. Rev. April, 1871, 487; Syd. Bi-an., 1871–72, 223.	Moxhay, W. W., Reading, England.	Hospital Case, England.	England.	M. 35	.....	Before 1871.	....	?

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
594	Single transverse.	Total excision; patella.	Recovered, 5 months.	2¾	Wound healed; firm anchylosis; walks without support.	36	
595	U	Partial excision; 3 small fragments of head of tibia; scraped surface of articulation; removed a part of shaft of femur at upper third.	Recovered.	?	Is well and hearty; has an excellent joint.	15	
596	Longitudinal over fibula and tibia.	Partial excision; sequesters of tibia and fibula; entire head of fibula; half head of tibia.	Recovered.	?	"Uses leg as well as before operation; works on farm."	24	
597	?	Total excision.	Recovered, 140 days.	.....	"Bone firmly united in 95 days; walked without assistance in 140 days."	4⅓	
598	?	Total excision.	Recovered, 100 days.	.....	Walked without assistance in 100 days, and bone firmly united.	3½	
599	?	Total excision.	Recovered, 160 days.	.....	Bone firmly united in 160 days, and walked without assistance.	5½	
600	?	Total excision; patella saved.	Died, pyæmia.				
601	?	Total excision; patella saved.	Recovered.				
602	?	Total excision; patella saved.	Recovered.				
603	?	Total excision; patella saved.	Recovered.				
604	?	Total excision.	Recovered.	.....	Limb amputated.	.....	Probably done before 1871.
605	?	Total excision.	Recovered.	.....	"Had thoroughly useful limb."	Some time after left hospital.	
606	?	Total excision.	Recovered.	.....	"Had thoroughly useful limb."	Some time after left hospital.	
607	?	Total excision.	Recovered.	.....	"Had thoroughly useful limb."	Some time after left hospital.	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
608	Med.-Chir. Rev. April, 1871, 487; Syd. Bi-an., 1871-72, 223.	Moxhay, W. W., Reading, England.	Hospital Case, England.	England.	M. 11	.....	Before 1871.	....	?
609	Med.-Chir. Rev. April, 1871, 487; Syd. Bi-an., 1871-72, 223.	Moxhay, W. W., Reading, England.	Hospital Case, England.	England.	F. 17	.....	Before 1871.	....	?
610	Med.-Chir. Rev. April, 1871, 487; Syd. Bi-an., 1871-72, 223.	Moxhay, W. W., Reading, England.	Hospital Case, England.	England.	F. 8	.....	Before 1871.	....	?
611	Med.-Chir. Rev. April, 1871, 487; Syd. Bi-an., 1871-72, 223.	Moxhay, W. W., Reading, England.	Hospital Case, England.	England.	F. 20	.....	Before 1871.	....	?
612	Lancet, July 20, 1872, 79; Syd. Bi-an., 1871-72, 223.	Canton, E., see Case 296.	England.	England.	F. 6	.....	1871.	....	?
613	Am. Jour. Med. Sci. N. S., lxii. 194.	Land, Edwd., Manchester	England.	England.	?	?	1870.	S.	Chronic arthritis.
614	Letter, 1872.	Ashhurst, John, Jr., 2000 W. Delancy Place, Phila	Episcopal Hospital, Philada.	Maneer, Mary United States. "Delicate but in good condition."	F. 11	6 years' standing.	Feb. 28, 1871.	S.	Chronic arthritis, with partial anchylosis.
615	Letter.	Packard, J. H. 1928 Spruce St Philadelphia.	Episcopal Hospital.	Plum, Wm., United States. "Strumous."	M. 11	?	Sept. 1871.	S.	Chronic arthritis; strumous suppuration of joint.
616	Letter.	Maury, F. F., Philadelphia.	Philada. Hospital.	H——, Domerrick, United States.	M. 37	?	Oct. 25, 1871.	S.	Chronic arthritis; synovitis with caries.
617	Letter.	Ashhurst, John, Jr., Philadelphia, see Case 594.	Episcopal Hospital, Philada.	Shane, Henry, United States. Thin, anæmic, but in fair condition.	M. 18	Over 1 year's standing.	Jan. 11, 1872.	S.	Chronic arthritis, with partial anchylosis.
618	Letter.	Ashhurst, John, Jr., Philadelphia, see Case 594.	Episcopal Hospital, Philada.	Hanlan, Jas., United States. "Anæmic but in good condition"	M. 9	3 mos. standing.	Jan. 25, 1872.	S.	Chronic arthritis.
619	Letter.	Packard, J. H., 1928 Spruce St., Philadelphia.	Episcopal Hospital.	Conlin, Dan'l, United States.	M. 11	Old case.	July 20, 1872.	S.	"Chronic arthritis; detachment of the inner semilunar and articular cartilage; other parts of joint sound."
620	Letter.	Packard, J. H., 1928 Spruce St., Philadelphia.	Episcopal Hospital.	Purdy, Sally, United States.	F. 24	Old case.	Sept. 24, 1872.	S.	Chronic arthritis; suppuration; no external opening.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
608	?	Total excision.	Recovered.	.....	"Had thoroughly useful limb."	Some time after left hospital.	
609	?	Total excision.	Recovered.	.....	"Had thoroughly useful limb."	Some time after left hospital.	
610	?	Total excision.	Recovered.	.....	"Had thoroughly useful limb."	Some time after left hospital.	
611	?	Total excision.	Recovered.	.....	"Had thoroughly useful limb."	Some time after left hospital.	
612	?	Total excision.	Recovered, 9 weeks.	?	In nine weeks firm anchylosis.	2¼	
613	?	Total excision.	Recovered, 5 months.	?	Still under observation.	After 5	
614	Single transverse.	Total excision; patella.	Recovered, 1 year.	1¾	Firm anchylosis; useful limb; walks without apparatus.	24	
615	U	Total excision; a thin plate from each bone; one or two additional sections to get good surfaces.	Died, Aug. 1872, from disease of other knee, and of left shoulder.	.....	Amputation of thigh April 4, 1872.		
616	U	Total excision; 2½ inches of femur; ¾ inch of tibia; fibula not touched.	Recovered.	3	"Result perfect; able to walk all day on leg."	28	
617	Single transverse.	Total excision; patella.	Recovered, 1 year.	1½	Could bear a good deal of weight on limb in walking, when on January 20, 1873, fell and broke fibula, which united and did not injure knee; now able to get up; not walking yet; fibrous union; slight antero-posterior motion: no lateral motion at knee; improving; 2 sinuses.	14	
618	Single transverse.	Total excision; patella, and articular surfaces.	Recovered, 2 months.	1½	Excellent limb; no sinuses; firm bony union; walks without support.	13	
619	U	Total excision; 1 inch of femur; mere slice of tibia.	Recovered, 2 months.	?	Leg perfectly solid; ran about on it 3 months after operation.	15	
620	U	Total excision; a wedge-shaped piece of femur; mere slice of tibia.	Died, Feb. 1873, phthisis pulmonalis.	?	"The union of the bones was perfectly solid."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
621	Letter; Phila. Med. Times, July 19, 1873, p. 660.	Hodge, H. L., Philadelphia, see Case 625.	Childrens Hospital, Philada.	Miller, Robt., United States. General health good.	M. 9	1 year's standing.	Oct. 5, 1872.	S.	Chronic arthritis; ulceration of ligaments, and suppuration of joint; burrowing pus in thigh; leg flexed; from fall on oyster shell.
622	Med. Times; Phila., iv. 427; Letter, 1874.	Hodge, H. Lenox, Philadelphia, see Case 625.	Presbyterian Hospital, Philada.	"In good condition."	M. 16	5 years' standing.	Mar. 26, 1874.	S.	Chronic arthritis; destruction semilunar, and at points the articular cartilages; caries at points; softening of bone; much pain; right side.
623	Braith. Retro., July, 1874, p. 85.	Tyrrell, Henry J., Dublin, Ireland.	Misericordial Hospital, Dublin.	D——, Mary, Health tolerably good.	F. 14	3 years' standing.	Mar. 2, 1873.	S.	Caries tibia and femur with disease synovial membrane, right joint; from a fall on knee.
624	Operator.	Ashhurst, John, Jr., Philadelphia.	Episcopal Hospital, Philada.	Rosa Uhlmer, Philadelphia. Good physical condition.	F. 8	Nearly 3 years previously.	Mar. 30, 1874.	...	Gelatinous arthritis.
625	Letter, 1873.	Hodge, H. Lenox, 903 Walnut St Philadelphia.	Presbyterian Hospital.	Hunter, David Philadelphia. Health good.	M. 26	About 23 years ago it began	April 24, 1873.	....	Chronic arthritis; no definite cause.
626	Braith. Retro., July, 1874, p. 85.	Tyrrell, H. J., Dublin.	Misericordial Hospital, Dublin, Ireland.	C——, Thos., "Delicate and generally unhealthy; regarded as a case for amputation."	M. 10	2 years' standing.	April 25, 1873.	S.	Chronic arthritis; joint much swollen and painful; pulpy degeneration of synovial membrane; bones enlarged but not carious; "non-traumatic."
627	Letter, 1873.	Hodge, H. L., see Case 625.	Presbyterian Hospital, Philada.	Simmons, Henry, Health good.	M. 6	More than 1 year ago.	April 29, 1873.	....	Chronic arthritis; no definite cause.
628	Lond. Med. Gaz. Nov. 1873.	Arnott, H., 6 Nottingham Place.	London.	England.	?	Old disease.	Aug. early, 1873.	....	Chronic arthritis.
629	Medicinisches Correspondenz-blatt, May 14, 1874, No. 18, vol. xliv.	Fetzer. Staff Surgeon, Würtenburg.	Garrison Hospital, Stuttgart.	Walter, John Casper, Ulane Regt; a blacksmith from Nehren, near Tübingen. "Exhausted; fever; bed-sores."	M. 23	July 13, 1873.	Sept. 11, 1873.	S.	Lacerated and contused wound, from kick of a horse, of the right knee near the patella, which soon healed; July 19, inflammation of joint occurred; admitted in hospital July 19; wound opened again; suppuration (but not of joint) of limb; joint swollen; joint movable without pain; at this time joint not open; at time of operation fistulæ, and subacute ulceration of cartilages, and synovitis of the knee, with suppuration of joint, and lateral bursæ, and caries of tibia.
630	Letter, 1873.	Ashhurst, John, Jr., Philadelphia.	Childrens Hospital, Philada.	McShea, Annie. Good physical condition.	F. 9	2 years previously.	Oct. 14, 1873.	....	Outer condyle eroded, and carious, chronic arthritis with partial anchylosis, in bad position; morb. cox. (left side).
631	Pén. ta. 394.	Gayet, Lyons, France.	France.	France.	M. 28	?	1865.	S.	Chronic arthritis.

of Knee-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
621	⌒	Total excision; condyles below epiphysis; head of tibia above epiphysis.	Recovered.	1½	"Firm union; walks very well without support; limb slightly bent; foot slightly everted."	5	
622	I	Patella and greater portion of epiphysis of femur and tibia.	Recovered.	.....	"Union by first intention; at 5 weeks consolidation appears to have taken place; later, July 10, 1875, bony union; walks perfectly well without crutch, cane, or artificial support; health perfect."	10½	Is a small sinus from an old abscess in the thigh, which now discharges a few drops of pus, which gives him no trouble.
623	U	Patella; thin slice of tibia and a portion of the lower epiphysis of the femur, and synovial membrane.	Recovered, 8 months.	¾	Anchylosis; walks and runs; no one would suppose she had been subjected to so severe an operation.	11	Watson's splint used in this case; see same Journal for a description of.
624	Simple transverse incision	Articulating surface of femur, tibia, and patella.	Recovered.	.....	Still under treatment; firm bony union; sinuses; walks on crutches.	10	No bad symptoms so far, April 4, 1874.
625	Nearly straight	Femur and tibia; articulating surfaces (nearly on femur), and patella.	Recovered.	About 2	Can walk miles, and works by driving a street car.	7	There was an abscess in the head of tibia, which was gouged.
626	U	Patella; ends of tibia and femur, and the greatly thickened synovial membrane.	Died, 120 days, cerebral inflammation.	.....	Operation wound healed; patient was more comfortable after the operation, and which retarded his death.	.....	Watson's splint used; father of boy refused amputation in this case; dissection of limb showed not the slightest attempt at union of the bo e:.
627	Nearly straight	Femur below epiphysis; articular surface of tibia; patella.	Recovered.	About 1¼	Moves about rapidly on crutches; later, Feb. 8, '75, limb straight; union not yet firmly consolidated; soft tissue healed; wears a splint (protective); walks perfectly well without crutch or cane.	21	During the summer much prostration, after extreme restlessness, causing great inflammation; wounds nearly healed; as yet non-union.
628	?	Total excision.	Recovered.	.....	Recovered slowly.	4	Esmarch's plan used in this operation.
629	⊔	1½ inches of condyles of femur; about ¼ inch of tibia; patella removed; bones wired together.	Recovered, 120 days.	2	Anchylosis of the joint by bony union; at 44 days all bandages removed; no motion at seat of joint; the foot same side slightly turned in; at 7 months walks very well without crutch or cane; wears a cork sole 1½ inches thick; knee slightly bent out; nutrition of limb fair, and it is not unnaturally sensitive; less motion at ankle, which does not interfere with walking.	7	The wire sutures uniting, the bone did not come away.
630	Simple transverse.	Condyles of femur; articulating surface of tibia (thin slice), and patella.	Recovered, 6 months.	.....	"Firm ligamentous union; superficial sinuses; walks without artificial aid."	15½	In hospital, and doing well.
631	Symes ( )	Patella and total excision.	Died, 15 days, pyæmia.	.....	.....	.....	This case was omitted in numbering the table.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Am. Jour. Med. Sci., xxi. 332.	Barton, J. Rhea, Philada., Pa.	Penna. Hospital, Philada.	Deas, Seaman, Charleston, S. Carolina. Gen'l health good.	M. ab't 25	16 years' before operation	May 27, 1835.	P.	Less than rectangular flexion of knee; destruction of joint from suppuration and inflammation; no active disease at time of operation.
2	Am. Jour. Med. Sci., N. S., iv. 39.	Gibson, Wm., Philada., Pa.	Philada. Hospital, Phila. Pa.	Johnston, Jas. colored. "Robust."	M. 17	2 years' standing.	Nov. 17, 1841.	P.	Flexion of leg to less than a right angle; from disease of joint; result of the cut of an axe.
3	Am. Jour. Med. Sci., N. S., viii. 270.	Burr, J. Platt, Cheneyville, La.	U. S.	"Negro." Stout frame and good gen'l health.	M. 40	1 year before operation	Dec. 8, 1841.	P.	Joint flexed and consolidated; result of synovitis; from an axe cut.
4	Am. Jour. Med. Sci., N. S., x. 277.	Buck, Gurdon, 46 W. 29th St. New York.	New York Hospital.	Keith, Wm., near Niagara Falls, Canada. Healthy and robust constitution.	M. 22	7 years' before operation	Oct. 12, 1844.	P.	Rectangular flexion of right knee; result of axe wound.
5	Philada. Med. Examiner, N. S. vii. 37; Pénières, p. 84.	Mütter, Thomas D., Philada., Pa.	Phila. Pa.	United States.	M. 16	?	1844.	P.	Anchylosis.
6	Gross, S. W.	Mütter, Thomas D., Philada., Pa.	Phila. Pa.	United States.	....	?	?	P.	Anchylosis.
7	Am. Jour. Med. Sci., N. S., lv. 361.	Mütter, Thomas D., Philada., Pa.	Phila. Pa.	United States.	....	?	?	P.	Anchylosis.
8	Lyon's ta. Anchylosis, No. 2; Am. Jour. Med. Sci., N. S., xlix. 62.	Parker.	U. S.	United States.	M. 15	?	Oct. 5, 1848.	P.	Rectangular anchylosis; from old wound of joint.
9	Boston Med. and Surg. Jour. lix. 411, and Letter J. Collins Warren.	Warren, J. Mason, Boston, Mass.	Mass. General Hospital, Boston.	Nova Scotia.	M. 25	9 years before operation	Oct. 2, 1850.	P.	Bony anchylosis; from injury and suppuration of joint.
10	Tabulated by Surgeon Gray, U. S. A., from Hosp. Records and Letters.	Post, A. C., 291 Madison Ave. New York.	New York Hospital.	Moore, Wm., Good health.	M. 35	?	Nov. 7, 1850.	P.	Bony rectangular anchylosis, following compound fracture of femur and patella.
11	Am. Jour. Med. Sci., N. S., lv. 361, & Heyfeld. ta. Exc. Knee for Anchylosis No. 6.	Langenbeck, B. Von, Berlin.	Prussia.	Prussia.	....	.....	.....	P.	Anchylosis.
12	Am. Jour. Med. Sci., N. S., lv. 361, and Hodges, p. 134.	Townsend.	U. S.	United States.	....	.....	.....	P.	Anchylosis.
13	Pén. p. 84.	Bruns, Prof., Tübingen.	Germany.	Germany.	M. 22	?	1850.	P.	Anchylosis.
14	Pén. p. 84; Smith's Price, p. 119.	Heusser, F., Hombrechtikon, Canton Zurich, Switzerland.	Canton Saint Gallen.	Herrmann, Christian, Ebnat, Canton St. Gallen.	M. 42	10 years before operation	July 27, 1851.	P.	Bony anchylosis; thigh so bent that the toes of diseased limb scarcely touched upper part of calf of sound leg; short 18 inches; from wound of joint.

of Knee-Joint for Deformity.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	I>	A wedge-shape portion of the lower end of the femur, the lower border of which was within the former limits of the knee-joint.	Recovered, 8 months.	Very little.	A slight fistula closed at 15 months; wound sound; is well; scarcely limps in walking; walks without support; rides horseback; firm anchylosis.	72	This man died 6 years after the operation from phthisis pulmonalis, from dissipation
2	I>	Same as above—Barton's operation of 1835.	Recovered, 4 months.	¼	"Wound healed; health good; walked 3 or 4 miles without any inconvenience."	6	
3	I>	Barton's operation of 1835.	Recovered, 6 months.	.....	Is well; anchylosis; could spade in garden, hoe, chop, and plough with as much ease as he ever could; in July, 1842, broke the union at the knee, which united in 2 months in straight position.	28	
4	T	Patella; ¾ inch of head of tibia; cuneiform and oblique sections of the femur, to include about 2⅜ inches.	Recovered, 6 months.	5	Half of the shortening was from the operation, the other half from defective growth of the limb before operation; wound healed; walked 2 miles with aid of a cane and stirrup, without pain or unusual fatigue.	6	This operation simply removed the boundaries of what once constituted the joint.
5	I>	Barton's operation of 1835.	Recovered.	.....	Member useful.	?	
6	I>	Barton's operation of 1835.	Recovered.	.....	?		
7	I>	Barton's operation of 1835.	Recovered.	.....	?		
8	T	Buck's operation of 1844.	Recovered.	1	Perfect recovery; bony union; walked without any support.	?	
9	I>	V-shaped portion of lower end of femur; Barton's operation of 1835.	Recovered.	?	"Walks well with a cane."	1 year after, discharged from hospital.	The other excisions of this joint, by this operator, are found at No. 191, table of excisions for disease, as there was disease in progress at the time of the operation.
10	H	A wedge-shape portion from femur and tibia, including the patella; Buck's operation of 1844.	Recovered, 2 months.	.....	Limb nearly straight; able to bear more weight on limb after than before operation, with the aid of an iron stirrup.	2½	Eloped from the hospital, and probably did well.
11	?	Buck's operation of 1844.	Recovered.	.....	Recovered; limb shortened and "useful."		
12	Barton's, 1835.	Barton's operation of 1835.	Recovered.	.....	Not stated.		
13	Barton's.	Barton's operation of 1835.	Recovered.	?	Useful member.		
14	?	Wedge-shape portion of bones; Buck's operation of 1844.	Recovered, 8 months.	?	"Complete bony union; in nine months made a tour over the mountains; is still a hunter."	72	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
15	Pén. p. 84.	Ried, Jena, Germany.	Germany.	Germany.	M. 38	?	1851.	P.	Anchylosis.
16	Smith's Price, p. 120.	Heusser, F., see Case 14.	See Case 10.	Schwiter, Jos. Schännis, Canton St. Gallen. Health good.	M. 20	8 years' standing.	Jan. 17, 1853.	P.	Anchylosis, from local cause.
17	Am. Jour. Med. Sci. N. S. xxvii. 550; Lyon's ta. Anchylosis, No. 3	Buck, Gurdon see Case 4.	New York Hospital.	?	M. 26	4 mos. standing.	Aug. 9, 1853.	P.	Joint sub-luxated and flexed; fibrous anchylosis; fracture of patella; from bursting of a gun.
18	Pén. pp. 84, 89; Heyfeld. p. 108.	Ried, F., see Case 15.	Germany.	Germany. ?	M. 57	.....	1855.	S.	Anchylosis.
19	Lancet, i. 249, 1858; Smith's Price, p. 188.	Price, P. C., London.	England.	R——, Mich., "Finely-made lad; health good."	M. 19	16 years' standing.	Nov. 20, 1857.	P.	Rectangular osseous anchylosis, with dislocation of head of tibia; result of an injury.
20	Am. Jour. Med. Sci. lv. 361; Pén. p. 84.	Bruns, Prof., Tübingen, Germany.	Germany.	Germany.	M. 36	?	1857.	P.	Anchylosis.
21	Pén. p. 84; Am. Jour. Med. Sci. N. S. lv. 361.	Ried, F., see Case 15.	Germany.	Germany.	M. 30	.....	1857.	P.	Anchylosis.
22	Lyon's ta. Anchylosis, No. 4. Letter, 1872.	Post, A. C., see Case 10.	Univ. College Hospital, New York.	"Health good."	M. 25	?	Oct. 1858.	P.	Bony anchylosis at acute angle; result of antecedent disease.
23	Pén. pp. 84, 89.	Funck.	?	?	?	?	1858.	P. ?	Anchylosis.
24	Boston Med. and Surg. Jour., lx. 219.	Burnham, Walter, Lowell, Mass.	Lowell, Mass.	G——, L. ?	M. 19	?	Jan. 13, 1859.	P.	Anchylosis.
25	Pén. p. 84; Smith's Price, p. 122,	Roser, Prof., Marburg.	Germany.	Germany.	F. 21	?	Aug. 22, 1860.	P.	Anchylosis; the left heel touched the ramus of ischium.
26	Smith's Price, p. 86.	Simon, J., 40 Kensington Square, W. London.	Saint Thomas' Hospital, London.	England.	?	.....	Some years before 1860.	P.	Bony anchylosis of joint rectangular flexion o limb.
27	Lyon's ta. Anchylosis, No. 5.	Fergusson, W., 16 George St., London.	England.	England.	M. 21	?	April 1, 1861.	P.	Leg flexed on thigh; knee perfectly anchylosed. Anchylosis.

of Knee-Joint for Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
15	H	Barton's operation of 1835.	Recovered, 19 months.	1½	"Walks well."	19	Thirteenth day had hemorrhage; superficial femoral ligated.
16	?	Buck's operation of 1844; six inches of bone removed.	Recovered, 10 weeks.	?	Complete bony anchylosis.	2½	
17	+	Articular surfaces, and portion of patella; no active disease.	Recovered, 3 months.	1½	Consolidation completed; walks without any support.	4 2 3/30	Anchylosis first broken up by flexion and cutting; Buck's operation of 1853.
18	H	Barton's operation of 1835.	Recovered, 9½ months.	2½	Consolidation resulted.	.....	During the treatment hemorrhage arrested by acupressure.
19	U	End of femur 2¼ in. above condyles; portion of head of tibia; head of fibula in a block; Buck's operation of 1844.	Died, 1 month, pleuro-pneumonia.	1½	"Wound sloughed a little."		
20	?	Buck's operation of 1844.	Died, 7 days, pyæmia.				
21	H	Barton's operation of 1835.	Died, 20 days, pyæmia.				
22	?	Wedge-shape portion of the solidified bones, including patella; Buck's operation of 1844.	Died, 3 weeks, tetanus.				
23	?	Buck's operation of 1844.	Recovered.	?	Result perfect.	?	The case of C. Heath, reported by S. W. Gross as done for anchylosis, is classified as executed for disease, as there was disease of the bones and of the joint in progress. See Case 246, table of excisions for dis. and injuries.
24	H	Patella and wedge-shape portion of tibia and femur; Buck's oper. 1844.	Recovered, 3 months.	?	Walks without crutches; limb slightly bent.	3	
25	?	Buck's operation of 1844.	Recovered.	?	"Cured, with fibrous union."		
26	?	Probably Buck's operation of 1844.	Died, pyæmia.				
27	?	Wedge-shape portion of bones, including patella; Buck's operation of 1844.	Recovered, 4 months.	2	"Walked well and firmly upon the leg."	Within 12	M. Ollier (see London Lancet, 1872, p. 659, Am. Ed.) speaks of the unequal part played by the two conjugate cartilages; the lower end of the femur grows mainly through the lower cartilage, and the tibia and fibula develop more from their upper cartilages, this is relative; the inference to be drawn is to take less from the femur, more from the tibia, and as little as possible from either bone in this excision.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
28	Pén. ta. Anchylosis, No. 21, and p. 84 Book and p. 89.	Middeldorp, Prof., Breslau Prussia.	Germany.	Germany. ?	M. 18	?	1861.	P.	Anchylosis.
29	Pén. pp. 84, 89; Lyon's ta. Anchylosis, No. 11; Syd. Year Book, 1862, p. 286.	Beck, B., Bavaria, Germany.	Germany. ?	M——, J.	M. 22	?	1861.	P.	Bony anchylosis; result of a wound (left side).
30	Lyon's ta. Anchylosis, No. 6.	Tewksbury, Portland, Maine.	U. S.	United States.	M. 19	4 years' standing.	Mar. 1862.	P.	"Anchylosis; flexion; acute contraction; tendons from punctured wound of joint."
31	Lyon's ta. Anchylosis, No. 7; Swain, pp. 113, 114.	Cross, T. W., Norwich, England.	England.	England. "Health delicate."	F. 12	6 years' standing.	June 13, 1862.	P.	Anchylosis, from disease.
32	Lyon's ta. 8; Swain, p. 183.	Fergusson, W. see Case 27.	King's College Hospital.	England. "Strong, healthy, and muscular."	M. 25	23 years' standing.	June 14, 1862.	P.	Partial anchylosis at 90°; subluxation tibia; no active disease joint.
33	Lyon's ta. 9; Swain, p. 134.	Smith, Henry, 82 Winpole st. W. London.	King's College Hospital, London.	England. Health fair.	M. 29	Several mos. standing.	Sept. 6, 1862.	S.	Bony anchylosis; subluxation; great deformity; some inflammation soft parts and abscess near joint; from a gunshot wound.
34	Tabulated by Surgeon Gray, U. S. A., from Hosp. Records, 1872; Lyon's ta. 10.	Peters, John C., 83 Madison Ave., New York.	New York Hospital.	Allen, Robt. L., (mother's address) Mrs. Ann Allen, West Taconic, Columbia Co., New York.	M. 11	?	Nov. 3, 1863.	P.	"Rectangular firm anchylosis; permanent contraction flexor tendons; result of a scythe wound and synovitis."
35	Pén. p. 84; Swain, pp. 215, 128.	Swain, W. P., Devonport, England.	Hospital for Sick Children, Devonport.	H——, Henry. Strumous but in good condition.	M. ch.	5 years' standing.	July 2, 1864.	P.	Partial anchylosis; acute flexion of leg on thigh; old sinuses healed; joint enlarged and liable to attacks of inflammation from slight injury; result of a fall.
36	Swain, p. 188.	Smith, H., see Case 33.	King's College Hospital.	England.	F. 26	Long standing.	Oct. 29, 1864.	P.	Anchylosis.
37	Pén. p. 84.	Ried, F., Jena, Germany, see Case 15.	Germany.	Germany.	M. 27	?	1864.	P.	Anchylosis.
38	Swain, p. 188.	Fergusson, W. see Case 27.	King's College Hospital.	England.	M. 15	?	Jan. 6, 1865.	P.	Anchylosis from old ulceration of cartilages; leg flexed at an acute angle.
39	Swain, p. 190.	Smith, H., see Case 33.	King's College Hospital.	England.	M. 8	Long standing.	Sept. 28, 1865.	P.	Anchylosis from old disease of knee.
40	Swain, p. 188; Pén. p. 392.	Smith, H., see Case 33.	King's College Hospital.	England.	M. 8	Long standing.	Oct. 7, 1865.	P.	Anchylosis from old disease of joint; leg flexed on thigh.
41	Pén. pp. 84, 89.	Adams, W., London.	England.	England. ?	F. 27	?	1865.	P.	Anchylosis.
42	Pén. pp. 84, 89.	Boeckel, E., Strasbourg, Germany.	Germany.	Germany.	M. 48	?	1835.	P.	Anchylosis.
43	Swain, p. 190; Pén. ta. 407.	Smith, H., see Case 33.	King's College Hospital.	England.	M. 30	Long standing.	Jan. 6, 1866.	P.	Anchylosis from old disease; joint flexed and immovable; no active disease.
44	Pén. p. 90.	Richet, Prof., Paris.	A clinical Hospital, Paris.	T——, France. "Robust and healthy."	F. 21	15 years' standing.	Dec. 1, 1868.	P.	Sub-luxation of tibia; flexion of knee at obtuse angle; no active disease; quite firm anchylosis; occasional pain and inflammation of joint when it is injured.

of Knee-Joint for Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
28	?	Buck's operation of 1844.	Recovered, 29 days.	.....	"Could walk great distances with aid of a stick."	6	
29	Across knee.	Buck's operation of 1844.	Recovered, 2 months.	4	"Extensive and gradual shortening of nearly four inches; walks very well."	2	
30	?	Patella; 1 inch of femur; ¾ inch of tibia; Buck's operation of 1853.	Recovered, 1 year.	1½	Walked without inconvenience with aid of heel 1½ inches high.	12	
31	Single transverse.	2½ inches of bone in block; Buck's operation of 1844.	Recovered, 5½ months.	?	"Firm bony union; walked without support."	Over 12	
32	?	Buck's operation of 1844.	Recovered, 2½ months.	?	"Firm bony union; walks with ease; limb straight."	2½	
33	7	Buck's operation of 1844.	Recovered, 3 months.	1	"Walks long distances without difficulty; no pain in joint; is overseer in slate quarry."	48	
34	U	Buck's operation of 1853.	Recovered, 3 months.	?	"Wound healed; walks half a mile daily to school with aid of a cane."	7	
35	U	1½ in. femur; 1 in. tibia obliquely; Buck's operation 1853; abscess in head tibia gouged.	Recovered, 7 months.	2¾	"Definite recovery; a small fistula."	7	
36	?	Buck's operation of 1844 or 1853.	Died, 13 days, pyæmia.	?			
37	H	Buck's operation of 1844.	Recovered, 5 months.	?	"Consolidation and recovery complete."	5	
38	?	Buck's operation of 1853.	Recovered, 190 days.	6	"Straight, firm leg."	6½	
39	?	One or other of Buck's operations.	Recovered, 2 months.	.....	Sent to Margate; seen walking recently with a very serviceable limb.	1869	
40	?	Wedged portion, including patella, 1¼ in. Buck's, 1844.	Recovered, 4 months.	?	.....	4	
41	?	Buck's, 1844.	Recovered, 7 months.	?	"In 3 months walked without support."	In 1866.	
42	?	Buck's operation of 1853.	Recovered, 10 months.	.....	Re-excision at 36 days; walked in 2 months after without support; patella movable; still a fistula.	10	
43	?	Patella, and total excision; Buck's operation of 1853.	Recovered, 1 month.	?	Discharged with a good sound limb; anchylosis.	$1\frac{16}{30}$	
44	U	Patella; 1½ inches of femur; articulating surface of tibia; Buck's operation of 1853.	Recovered, 6 months.	2½	Health good; wound healed; shortening but ½ inch more than before operation; walks very easily with a high-heel 2 inches thick.	8	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
45	Med. News and Lib., Phila., xxxii. 70, from Irish Med. Gaz. March 16.	Rawson, E. A. Carlow Co., Ireland.	Carlow County Infirmary	Healthy.	M. 23	Several years' standing.	Sept. 28, 1869.	P.	Strong fibrous anchylosis; right knee in bent position; result of acute arthritis; no active disease.
46	Am. Jour. Med. Sci., N. S., lxi. 321.	Morton, T. G., Philada., Pa.	Penna. Hospital, Philada.	M——, W. H., Oil City, Pa. "Health excellent."	M. 27	9 years' standing.	Dec. 1, 1869.	P.	Rectangular anchylosis; from incised wound from drawing knife; no disease in joint.
47	Mendiciniches Correspondenz-blatt, May 14, 1874, No. 18, vol. xliv.	Bruns, Prof., Tübingen, Germany.	Bruns' Clinic.	Germany.	M.	.....	1870.	P.	Anchylosis, and deformity.
48	Letter, 1872.	Post, G. E., Beirût, Syria.	Hospital Protest'nt College, Beirût, Syria.	Kady, Dubel, Beirût, Syria.	M. 20	Long standing.	May 13, 1871.	P.	Anchylosis with deformity.
49	Rank. Abst. Pt. July 1873, p.212.	Gant, F. J.,16 Connaught Sq W. London.	Royal Free Hospital, London.	England.	F. 53	23 years' standing.	1872.	P.	Anchylosis, with deformity of member; result of chronic rheumatic arthritis.
50	Rank. Abst. Pt. July 1873, p.212.	Curling, T. B. 39 Grosvenor Sq., W. Lond.	London Hospital.	England.	? 23	.....	?	P.	Anchylosis; result of chronic rheumatic arthritis.
51	S. W. Gross, Am. Jour. Med. Sci., N. S., lv. 361.	Pancoast, Jos. Philada., Pa.	Philada.	Pennsylvania	....	.....	.....	P.	Anchylosis.
52	S. W. Gross, Am. Jour. Med. Sci., N. S., lv. 361.	Pope.	U. S.	United States.	....	.....	.....	P.	Anchylosis.
53	S. W. Gross, Am. Jour. Med. Sci., N. S., lv. 361.	Mütter, Thomas D., Philada., Pa.	Philada.	United States.	....	.....	.....	P.	Anchylosis.

of Knee-Joint for Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
45	U	Broke down the adhesions; then 2 in. of femur, and ½ in. tibia removed; patella saved; Buck's operation of 1853.	Recovered, 7 weeks.	Very little.	"Anchylosis in straight position; discharged Dec. 20, 1869; did not wear a high-heeled boot; walked without a stick; could beat any ordinary man walking; perfect health."	36	Profuse bleeding occurred in this case; styptics failed; put a sponge in between the ends of the bones, and secured the limb in straight position, this succeeded; sponge removed 3d day; did well afterwards; operator speaks of placing lint soaked in aluminate of iron between the ends of the bones, in another (similar) case, with arrest of bleeding.
46	U	A wedge-shaped portion of tibia, and condyles of femur, including patella; Buck's operation of 1844.	Recovered, 8 months.	2	"Walked 3 miles without cane or stick; drives a team; loads or unloads barrels of oil."	25	
47	?	Believed to be Buck's operation of 1844.	Recovered, in a few months.	.....	Patient returned to his business, a lock-maker; is now, 1873, a nurse, and can carry the heaviest patient up and down stairs, and never complains of his limb.	30	
48	H	W'dge-shap'd pieces enough to bring limb into straight position, and remove deformity; Buck's, 1844.	Recovered.	3	Walks on the limb, which is short from the operation, and arrest of development in the limb before operation.		
49	?	Complete excision of joint; one of Buck's operations.	Recovered, 7 weeks.	?	Firm union; permanent result.	5	
50	?	Complete excision; one of Buck's operations.	Recovered.	?	"Successful result."	?	
51	Barton's.	Barton's operation of 1835.	Died, hectic irritation.				
52	Barton's.	Barton's operation of 1835.	Recovered.				
53	Barton's.	Buck's operation of 1844.	Recovered.				

EXCISION OF THE ANKLE-JOINT.

EXCISION OF THE ANKLE-JOINT.

HISTORY.

In 1670, Fabicius Hildanus excised the entire astragalus for a complicated luxation. A more extensive excision at this joint was executed by Gouey, of France, in 1716, who removed three "fingers' breadth" of the lower extremity of the fibula for fracture, and subsequently, at a second operation, the astragalus of the same ankle for consecutive necrosis. In 1741, Vonder Broilie removed the entire astragalus for complicated luxation. Between this date and 1758, Aubray, Ferraud, Joseph Pierre Desault, and Manduyt, did similar operations upon this bone for injuries, and Cooper, of Bungay, England, excised the "head of the tibia and fibula for compound luxation, in 1758. W. Hey, of Leeds, England, did a similar operation, for injury, in 1766, and Kirtland, of London, also, in 1782, and likewise G. F. Moreau, of France, in 1782. The last-named surgeon removed the astragalus and os scaphoides, for disease, in 1788. Later, Taylor, of Wakefield, England, excised the lower extremity of the tibia, in 1789, for injury, and in the same year Charles B. Tyre, of Gloucester, England, removed the entire astragalus for injury. Previously, however, W. Hey, of Leeds, England, performed a similar operation for like cause, in 1786. In 1792, Chorley, of Leeds, England, G. F. Moreau, Moreau, Son, Rumsey, of Amersham, England, Laumonier, of France, and Linn, of Bury Saint Edmunds, England, did similar operations. From this time to 1810, this excision seems to have been mainly executed in France and England. Mulder, of Gröningen, Prussia, has the merit of first performing this operation in that country, in 1810, for disease. G. F. Moreau, of Bar, France, was the first to perform a total excision, in April, 1792, removing the ends of the tibia and fibula and the surface of the astragalus. Liston did the operation first in Scotland, in 1818, for disease. The first excision of this joint in the United States was done by Thomas Welles, of Columbia, South Carolina (for disease), which was partial, and con-

sisted in the removal of the entire astragalus. This bone was also removed in 1826, for injury, by A. H. Stevens, of New York, and also by William A. Gillispie, of Ellisville, Virginia, for injury, and likewise by N. R. Smith, of Baltimore, Maryland, for disease, in 1835. In July, 1839, M. Manson, of Jefferson City, Missouri, removed two inches of the lower extremity of the tibia for fracture. In 1844, C. C. Hildreth, of Zanesville, Ohio, removed the greater portion of the astragalus and articulating surface of the os calcis for disease. In 1851, F. M. Robertson, of Charleston, South Carolina, removed the astragalus for injury, and Gurdon Buck, of New York, the same bone, for injury, in 1853. Morrogh, of Clifford, New Brunswick, seems to have been the first to perform a total excision of this joint on this continent, October 24th, 1854. He removed the "ankle-joint and one or more tarsal bones" for disease. In 1859, T. A. Foster, of Portland, Maine, removed the end of the tibia and part of the astragalus for disease, and in the same year S. Cabot, of Boston, Massachusetts, executed a total excision. In April, 1861, J. R. Levis, of Philadelphia, performed a total excision for disease, and in 1862 William Canniff, of Toronto, Canada, removed the ends of the tibia, fibula, all the astragalus, and part of the os calcis for disease.

A glance at the sub-table No. 2, for this joint, will show that English surgeons have executed this excision for "disease and injuries" most frequently; then, as to the order of frequency, the French, then the American, and then the German surgeons.

The first excision of this joint which we have recorded for gunshot wound, was performed by Read (and quoted by Faure, of France) in 1819, in which the lower third of the fibula, several portions of the tibia, astragalus, and portions of other tarsal bones were removed.

The case reported by G. H. B. Macleod, of Glasgow, Scotland, was executed in 1855, or rather during the Crimean war, and consisted in the removal of the os calcis and part of the astragalus. B. Von Langenbeck was the first to execute a sub-periosteal excision of this joint for gunshot wound, May 30, 1859. In the United States, Morton and J. M. Jones of Monticello, Ark., removed the internal malleolus for gunshot lesion, in July, 1863. In May, 1864, R. B. Bontecou, of Troy, N. Y., did the first total excision in the United States for gunshot injury.

An inspection of sub-table No. 2, develops the fact that German surgeons have performed this operation for gunshot wounds the

most frequently, and American surgeons next in point of frequency. But from the number of cases among the former (29) and the latter (12), it is evident that this excision is not a popular operation for gunshot wounds.

SUBJECT No. 1.— *Where treated.*

A consideration of this sub-table develops the following mortality rates for the several classes of excision of this joint.

		Deaths per 100.
For gunshot wounds	In hospital	27.27
	In private practice	0
For injuries	In hospital	18.51
	In private practice	10.52
For disease	In hospital	4.54
	In private practice	5.55
For deformity	In hospital	0
	In private practice	No cases.
For the four classes	In hospital	16.23
	In private practice	8.33

Conclusion.—That the mortality is greatest in cases treated in hospital in gunshot excisions, next, not so great in excisions performed in hospital for injuries, less still in cases of excisions done for "*disease*" in hospital, while there is no mortality in excisions performed for "deformity" in hospital, and for the four classes the mortality in the cases of excision performed in hospital is 16.23 per 100. In private practice there is no mortality shown among the gunshot excisions; in excisions for "injury" the mortality is less than in hospital practice for this class, while in excisions for "disease" it is slightly greater in operations performed in private practice; in excisions for deformity there is no mortality among the operations done in private practice; and for the four classes of excisions the mortality attending operations done in hospital and private practice, is about double in the former. This evidently is due, in a great measure, to the mortality naturally attending gunshot excisions. If, therefore, we consider only excisions for "*disease*" and injuries, we find that the mortality is only about two per cent. greater in those operations done in hospital. In "extraction" of bone simply, the mortality in hospital cases is 50 per cent., while in those examples of extraction done in private practice, no mortality is recorded.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.									
In hospital	5	3	..	12	6		15	3	..	27.27
In private practice	..	..	..	1	..	..	..	..	..	0
Not stated as to subject	..	..	..	..	..	..	..	.	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....
	EXCISION FOR INJURIES.									
In hospital	19	5	..	3	..	..	..	..	..	18.51
In private practice	13	2	..	2	..	..	..	..	..	10.52
Not stated as to subject	94	12	2	2	..	..	..	..	..	.....
Total for subject	126	19	2	7	..	..	..	..	..	.....
	EXCISION FOR DISEASE.									
In hospital	25	..	4	17	2	..	..	..	..	4.54
In private practice	9	..	..	8	1	..	..	..	..	5.55
Not stated as to subject	23	4	3	20	3	..	5	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....
	EXCISION FOR DEFORMITY.									
In hospital	1	...	..	..	..	..	..	..	..	0
In private practice	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	2	...	..	..	..	..	..	..	..	.....
Total for subject	3	...	..	..	..	..	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.									
In hospital	1	1	..	..	..	..	..	..	..	50.
In private practice	2	..	..	..	..	..	..	..	..	0.
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....
Total for subject	3	1	..	..	..	..	..	..	..	.....

SUBJECT No. 2.—*In what Country performed.*

An inspection of this sub-table presents the following mortality rates, per 100, in the several classes of operations.

	For gunshot wounds.	For injuries.	For disease.	For deformity.	For four classes.
France	0	6.18	6.25	0	6.41
Russia	0	.....	.....	.....	0
Germany	20.68	30.00	23.52	.....	23.88
United States	50.00	13.33	.....	.....	14.03
Austria	0	.....	.....	.....	0
England	.....	10.00	4.76	0	7.52
Scotland	.....	.....	33.33	0	33.33

In the cases operated on in Ireland (1), Switzerland (1), Denmark (1), and Canada (2), no deaths resulted.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
France	1	..	..	1	..	..	..	..	..	0	40	3	..	1	..	..	..	..	..	6.81
Russia	1	..	..	..	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
Germany	..	1	..	8	2	..	15	3	..	20.68	13	6	..	1	..	..	..	..	..	30.
United States	3	2	..	3	4	..	..	..	..	50.	12	2	..	1	..	..	..	..	..	13.33
Austria	..	..	..	1	..	..	..	..	..	0	..	...	..	..	..	..	..	..	..	.....
England	..	..	..	..	..	..	..	..	..	.....	44	5	2	1	..	..	..	..	..	10.
Scotland	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Ireland	..	..	..	..	..	..	..	..	..	.....	1	...	..	..	..	..	..	..	..	0
Switzerland	..	..	..	..	..	..	..	..	..	.....	...	...	..	1	..	..	..	..	..	0
Denmark	..	..	..	..	..	..	..	..	..	.....	1	...	..	..	..	..	..	..	..	0
Canada	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Syria	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....	15	3	..	2	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....	126	19	2	7	..	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
France	10	..	..	5	1	..	..	..	..	6.25	...	...	..	..	..	..	..	..	..	.....
Russia	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Germany	9	2	1	4	2	..	..	..	..	23.52	1	...	..	..	..	..	..	..	..	0
United States	17	..	..	12	..	..	..	..	..	0	1	...	..	..	..	..	..	..	..	0
Austria	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
England	21	..	6	19	2	..	..	..	..	4.76	1	...	..	..	..	..	..	..	..	0
Scotland	..	1	..	2	..	..	..	..	..	33.33	...	...	..	..	..	..	..	..	..	.....
Ireland	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Switzerland	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Denmark	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Canada	..	..	..	2	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
Syria	..	..	..	..	1	..	..	..	..	100	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	..	1	..	1	..	..	5	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....	3	...	..	..	..	..	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
France	..	..	..	..	..	..	..	..	..	.....										
Russia	..	..	..	..	..	..	..	..	..	.....										
Germany	..	..	..	..	..	..	..	..	..	.....										
United States	..	..	..	..	..	..	..	..	..	.....										
Austria	..	..	..	..	..	..	..	..	..	.....										
England	3	..	..	..	..	..	..	..	..	0										
Scotland	..	1	..	..	..	..	..	..	..	100										
Ireland	..	..	..	..	..	..	..	..	..	.....										
Switzerland	..	..	..	..	..	..	..	..	..	.....										
Denmark	..	..	..	..	..	..	..	..	..	.....										
Canada	..	..	..	..	..	..	..	..	..	.....										
Syria	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....										
Total for subject	3	1	..	..	..	..	..	..	..	.....										

Conclusion.—The greatest mortality irrelative to excisions for gunshot wounds is found in Scotland, next, not so great, in Germany, next in the United States, next in England, and least in

France. In this estimate we do not include "gunshot excisions." We believe that the different mortality-rates shown in Scotland, Germany, England, and France, is too great to be explained by force of climatic influences, especially as the table expresses the fact that no deaths occurred in Russia, Austria, Denmark, and Canada.

SUBJECT No. 3.—*State of Constitution.*

The following is a *resumé* of the mortality-rates of this subject for the several classes of excisions.

		Deaths per 100.
For gunshot wounds	"Vigorous"	0
	Exhausted	0
For injuries	Vigorous	18.75
	Exhausted	0
For disease	"Vigorous"	.....
	Exhausted	15.38
For three classes	Vigorous	15.78
	Exhausted	11.11

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
"Vigorous"	1	..	..	2	..	..	3	..	..	0	24	6	..	2	..	..	..	..	..	18.75
"Exhausted"	..	..	..	4	..	..	..	..	..	0	1	..	..	..	..	..	..	..	..	0
Not stated as to subject	4	3	..	7	6	..	12	3	..	.....	101	13	2	5	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....	126	19	2	7	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
"Vigorous"	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
"Exhausted"	5	..	..	6	2	..	..	..	..	15.38	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	52	4	7	39	4	..	5	..	..	.....	3	...	..	..	..	..	..	..	.	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....	3	...	..	..	..	..	..	..	..	.....

	EXTRACTION OF FRAGMENTS OF BONE									
"Vigorous"	2	1	..	..	..	..	..	..	..	.....
"Exhausted"	1	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....
Total for subject	3	1	..	..	..	..	..	..	..	.....

Conclusion.—It is evident that the table is imperfect on this subject, and clear that a vigorous state of the constitution cannot be attended with a greater mortality than an exhausted state of the general system associated with operations; the contrary of which is shown by this exhibit.

Among the class of "extraction," the same feature is observable, for the only death in four cases occurred in a patient of "*vigorous*" constitution.

SUBJECT No. 4.—*Of Sex.*

The following is a statement of the mortality-rates in the several classes of excisions for this subject.

		Deaths per 100.
Gunshot excisions	Males	26.66
	Females	.....
Excisions for injuries	Males	17.24
	Females	20.
" " disease	Males	8.33
	Females	13.04
" " deformity	Males	0
	Females	0
" " the 4 classes.	Males	15.81
	Females	15.78

Conclusion.—That, considering all classes of this excision, the mortality is about equal in the male and female sex. But if we omit excisions for gunshot wounds, and consider those for injury, disease, and deformity, then the parallelism will be complete (there are no cases of excisions for gunshot wounds among females). Thus examined, the mortality among males (12.30) is less than in females (15.78).

In the class of extraction, the mortality among the male sex equalled 33.33 per 100.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Males	5	3	..	13	6	..	15	3	..	26.66	45	10	..	3	..	..	..	..	..	17.24
Females	..	..	..	..	..	..	..	..	..	.....	12	3	..	..	..	..	..	..	..	20.
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....	69	6	2	4	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....	126	19	2	7	..	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Males	30	2	2	36	4	..	..	..	..	8.33	2	..	..	..	..	..	..	..	..	.....
Females	12	2	2	8	1	..	..	..	..	13.04	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	15	..	3	1	1	..	5	..	..	.....	1	...	..	..	..	..	..	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....	3	...	..	..	..	..	..	..	..	
	EXTRACTION OF FRAGMENTS OF BONE.																			
Males	2	1	..	..	..	..	..	..	..	33.33										
Females	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	1	..	..	..	..	..	..	..	..	.....										
Total for subject	3	1	..	..	..	..	..	..	..	.....										

SUBJECT No. 5.—*Of Age.*

The following is a synopsis of the mortality-rate per 100 of the several classes of excisions for this subject.

Age.	Gunshot wounds	Injuries.	Disease.	Deformity.	The four classes.
1 to 5 years . . .	.....	.....	0		
5 to 10 "	.....	.....	0		
10 to 15 "	.....	0	0	0	
15 to 20 "	0	0	11.11	.....	11.11
20 to 25 "	16.16	0	11.11	.....	9.67
25 to 30 "	100.00	14.28	0	.....	12.5
30 to 40 "	.....	10.00	28.57	0	17.64
40 to 50 "	.....	45.45	25.00	.....	40.00
50 to 60 "	.....	33.33	0	.....	26.66
60 to 70 "	0	.....	.....	.....	0
70 to 80 "	.....	0	.....	.....	0

The oldest patient among the class of excisions for gunshot wounds was aged 68, and the youngest 19 years; and in the class

"excisions for disease" the oldest patient was 84, and the youngest 2 years of age; which is also the oldest and youngest patient for all classes of excision of this joint.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.									
From 1 to 5 years	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	..	..	..	..	..	..	..	..	..	.....
" 10 " 15 "	..	..	..	..	..	..	..	..	..	.....
" 15 " 20 "	1	..	..	..	..	..	..	..	..	0
" 20 " 25 "	1	..	..	4	1	..	..	..	..	16 66
" 25 " 30 "	..	1	..	..	2	..	..	..	..	100.
" 30 " 40 "	..	..	..	..	..	..	..	..	..	.....
" 40 " 50 "	..	..	..	..	..	..	..	..	..	.....
" 50 " 60 "	..	..	..	..	..	..	..	..	..	.....
" 60 " 70 "	..	..	..	1	..	..	..	..	..	0
" 70 " 80 "	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	3	2	..	8	3	..	15	3	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR INJURIES.									
From 1 to 5 years	...	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	...	..	..	..	..	..	..	..	..	.....
" 10 " 15 "	5	...	..	1	..	..	..	..	..	0
" 15 " 20 "	4	...	..	..	..	.	..	..	..	0
" 20 " 25 "	7	...	..	..	..	..	..	..	..	0
" 25 " 30 "	5	1	..	1	..	..	..	..	..	14.28
" 30 " 40 "	9	1	..	..	..	..	..	..	..	10.
" 40 " 50 "	5	5	..	1	..	..	..	..	..	45.45
" 50 " 60 "	8	4	..	..	..	..	..	..	..	33.33
" 60 " 70 "	...	...	..	..	..	..	..	..	..	.....
" 70 " 80 "	2	...	..	..	..	..	..	..	..	0
Not stated as to subject	81	8	2	4	..	..	..	..	..	.....
Total for subject	126	19	2	7	..	..	..	..	..	.....

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR DISEASE.									
From 1 to 5 years	3	..	1	3	..	..	..	..	..	0
" 5 " 10 "	6	..	1	4	..	..	..	..	..	0
" 10 " 15 "	4	..	2	7	..	..	..	..	..	0
" 15 " 20 "	9	2	..	7	..	..	..	..	..	11.11
" 20 " 25 "	6	1	..	10	1	..	..	..	..	11.11
" 25 " 30 "	4	..	..	2	..	..	..	..	..	0
" 30 " 40 "	3	..	..	2	2	..	..	..	..	28.57
" 40 " 50 "	2	..	..	1	1	..	..	..	..	25.
" 50 " 60 "	2	..	..	1	..	..	..	..	..	0
" 60 " 70 "	..	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	18	1	3	8	2	..	5	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR DEFORMITY.									
From 1 to 5 years	...	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	1	...	..	..	..	..	..	..	..	0
" 10 " 15 "	...	...	..	..	..	..	..	..	..	.....
" 15 " 20 "	...	...	..	..	..	..	..	..	..	.....
" 20 " 25 "	...	...	..	..	..	..	..	..	..	.....
" 25 " 30 "	...	...	..	..	..	..	..	..	..	.....
" 30 " 40 "	1	..	..	..	..	..	..	..	..	0
" 40 " 50 "	...	...	..	..	..	..	..	..	..	.....
" 50 " 60 "	...	...	..	..	..	..	..	..	..	.....
" 60 " 70 "	...	...	..	..	..	..	..	..	..	.....
" 70 " 80 "	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	1	...	..	..	..	..	..	..	..	.....
Total for subject	3	...	..	..	..	..	..	..	..	.....

SUBJECT.	Recovered.	Died.	Uncertain as to life.	Deaths per 100.
	EXTRACTION OF FRAGMENTS OF BONE.			
From 1 to 5 years	..	..	..	.. ...
" 5 " 10 "	..	..	..	.....
" 10 " 15 "	..	..	..	.....
" 15 " 20 "	..	1	..	100.
" 20 " 25 "	..	..	..	.....
" 25 " 30 "	..	..	..	.....
" 30 " 40 "	..	..	..	.....
" 40 " 50 "	..	..	..	.....
" 50 " 60 "	..	..	..	.....
" 60 " 70 "	..	..	..	.....
" 70 " 80 "	..	..	..	.....
Not stated as to subject	3	..	..	.....
Total for subject	3	1	..	.....

Conclusion.—That in the age-periods from 1–5, 5–10, 10–15, 60–70, and 70–80, there is no mortality. In considering the several classes together, the mortality is from least to greatest in the following order: from 20–25, 15–20, 25–30, 30–40, 50–60; and greatest from 40–50 years. In considering this subject in excisions for disease alone, it will be seen that those aged between 15–20 and 20–25 years present the same mortality-rate, while the most unfavorable age for the operation in this class is from 30–40 years; but in excisions for injuries the most favorable age for the operation is from 30–40, and the most unfavorable period is among those aged from 40–50 years. In the class of excisions for gunshot wounds, the age most favorable to the operation is 20–25 years. In the example of extraction, but one death occurred, between the age of 15–20 years.

SUBJECT NO. 6.—*Duration of Disease or Injury.*

The following is a résumé of this subject, for the several classes, based on mortality rate per 100.

Period.	Gunshot excisions.	Excisions for injury.	For disease.	For deformity.	For the four classes.
From 1 to 3 months,	50	0	0	.....	9.09
" 3 to 6 "	.....	0	0	.....	0
" 6 to 9 "	.....	.....	0	.....	0
" 9 to 12 "	0	.....	0	0	0
" 12 to 15 "	57.14	.....	.....	.....	57.14
" 15 to 18 "	.....	0	0	.....	0
Over 18 months,	33.33	.....	16.66	.....	22.22

Conclusion.—In gunshot excisions, the most fatal period for operation is when the standing of the case has been from 12–15 months, next from 1–3 months, and least when over 18 months from the date of injury. In the class of excisions for disease, the most unfavorable period is "over 18 months." In estimating this subject for the several classes, the most unfavorable period is when the disease or injury has continued from 12–15 months, next and more favorable over 18 months, and most favorable within 1–3 months. If we consider this subject including only the excisions for disease, injuries, and deformity, no mortality is observable until the period of "over 18 months'" standing is reached. This period for these classes develops a mortality of 16.16 per cent., and which is really the mortality of excisions for disease alone. It may then be

fairly concluded that early excisions of this joint are advisable, for such is the extent of this articulation, and so great the tendency of the disease to extend to the other joints of the tarsus, that procrastination of the operation only favors this and serves to involve the general system unfavorably. In the class of extractions, but one case is complete as to this subject, and this recovered, and was of from 1–3 months' standing.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
From 1 to 3 months	..	..	..	1	1	..	..	..	..	50.	3	...	..	..	..	..	..	..	..	0
" 3 " 6 "	..	..	..	..	..	..	..	..	..	.....	2	...	..	.	..	..	..	..	..	0
" 6 " 9 "	..	..	..	..	..	..	..	..	..	.....	...	...		..	..	..	..	..	..	.....
" 9 " 12 "	..	..	..	3	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
" 12 " 15 "	1	1	..	2	3	..	..	..	..	57.14	...	...	..	..	..	..	..	..	..	.....
" 15 " 18 "	..	..	..	..	..	..	..	..	..	.....	...	...	..	1	..	..	..	..	..	0
Over 18 months	2	1	..	2	1	..	..	..	..	33.33	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	2	1	..	5	1	..	15	3	..	.....	121	19	2	6	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....	123	19	2	7	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
From 1 to 3 months	1	..	..	5	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
" 3 " 6 "	4	..	1	3	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
" 6 " 9 "	2	..	..	..	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
" 9 " 12 "	4	..	..	..	..	..	..	..	..	0	1	...	..	..	..	..	..	..	..	0
" 12 " 15 "	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
" 15 " 18 "	..	..	1	2	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
Over 18 months	5	1	..	5	1	..	..	..	..	16.66	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	41	3	5	30	5	..	5	..	..	.....	2	...	..	..	..	..	..	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....	3	...	..	..	..	..	..	..	..	.....

	EXTRACTION OF FRAGMENTS OF BONE.									
From 1 to 3 months	1	..	..	..	..	..	..	..	..	.....
" 3 " 6 "	..	..	..	..	..	..	..	..	..	.....
" 6 " 9 "	..	..	..	..	..	..	..	..	..	.....
" 9 " 12 "	..	..	..	..	..	..	..	..	..	.....
" 12 " 15 "	..	..	..	..	..	..	..	..	..	.....
" 15 " 18 "	..	..	..	..	..	..	..	..	..	.....
Over 18 months	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	2	1	..	..	..	..	..	..	..	.....
Total for subject	3	1	..	..	..	..	..	..	..	.....

Remark.—In the class of injuries, as stated in the table, nearly all the operations were performed within one month, and hence not included in this sub-table.

SUBJECT NO. 7.—*Season or Months in which the Excisions were performed.*

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
January	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
February	..	1	..	..	..	..	..	.	..	100...	...	...	..	..	..	..	..	..	..	.....
March	..	..	..	..	..	..	..	..	..	.....	2	...	..	..	..	..	..	..	..	0
April	..	..	..	..	..	..	..	..	..	.....	2	...	..	1	..	..	..	..	..	0
May	..	1	..	2	..	..	..	..	..	33.33	...	1	..	..	..	..	..	..	..	100.
June	..	..	..	1	..	..	..	..	..	0	3	1	..	..	..	..	..	..	..	25.
July	1	..	..	4	3	..	..	..	..	37.5	4	1	..	1	..	..	..	..	..	16.66
August	..	..	..	1	..	..	..	..	..	0	3	1	..	1	..	..	..	..	..	20.
September	..	..	..	1	..	..	..	..	..	0	2	1	..	..	..	..	..	..	..	33.33
October	..	..	..	..	1	..	..	..	..	100.	2	...	..	..	..	..	..	..	..	0
November	..	..	..	..	..	..	..	..	..	.....	2	1	..	..	..	..	..	..	..	33.33
December	..	..	..	..	..	..	..	..	..	.....	3	...	..	..	..	..	..	..	..	0
Not stated as to subject	4	1	..	4	2	..	15	3	..	.....	103	13	2	4	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....	126	19	2	7	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
January	..	1	..	3	1	..	..	..	..	40.	1	...	..	..	..	..	..	..	..	0
February	..	..	..	1	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
March	4	..	..	3	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
April	2	1	..	5	..	..	..	..	..	14.28	...	...	..	..	..	..	..	..	..	.....
May	1	..	..	..	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
June	3	..	..	5	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
July	1	..	..	3	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
August	5	..	..	3	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
September	..	..	..	4	..	..	..	..	..	0	...	. .	..	..	..	..	..	..	..	.....
October	3	..	..	2	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
November	2	..	1	1	..	..	..	..	..	0	..	...	..	..	..	..	..	..	..	.....
December	3	..	..	1	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	33	2	6	14	5	..	5	..	..	.....	2	...	..	..	..	..	..	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....	3	...	..	..	..	..	..	..	..	.....

	EXTRACTION OF FRAGMENTS OF BONE.									
January	..	..	..	..	..	..	..	..	..	.....
February	..	..	..	..	..	..	..	..	..	.....
March	..	..	..	..	..	..	..	..	..	.....
April	..	..	..	..	..	..	..	..	..	.....
May	..	..	..	..	..	..	..	..	..	.....
June	..	..	..	..	..	..	..	..	..	.....
July	..	..	..	..	..	..	..	..	..	.....
August	..	..	..	..	..	..	..	..	..	.....
September	..	1	..	..	..	..	..	..	..	.....
October	1	..	..	..	..	..	..	..	..	.....
November	..	..	..	..	..	..	..	..	..	.....
December	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	2	..	..	..	..	..	..	..	..	.....
Total for subject	3	1	..	..	..	..	..	..	..	.....

The following is the rate of mortality per 100, of the several classes considered together for this subject, and from the least to the greatest. August, 7.14; June, 7.96; April, 9.09; September and October, 12.5; November, 16.66; July, 22.22; January, 33.33; May, 40.00; February, greatest, 50.00 per 100. In March and December no mortality is observed.

Conclusion.—Such is the diversity of mortality in months having the same temperature, and such the equality of mortality for months of unlike temperature, that no conclusion can be drawn from these data. If, however, this subject be divided into two periods, one embracing the months of January, February, March, October, November, and December; and the other including April, May, June, July, August, and September, the mortality of the cool or cold months will equal 10.81 per 100 cases, and for the warm or hot months 14.70 per 100. Thus a difference is shown in favor of the first named period.

In the class of "extraction," one case died in September, another in October. The other cases of this class are incomplete on this point.

SUBJECT No. 8.—*Period of Operation.*

The following is a synopsis of this table as to mortality per 100 for this subject:—

Period.	Gunshot excisions.	Excisions for injury.	Excisions for disease.	Excisions for deformity.	For the four classes.
Primary . . .	0	20.00	.....	0	16.66
Secondary . .	30.00	0	8.82	0	12.96
Intermediate . .	.....	.....	.....	.....	.....

Conclusion.—That, while in the primary excisions for gun-shot wounds, there is no mortality shown, in the secondary operations of this class the death rate is equal to 30 per 100, that in the class of "injuries" no deaths occurred in the secondary excisions, while in the primary examples, the mortality equals 20 per 100, that for the several classes, the primary excisions are less favorable, as to life, than the secondary.

This subject may be again considered by omitting the excisions classed as executed for disease, which are of necessity secondary. Thus considered the excisions for gun-shot wounds, injuries, and deformity, present a mortality, in primary operations, of 16.66 per 100, and in the secondary examples of 19.67 per 100. It is there-

fore evident that primary excisions are to be preferred for injuries of this joint.

In the cases of "extraction," three were primary, of which one died, and one was secondary, which recovered.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.									
Primary	..	..	..	1	..	..	3	..	..	0
Secondary		3	..	12	6	..	12	3	..	30.
Intermediate	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....

	EXCISION FOR INJURIES.									
Primary	22	6	..	2	..	..	..	..	..	20.
Secondary	18	...	..	1	..	..	..	..	..	0
Intermediate	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	86	13	2	4	..	..	..	..	..	.....
Total for subject	126	19	2	7	..	..	..	..	..	.....

	EXCISION FOR DISEASE.									
Primary	..	..	..	..	..	..	..	..	..	.....
Secondary	54	4	4	39	5	..	..	..	..	8.82
Intermediate	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	3	..	3	6	1	..	5	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....

	EXCISION FOR DEFORMITY.									
Primary	1	...	..	..	..	..	..	..	..	.....
Secondary	2	...	..	..	..	..	..	..	..	.....
Intermediate	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	...	...	..	..	..	..	..	..	..	.....
Total for subject	3	...	..	..	..	..	..	..	..	.....

	EXTRACTION OF FRAGMENTS OF BONE.									
Primary	2	1	..	..	..	..	..	..	..	33.33
Secondary	1	..	..	..	..	..	..	..	..	.....
Intermediate	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....
Total for subject	3	1	..	..	..	..	..	..	..	.....

SUBJECT No. 9.—*Of the Nature of the Causes for which the operation was performed.*

The following is a *résumé* of the mortality per 100 of the several clases of excisions for this subject.

Nature of cause.	Gunshot excisions.	Excisions for injury.	Excisions for disease.	Excisions for deformity.	For the four classes.
Traumatic . .	26.66	12.5	0	0	14.02
Non-traumatic . .	.....	.....	0	0	0
Malignant . .	.....	.....	0	.....	0
Syphilitic . .	.....	.....	0	.....	0

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Par. tial. Recovered.	Par. tial. Died.	Par. tial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Traumatic	5	3	..	13	6	..	15	3	..	26.66	126	19	2	7	..	..	..	..	..	12.5
Non-traumatic	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Malignant	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Syphilitic	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....	126	19	2	7	..	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Traumatic	..	..	1	4	..	..	..	..	..	0	2	...	..	..	..	..	..	..	..	0
Non-traumatic	..	..	..	3	..	..	..	..	..	0	1	...	..	..	..	..	..	..	..	0
Malignant	..	..	..	..	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
Syphilitic	1	..	..	1	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	..	4	6	37	6	..	5	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....	3	...	..	..	..	..	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
Traumatic	3	1	..	..	..	..	..	..	..	25.										
Non-traumatic	..	..	..	..	..	..	..	..	..	.....										
Malignant	..	..	..	..	..	..	..	..	..	.....										
Syphilitic	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	..	..	..	..	..	..	..	..	..	.. ..										
Total for subject	3	1	..	..	..	..	..	..	..	.....										

Conclusion.—That the mortality is greater in the excisions for gunshot wounds than for injuries; that there is no mortality among the cases of excision for disease and deformity in the "traumatic," non-traumatic, malignant, or syphilitic cases; that the mortality of all classes of excisions, traumatic in character, is equal to 14.02 per 100, and that the mortality in excisions of traumatic origin, for gunshot wounds and injuries, is equal to 11.16 per 100. It may therefore be fairly inferred from this showing that traumatic causes exercise great influence in increasing the mortality of this excision; that the presence of malignant or syphilitic disease does not contraindicate the execution of the operation, so far as immediate recovery is concerned; and that, when the operation is performed for disease, the results are equally fortunate in the traumatic and non-traumatic examples, for here the potency of the

traumatism seems to be merged into the disease, and to have a comparatively minor influence upon the progress of the case, as we discover no mortality either in the traumatic or non-traumatic cases of the excision in this class.

In the class of "*extraction*," all the cases were traumatic, and one died and three recovered, a mortality of 25 per cent.

SUBJECT No. 10.—*Of the Incisions.*

The following is a *résumé* of this subject as to mortality per 100, and for the several classes considered together.

Single longitudinal incision	6.66
Double " "	35.71
⊥ shaped	0
U "	8.82
⊔ "	11.11
L "	0
(("	0
+ "	0
–, transverse	33.33
⊔ shaped	100.00

Conclusion.—That the double longitudinal incision should present a mortality rate of 35.71, and the U shaped and ⊔ shaped incisions a death rate of but 8.82 and 11.11 per 100 respectively, when these incisions differ but little, does not establish the conclusion that incisions influence the mortality of this excision; and that the ⊔ shaped incision develops a mortality equal to 11.11, and the ⊔ shaped incision of 100 per 100, when these are so nearly alike, leads to the same view. From such considerations as these it is evident that the form of the incision does not materially affect the mortality attending this excision.

The operator may select his incisions on anatomical grounds, avoiding the division of the extensor tendons if possible.

In the class of "extraction" nothing is stated as to this subject.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Single longitudinal, |	1	..	..	..	..	..	..	..	..	0	14	2	..	..	..	..	..	..	..	12.5
Double " ||	..	1	..	1	4	..	..	..	..	66.66	2	...	..	..	..	..	..	..	..	0
⊥ shaped	..	..	..	2	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
U "	1	..	..	2	..	..	..	..	..	0	3	1	..	..	..	..	..	..	..	25.
⌊⌋ "	..	..	..	..	..	..	..	..	..	.....	3	1	..	..	..	..	..	..	..	25.
⌊ "	..	..	..	..	..	..	..	..	..	.....	2	...	..	..	..	..	..	..	..	0
(("	..	..	..	..	..	..	..	..	..	.....	1	...	..	..	..	..	..	..	..	0
+ "	..	..	..	..	..	..	..	..	..	.....	1	...	..	..	..	..	..	..	..	0
–, transverse	..	..	..	..	..	..	..	..	..	.....	...	...	..	1	..	..	..	..	..	0
⊔ shaped	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	3	2	..	8	2	..	15	3	..	.....	100	15	2	6	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....	126	19	2	7	..	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Single longitudinal, |	11	..	..	2	..	..	..	..	..	0	1	..	..	..	..	..	..	..	..	0
Double " ||	4	..	..	1	1	..	..	.	..	16 66	...	..	..	..	..	..	..	..	..	.....
⊥ shaped	2	..	..	1	..	..	..	..	..	0	...	..	..	..	..	..	..	..	..	.....
U "	12	1	1	13	1	..	..	..	..	7.40	...	..	..	..	..	..	..	..	..	.....
⌊⌋ "	1	..	..	3	..	..	..	..	..	0	1	..	..	..	..	..	..	..	..	0
⌊ "	3	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
(("	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
+ "	1	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
–, transverse	..	..	..	1	1	..	..		..	50.	..	..	..	..	..	..	..	..	..	.....
⊔ shaped	..	1	..	..	..	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	23	2	6	23	3	..	5	..	..	.....	1	..	..	..	..	..	..	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....	3	..	..	..	..	..	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
Single longitudinal, |	..	..	..	..	..	..	..	..	..	.....										
Double " ||	..	..	..	..	..	..	..	..	..	.....										
⊥ shaped	..	..	..	..	..	..	..	..	..	.....										
U "	..	..	..	..	..	..	..	..	..	.....										
⌊⌋ "	..	..	..	..	..	..	..	..	..	.....										
⌊ "	..	..	..	..	..	..	..	..	..	.....										
(("	..	..	..	..	..	..	..	..	..	.....										
+ "	..	..	..	..	..	..	..	..	..	.....										
–, transverse	..	..	..	..	..	..	..	..	..	.....										
⊔ shaped	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	3	1	..	..	..	..	..	..	..	.....										
Total for subject	3	1	..	..	..	..	..	..	..	.....										

SUBJECT No. 11.—*Extent of bone removed.*

This subject embraces "partial" and "complete" excisions. The former includes those examples in which more or less of the extremity of the tibia or fibula has been removed; or of the astragalus. The latter comprises those cases in which the surface

or more or less of the astragalus alone, or of this bone with other tarsal bones, with the articular end of the tibia, and also of the fibula (but not necessarily including the fibula), has been excised.

The following is an exhibit of the mortality per 100 of this subject for the several classes.

Extent.	Gunshot excisions.	Excisions for injury.	Excisions for disease.	Excisions for deformity.	For the four classes.
Partial . . .	37.5	13.10	6.55	0	11.98
Complete . . .	31.57	0	10.71	.....	16.16

Conclusion.—That in gun-shot excisions, the mortality is greater in the partial than in the complete; that in excisions for injury, no mortality is observed in the "complete," and the death rate is less in the "partial" in this than in the last class; that in excisions for disease, the mortality is least in the "partial" (6.55) and greater in the "complete" (10.71), but less than in complete or partial excisions for *injury;* and that for the several classes it is less (11.98) in the partial than in complete excisions (16.16). But this subject can perhaps be better considered by an estimate of the mortality per 100, and for convenience, here, as to "usefulness of member," based upon the extent of bone *absolutely removed;* for this, see the following table, which includes all classes of excisions of this joint.

Extent.	No. cases.	No. deaths.	Deaths per 100.	No. cases.	No. useful.	No. worthless.	Per cent. useful.	Per cent. worthless.
Fibula alone	23	2	8.69	19	18	1	94.73	5.27
Tibia alone	42	2	4.76	39	39	0	100.00	0
Astragalus alone . . .	84	11	13.09	68	67	2	97.05	2 95
Tibia and fibula . . .	38	7	18.42	34	33	1	97.05	2.25
Tibia, fibula, and astragalus .	45	11	24.44	34	26	8	76.47	23.53
Tibia, fibula, astragalus, and other tarsal bones . . .	17	1	5.88	16	10	6	62.50	37.5
Astragalus and other tarsal bones	13	1	7.69	11	10	1	90.91	9.09
Tibia and astragalus . . .	14	1	7.15	10	9	1	90.00	10.00
Fibula and astragalus . .	3.	0	0	2	2	0	100.	0
Fibula, astragalus, and other tarsal bones	4	0	0	4	4	0	100.	0
Tibia, astragalus, and other tarsal bones	1	0	0	1	1	0	100.	0

It should be remarked that the number of cases representing the mortality and the degree of usefulness in this table do not

correspond with each other, or with the table of partial and complete excisions, as, in some instances, the usefulness is not expressed; and in other cases the absolute extent of bone is not stated, being simply expressed as "partial" or "complete" excisions.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Partial excisions	5	3	..	..	..	..	..	..	..	37.5	126	19	2	..	..	..	..	..	..	13.10
Complete excisions	..	..	..	13	6	..	..	..	..	31.57	...	...	..	7	..	..	..	..	..	0
Not stated as to subject	..	..	..	..	..	..	15	3	..	.....	...	...	..	..	..	..	..	..	..	.....
Total for subject	5	3	..	13	6	..	15	3	..	.....	126	19	2	7	..	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Partial excisions	57	4	7	..	..	..	..	..	..	6.55	3	...	..	..	..	..	..	..	..	0
Complete excisions	..	..	..	45	6	..	5	..	..	10.71	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
Total for subject	57	4	7	45	6	..	5	..	..	.....	3	...	..	..	..	..	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
Partial excisions	3	1	..	..	..	..	..	..	..	25.00										
Complete excisions	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....										
Total for subject	3	1	..	..	..	..	..	..	..	.....										

Conclusion.—That excisions of the tibia show the least mortality (4.76); of the fibula a greater (8.69); of the astragalus greater (13.09); of the tibia and fibula (18.42) greater; of the tibia, fibula, and astragalus the greatest mortality (24.44); that the removal of the tibia, fibula, astragalus, and other tarsal bones develops only a mortality of 5.88 per cent., is inconsistent, and is rejected; that the removal of the tibia and astragalus is attended with less mortality (7.15); and the astragalus and other tarsal bones (7.69); and the "fibula and astragalus," the fibula, astragalus, and other tarsal bones, and the tibia, astragalus, and other tarsal bones with no mortality. It would thus seem clear that the mortality of this excision increases as the extent of bone removed is greater, and "*pari passu*" as the extent of joint surface excised is greater.

The degree of usefulness resulting seems to be less influenced by the extent of bone removed than is the mortality; still, here the most extensive excisions give the least degree of usefulness, as for instance, the removal of the "tibia, fibula, and astragalus," 76.47, and of the "tibia, fibula, astragalus, and other tarsal bones," 62.50 per cent. useful; while, when the tibia alone, or the fibula and astragalus, or the "fibula, astragalus, and other tarsal bones," or "tibia, astragalus, and other tarsal bones," there is no mortality observed. Although this want of usefulness is a little too favorable, in view of the extent of bone removed in these happy instances, and is doubtless due to other influences than the mere extent of the operation, yet still these fortunate examples serve to illustrate that the extent of this excision does influence the subsequent usefulness of the member.

The table shows that excisions of the fibula alone are less favorable as to usefulness than those of the tibia alone, while the removal of the astragalus alone is attended with better usefulness than those of the fibula alone, and equal (97.05) to that shown when the tibia and fibula was removed without interfering with the astragalus; but when the "astragalus and tibia" were removed or the astragalus and other tarsal bones, the usefulness decreases and may be expressed as about 90 per cent.

As to the cases of "extraction" all are examples of partial excisions, one of which died and three recovered.

SUBJECT No. 12.—*Of the Mortality.*

This subject may be considered by inspection of the following table, the mortality being per 100 and relative to the total number of deaths for the several causes of death.

Cause of death.	Excisions for gunshot wounds.	Excisions for injuries.	Excisions for disease.	Excisions for deformity.	For the four classes.
Died of the disease or injury .	33.33	36.84	10.00	.....	29.26
Died of the operation . .	16.66	5.26	10.00	.....	9.75
Died of other diseases . .	.....	31.57	60.00	.....	29.26
Cause of death not stated . .	50.01	26.33	20.00	.....	31.73

Conclusion.—It will thus be seen that the mortality attributable to the operation is equal to but 9.75 per 100, and to the "disease or injury" and to "other diseases" 58.52 per 100.

By reference to the sub-table No. 12 it will be seen that the

mortality pro rata to the total number of cases "recovered and died" equals but 12.93 per 100. This rate, however, is greater than that shown to follow *amputation* at the ankle-joint. Thus the death-rate of Syme's operation is less than 8 per cent., as shown in Hancock's collection of these cases (219 cases with 17 deaths). See Ashhurst's *Surgery*, p. 123.

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Died of the disease	..	1	..	..	3	..	..	..	..	33.33	...	7	..	..	..	..	..	..	..	36.84
" " " operation	..	1	..	..	1	..	..	..	..	16.66	...	1	..	..	..	..	..	..	..	5.26
" " other diseases	..	..	..	..	..	..	..	..	..	.....	...	6	..	..	..	..	..	..	..	31.57
Cause of death not stated	..	1	..	..	2	..	..	3	..	50.01	...	5	..	..	..	..	..	..	..	26.33
Total for subject	..	3	..	..	6	..	..	3	..	100.00	...	19	..	..	..	..	..	..	..	100.00
Sum of days patients dying, in cases	In 6 cases, 125 days.										In 10 cases, 212 days.									
Average number days dying	$20\frac{5}{6}$										$21\frac{1}{5}$									
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Died of the disease	..	1	..	..	..	..	..	..	..	10.00	...	...	..	..	..	..	..	..	..	.....
" " " operation	..	..	..	..	1	..	..	..	..	10.00	...	...	..	..	..	..	..	..	..	.....
" " other diseases	..	3	..	..	3	..	..	..	..	60.00	...	...	..	..	..	..	..	..	..	.....
Cause of death not stated	..	..	..	..	2	..	..	..	..	20.00	...	...	..	..	..	..	..	..	..	.....
Total for subject	..	4	..	..	6	..	..	..	..	100.00	3	No deaths.								
Sum of days patients dying, in cases	In 8 cases, 896 days.										.....									
Average number days dying	112										.....									
	EXTRACTION OF FRAGMENTS OF BONE.																			
Died of the disease	..	..	..	..	..	..	..	..	..	.....										
" " " operation	..	..	..	..	..	..	..	..	..	.....										
" " other diseases	..	1	..	..	..	..	..	..	..	100.00										
Cause of death not stated	..	..	..	..	..	..	..	..	..	.....										
Total for subject	..	1	..	..	..	..	..	..	..	.....										
Sum of days patients dying, in cases	1 case, in 19 days.																			
Average number days dying	No average.																			

The average period in which death occurred in the gunshot excisions is $20\frac{5}{6}$ days; in excisions for injury $21\frac{1}{5}$ days; in excisions for disease 112 days; and in excisions for all classes $51\frac{9}{24}$ days.

The diseases of which the several patients died, as far as stated, are as expressed in the following table:—

Diseases.	No. cases.	Deaths per 100.
Exhaustion	7	17.07
Pyæmia	7	17.07
Septicæmia	1	2.43
Hospital fever	1	2.43
Asthma	1	2.43
Gangrene	2	4.87
Pneumonia	1	2.43
Phthisis pulmonalis	5	12.19
Phlebitis	1	2.43
Erysipelas of member	1	2.43
Tetanus	1	2.43
Not stated as to cause	13	31.83
Total	41	100.00

From this exhibit it will be seen that the greater number die from exhaustion, pyæmia, and phthisis pulmonalis. The first and second named of these diseases may or may not be directly referable to the operation or the disease.

In the class of extraction, but one case died from "abscess and other injuries" (from other causes), a mortality, as related to all the cases of extraction, of 25 per 100.

SUBJECT No. 13.—*Of Recovery.*

From this table we conclude, that, considering the several classes of excisions, 87.07 per 100 recovered, that 73.34 per 100 recovered from gunshot excisions, 87.50 per 100 from excisions for injury, and 91.46 per 100 from excisions for disease, while all recovered from excisions for "deformity." The average period of recovery for the first class of excisions is $82\frac{3}{4}$ days; for the second $135\frac{3}{5}$ days; for the third class $198\frac{1}{3}$ days; and for the several clases—93 cases in 15,525 days—$166\frac{87}{93}$ days.

In the class of "extraction" the recoveries embrace 75 per cent. of the cases, and in one case in which the period of recovery is expressed, 150 days completed this process.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Recovered and died	5	3	..	13	6	..	15	3	..	26.66	126	19	2	7	..	..	..	..	..	12.5
Total for the subject	5	3	..	13	6	..	15	3	..	26.66	126	19	2	7	..	..	..	..	..	12.5
Sum of days patients recovering, in cases	662 days, in 8 cases.										4062 days, in 30 cases.									
Average number days recovering	82¾										135⅗									
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Recovered and died	57	4	7	45	6	..	5	..	..	8.54	3	...	..	..	..	..	..	..	..	0
Total for the subject	57	4	7	45	6	..	5	..	..	8.54	...	...	..	..	..	..	..	..	..	.....
Sum of days patients recovering, in cases	10,710 days, in 54 cases.										1 case, 91 days.									
Average number days recovering	198⅓										No average.									
	EXTRACTION OF FRAGMENTS OF BONE.																			
Recovered and died	3	1	..	..	..	..	..	..	..	25.00										
Total for the subject	3	1	..	..	..	..	..	..	..	25.00										
Sum of days patients recovering, in cases	150 days, 1 case.																			
Average number days recovering	No average.																			

SUBJECT No. 14.—*Of the usefulness of the Members.*

In excisions for gunshot wounds 6.06 per cent. gained "perfect" limbs; 42.42 per cent. "useful" members; 3.03 per cent. of the extremities were "not useful;" and 6.06 per cent. of the limbs were amputated, and hence worthless.

In excisions for "injury," in 6.01 per cent. of the cases the usefulness was "perfect," and in 59.39 per cent. of the examples the members were simply "useful."

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.
	EXCISION FOR GUNSHOT WOUNDS.									
"Perfect"	1	..	..	1	..	..	..	..	..	6.06
"Useful"	1	..	..	6	..	..	7	..	..	42.42
Worthless { Not useful	..	..	..	1	..	..	..	..	..	3.03
Worthless { Amputated	1	..	..	1	..	..	..	..	..	6.06
Not stated as to usefulness	2	..	..	4	..	..	8	..	..	42.43
Total for the subject	5	..	..	13	..	..	15	..	..	100.00
Sum of months last heard from, in cases	433 months, in 9 cases.									
Average number of months last heard from	$48\frac{1}{9}$									
Average shortening of members.	.....									

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.
	EXCISION FOR INJURIES.									
"Perfect"	8	...	..	..	..	..	..	..	..	6.01
"Useful"	73	...	..	6	..	..	..	..	..	59.39
Worthless { Not useful	...	...	..	..	..	..	..	..	..	.....
Worthless { Amputated	...	...	..	..	..	..	..	..	..	.....
Not stated as to usefulness	45	...	..	1	..	..	..	..	..	34.60
Total for the subject	126	...	..	7	..	..	..	..	..	100.00
Sum of months last heard from, in cases	865 months, in 34 cases.									
Average number of months last heard from	$254\frac{19}{34}$									
Average shortening of members.	In 5 cases (9 in.) $1\frac{4}{9}$ inches.									

	EXCISION FOR DISEASE.									
"Perfect"	5	..	..	1	..	..	..	..	..	5.55
"Useful"	39	..	..	26	..	..	..	..	..	60.18
Worthless { Not useful	..	..	..	3	..	..	..	..	..	2.77
Worthless { Amputated	2	..	..	10	1	..	..	..	..	12.03
Not stated as to usefulness	11	..	..	5	..	..	5	..	..	19.47
Total for the subject	57	..	..	45	1	..	5	..	..	100.00
Sum of months last heard from, in cases	1257 months, in 60 cases.									
Average number of months last heard from	$20\frac{57}{60}$									
Average shortening of members.	In 10 cases ($8\frac{5}{8}$ in.) $\frac{69}{80}$ inch.									

	EXCISION FOR DEFORMITY.									
"Perfect"	...	...	..	..	..	..	..	..	..	.....
"Useful"	3	...	..	..	..	..	..	..	..	100.
Worthless { Not useful	...	...	..	..	..	..	..	..	..	.....
Worthless { Amputated	...	...	..	..	..	..	..	..	..	.....
Not stated as to usefulness	...	...	..	..	..	..	..	..	..	.....
Total for the subject	3	...	..	..	..	..	..	..	..	.....
Sum of months last heard from, in cases	6 months, in 2 cases.									
Average number of months last heard from	3									
Average shortening of members.	.....									

	EXTRACTION OF FRAGMENTS OF BONE.									
"Perfect"	..	..	..	..	..	..	..	..	..	.....
"Useful"	3	..	..	..	..	..	..	..	..	100.
Worthless { Not useful	..	..	..	..	..	..	..	..	..	.....
Worthless { Amputated	..	..	..	..	..	..	..	..	..	.....
Not stated as to usefulness	..	..	..	..	..	..	..	..	..	.....
Total for the subject	3	..	..	..	..	..	..	..	..	.....
Sum of months last heard from, in cases	60 months, in 2 cases.									
Average number of months last heard from	30									
Average shortening of members.	.....									

In excisions for disease 5.55 per cent. of the cases gained "perfect limbs;" 60.18 per cent., "simply useful" limbs; in 2.77 per cent., the members were not useful; and in 12.03 per cent., the extremities were amputated, and the operation worthless.

In all the excisions for "deformity," the members were "useful."

Conclusion.—That excisions for gunshot wounds, "injuries" and for "disease," when the results were "perfect," are about equally so, in these several classes of operations. That the fewest number regained "useful" members in excision for gunshot wounds, and that the results classed as "useful," are about equal in excisions for "injuries" and "disease." That about 10 per cent. of the results show "worthless" members in excisions for gunshot wounds, and 14 per cent. in excisions for disease. That in excisions for deformity all the members were "useful."

It is hence evident that a large proportion of these excisions result in more or less usefulness of the members.

The average period in which the patients were "heard from" after the operation is, for gunshot excisions $48\frac{1}{9}$ months; for excisions for injuries $254\frac{1}{3}\frac{2}{4}$ months; for excisions for disease $20\frac{5}{6}\frac{7}{0}$ months; for excisions for deformity 3 months; and for the four classes: 25.71 months in 105 cases, $24\frac{5}{1}\frac{1}{0}\frac{1}{5}$ months. This, it would seem, is an average period of sufficient length to determine the permanency of the results.

In the class of excisions for disease and injuries in 15 cases in which the sum of the shortening was $17\frac{5}{8}$ inches, the average degree of shortening of the limbs was $1\frac{7}{4}\frac{7}{0}$ inches.

In the three cases of "extraction" all gained useful members, and in two of these cases the average period last heard from was 30 months.

Remarks.

Gunshot Excisions.

Remarks in General.

Case 3. In this case there was also a flesh wound of the shoulder and of the side of breast.

Case 19. At this case, it is stated, "As the particulars of the other cases of excision mentioned on page 57, Circular No. 6, Surgeon General's Office, are not mentioned, and as it is possible these cases may not involve the ankle-joint proper, we include only twelve of the twenty-two cases cited."

Excisions for Disease and Injuries.

Case 12. This case is reported and verified by Gooch, of Norwich, England.

Case 15. Velpeau says, the end of the tibia and the fractured ends of the fibula

were sawed off, and the external malleolus left in this case, and that the operation was done in 1792.

Case 27. This was Mr. Batley's patient of St. Paul's Churchyard, London.

Case 32. This is probably the case spoken of by Henry Park, Eng. (see Hodges on Excisions, p. 170), as "most satisfactory."

Case 170. This patient died of a fever ten years after the operation.

Case 238. Recovery in this case slow, but uninterrupted, notwithstanding the disease of the tarsus.

Case 239. Recovery unexpected in this case.

Case 241. This patient died of typhoid fever in 1868.

Case 249. This patient died of pneumonia in November, 1869.

Case 255. Here is expressed the view of M. Ollier (see *Lancet*, Am. ed., 1872, p. 659), "that the development of the tibia and fibula takes place mainly at the upper conjugate cartilage, which fact, we may add, is favorable to excisions at the ankle, as the growth of these bones continues above.

Case 150. Here the first operation consisted in the removal of the external malleolus and a portion of astragalus and articular surface of tibia on one side, the second of a portion of the right and left os calcis.

Case 160. Nearly four inches of tibia removed in this case.

Case 173. In this case the ends tibia and fibula, all of astragalus, part of os calcis, and the three cuneiform bones were removed.

Case 217. In this case the ends of tibia, fibula, astragalus, and the os scaphoides were removed.

Case 228. Here four inches of the ends of tibia and fibula were removed.

Case 247. $4\frac{3}{4}$ inches tibia removed, with less of the fibula, sub-periosteal.

Case 249. The middle and external cuneiform, the cuboid, and lower two-thirds fibula removed.

Case 254. Nine (9) inches tibia removed in this case, including the lower epiphysis and internal malleolus.

Case 267. Six inches fibula, three-fourths inch tibia, entire astragalus, almost all the calcaneum, the os naviculare, and part of the cuboid removed.

Gunshot Excisions.

Remarks as to Treatment.

Case 3. In this case plaster Paris dressings and immersion baths of the limb were used.

Case 5. Plaster Paris dressings. The day following the operation, the fever diminished, and on the 24th day the patient was placed in the open air.

Case 11. Plaster Paris dressing applied.

Case 12. Foot immersed in warm bath during 14 days after wounded and before operation. The incision made on the inner face of ankle and cut carried to the bone, wound united with sutures except at the lower part, an oiled tent passed through orifice of inlet and exit of wound. Plaster dressings. Aug. 1st, no fever, sleeps well, appetite and diarrhœa better, wound irrigated through shot-openings with chlorinated water, a sub-periosteal excision as far as possible.

Case 13. Ice treatment locally for eight days, then warm water bath for severe pain and great swelling, which was continued 21 days (before operation), after operation dressed with plaster Paris; a sub-periosteal excision.

Case 14. Here it is stated that L. Legouste, the operator, in this case rejects this operation (we suppose for gunshot wounds), on the following grounds: "the gravity of the lesions of this articulation, the dangers of the operation, and the uncertainty which attends its definite results."

Case 18. In this case there was scarcely any suppuration and no inflammatory action perceptible.

Case 22. Plaster dressings used in this case; a sub-periosteal excision.

Case 23. Plaster dressings in this case. New bone reformed so far as periosteum was preserved; a sub-periosteal excision.

Case 36. A sub-periosteal excision. Dressed with plaster of Paris, openings left at the joint.

Case 38. Counter opening in front of fibula, and oiled tent passed through.

Cases 39 to 45. B. von Langenbeck says, that B. Beck, during the Franco-Prussian War, treated 60 cases of shot-wounds of this joint, with eleven (11) deaths, and that of 42 treated conservatively, eight died.

Excisions for Disease and Injuries.

Case 28. R. M. Hodges in his work on Excision of Joints, p. 175, states that the removal of bone, as in this case (tibia), is not generally attended with those unfortunate accidents characterizing these operations elsewhere, leaving the articular surface does not seem to retard or complicate the case, "and also that anchylosis generally results."

Case 38. This was a simultaneous operation in the same patient upon the right and left ankles.

Case 52. The extensive sloughing in this case impaired the result.

Case 91. Profuse hemorrhage occurred after the operation, which was arrested with much difficulty.

Case 93. The progress of this case complicated with abscess about ankle and with tetanus.

Case 106. The fourth evening patient taken with delirium tremens.

Case 178. Here it is stated, that Mr. Hancock disapproves of *the gouging* in this operation and that he prefers removal of the entire joint.

Case 203. This patient refused amputation.

Case 225. In this case the incision was an anterior longitudinal median, between the tibia and fibula, with a transverse incision below ⊥.

Case 233. In this case the tendons not divided.

Case 234. In this case the neoplastic deposits around the diseased articulation were freely removed.

Case 251. After the operation the treatment of Prof. Sayre was discontinued, viz.: Oakum seton and rest.

Case 253. Oakum seton used in this case.

Case 255. Plaster dressings used. Case delayed by an attack of diphtheria and collection of matter at inner side ankle.

Case 263. Dr. T. Holmes, the operator in this case, states that he prefers this to Syme's or Pirogoff's operation, and that he thinks it best to remove the entire astragalus when diseased, and not a portion of that bone.

Case 268. The tendo Achillis was divided in this case, and yet a useful limb was obtained.

Case 279. The tendo Achillis was detached from the os calcis in this case, subsequent to the operation, and a useful joint and member obtained.

Case 280. This was a simultaneous operation upon both ankles.

Case 283. The anterior tibial and peroneal arteries were ligated at both of the divided ends in this case.

GUNSHOT EXCISIONS.

Dissections.

Case 3. Late in summer of 1860, patient died of double pneumonia. Autopsy showed fibula irregularly surrounded with bone masses developed from the periosteum.

EXCISIONS FOR DISEASE AND INJURIES.

Case 73. This is not the case spoken of by O. Heyfelder in his work on Resections of Bones, at page 140; in which it is stated the patient died, and autopsy showed fibrous union of the remains of the astragalus to end tibia, and in which the body of the astragalus had been successfully excised for luxation and fracture of that bone.

Case 137. At the post-mortem in this case, it was seen that the osseous surfaces were rounded, the tibia convex, the astragalus concave.

Case 190. The tumor, of which the fibula forms a part, of this case, measures 16½ inches in circumference at one point and 15½ at another, and 8½ inches of the fibula were removed.

Case 206. The autopsy showed caries of the tarsal bones present in this case.

Case 242. Leg amputated, at request of patient, by Teal's method. Last seen well, 72 months after excision. Joint anchylosed, as shown by dissection.

SYNOPTIC TABLE OF EXCISIONS OF THE ANKLE-JOINT.

Nature of the operation.	No. case.
Excision for Gunshot wounds	45
" " Injuries	154
" " Disease	124
" " Deformity	3
Total for the joint	326
Extraction of bone simply	4

ANATOMY.

Plates VII., VIII., and IX. illustrate the anatomy of this articulation, and the operation of excision of the ankle-joint. It is not considered necessary to give an extensive description of the anatomy of the joint.

OPERATION.

The patient having been placed upon the sound side, anæsthetized, and the Esmarch bandage applied, a straight incision three inches in length is made over the external malleolus, beginning at its summit, which should divide the skin, superficial fascia, and

EXPLANATION OF PLATE VII.

REGION OF THE INSTEP.

Fig. 1. *Internal surface.*

A. Section of the skin bounding the region.
B. Section of the subcutaneous fatty cellular tissue.
C. Superficial aponeurosis.
D. Superficial aponeurosis covering the internal surface of the tendo Achillis.
E. Section of the superficial aponeurosis showing the posterior vessels and nerves and the tendons of the flexor muscles of the toes.
F. Section of the aponeurosis showing the tendo Achillis.
G. Flexor longus digitorum inclosed in its aponeurotic sheath.
H. Section of the aponeurotic sheath of the flexor longus digitorum.
I. Flexor longus pollicis.
J. Aponeurotic sheath of the flexor longus pollicis.
K. Tendo Achillis, seen through an opening in the superficial aponeurosis.
L. Tendon of the tibialis posticus inclosed in its aponeurotic sheath, from which it receives a membranous expansion.
M. Membranous and fibrous expansion furnished by the aponeurotic sheath of the tendon of the tibialis posticus muscle.
N. Tendons of the flexor brevis digitorum inclosed in their aponeurotic sheath.
1. Posterior tibial artery.
2, 3. Internal calcaneal branches furnished by the posterior tibial artery.
4. Veins accompanying the posterior tibial artery.
5. Origin of the internal saphena vein.
6. Branch forming the commencement of the internal saphena vein coming from the sole of the foot.
7. Anterior branch of the internal saphena vein.
8. Internal saphena vein opposite the internal malleolus.
9. Section of one of the collateral branches of the internal saphena vein.
10. Posterior tibial nerve.
11. Calcaneal branch of the posterior tibial nerve.
12. Tibial nerve going to the plantar surface of the foot.
13, 14. Other branches of the tibial nerve going to the plantar surface.
15. Terminal branch of the internal saphena nerve.

Fig. 2. *External surface.*

A. Section of the skin bounding the region.
B. Section of the subcutaneous fatty cellular tissue.
C, C. Section of the superficial aponeurosis covering the subjacent organs.
E. Bursa situated on the external malleolus.
G, G. Section of the tendon of the peronæus longus.
H, H. Tendon of the peronæus brevis.
I. Tendo Achillis.
J. Section of the fibrous sheath supplied to the tendo Achillis by the superficial apeneurosis.
1, 1, 1. Terminal branches of the peroneal artery.
2. Anastomosis of the peroneal artery with the external malleolar artery.
3. External saphena vein.
4. Collateral branch of the external saphena vein.
5. Anterior ramification of the internal saphena vein.
6. Veins accompanying the terminal branches of the peroneal artery.
7. External saphena nerve terminating in the region.

PLATE VII.

From Béraud, Anat. Chirurg.

FIG. 1.

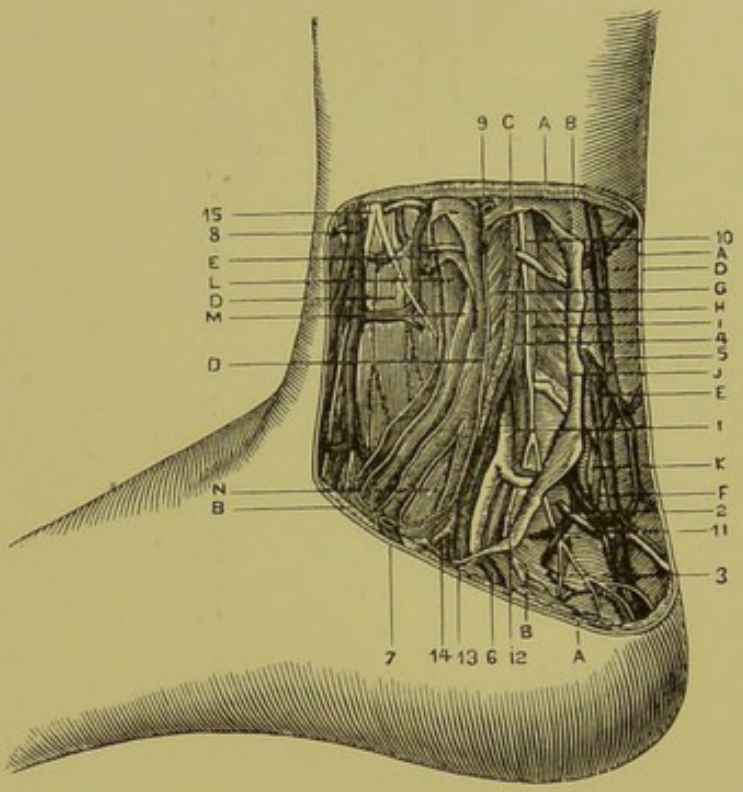
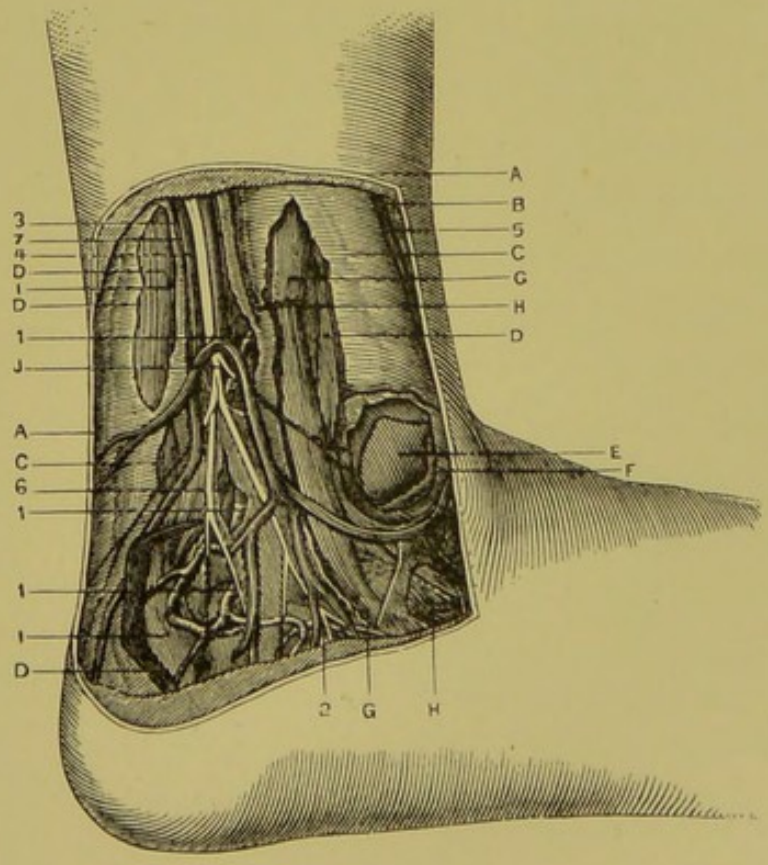


FIG. 2.



EXPLANATION OF PLATE VIII.

REGION OF THE INSTEP.

Anterior Surface.

A. Section of the skin bounding the region.

B. Section of the superficial fascia.

C. Superficial aponeurosis.

C′. Section of the superficial aponeurosis showing the tibial vessels and nerves.

C″. Section of the superficial fascia showing the tendon of the anterior tibial muscle.

C‴. Section of the superficial aponeurosis showing the tendons of the extensor muscles in their sheath.

D. Tibialis anticus muscle.

E. Tendon of the extensor proprius pollicis muscle.

F. Tendon of the extensor communis digitorum.

G. The lowermost fibres of the extensor communis digitorum.

H. Internal malleolus.

I. External malleolus.

1. Anterior tibial artery at the upper part of the region.

2. Anterior tibial artery at the lower part of the region.

3. External malleolar artery.

3′. Descending branch of the external malleolar artery.

4, 5. Veins accompanying the anterior tibial artery.

6. Internal saphena vein opposite the internal malleolus.

7, 7. Collateral branches of the internal saphena vein.

8, 9. External and anterior collateral branches of the anterior saphena vein.

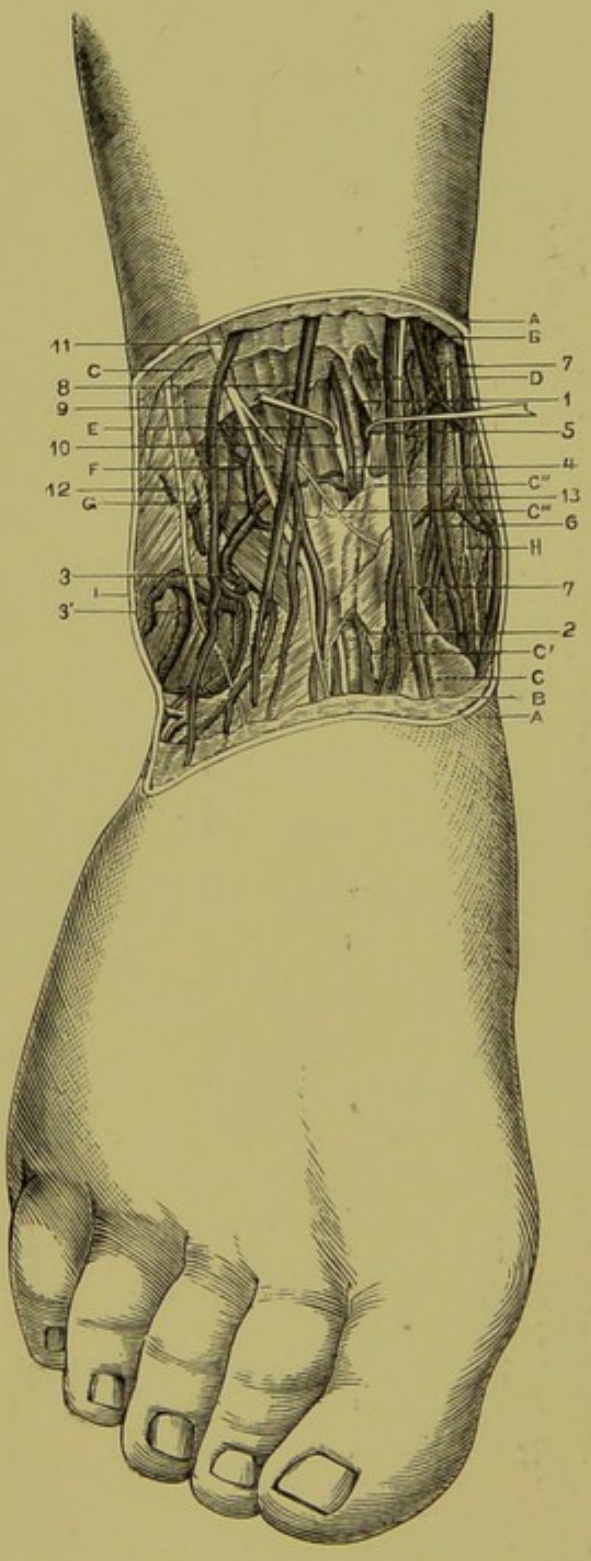
10. Anterior tibial nerve.

11. Cutaneous branch of the muscular cutaneous nerve.

12. Malleolar cutaneous branch of the musculo-cutaneous nerve.

13. Terminal branches of the internal saphena nerve.

PLATE VIII.



EXPLANATION OF PLATE IX.

FIG. 1. *Section of the right ankle-joint.*

F. Fibula. T. Tibia.

1. Extensor longus digitorum and peroneus tertius.
2. Peroneus longus.
3. Extensor proprius pollicis.
4. Peroneus brevis.
5. Anterior tibial vessels and nerve.
6. Flexor longus pollicis
7. Tibialis anticus.
8. Tendo Achillis.
9. Tibialis posticus.
10. Plantarus.
11. Flexor longus digitorum.
12. Posterior tibial vessels and nerve.

FIG. 2.—Oblique section of the tarsus and metatarsus, showing the six synovial membranes and the extent of the astragalus.

PLATE IX.

FIG. 1.

(From Bellamy, Surg. Anat. From Heath.)

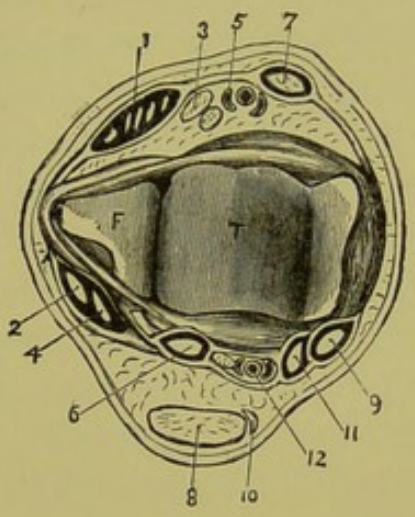
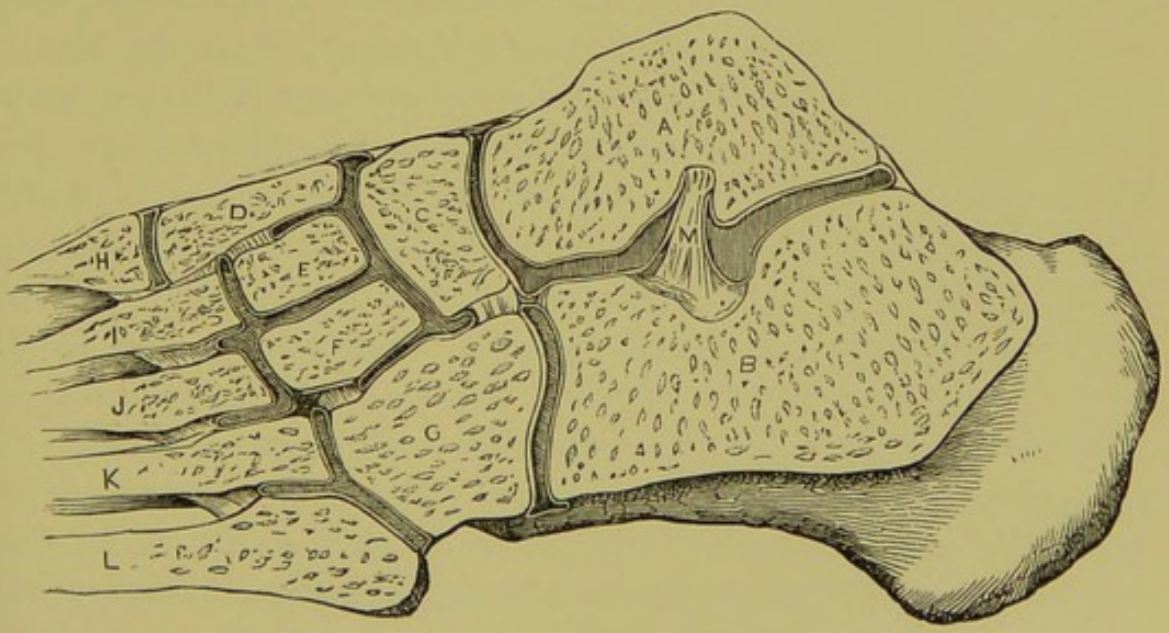


FIG. 2.

(From Gray's Anat.)



reach the bone. From the lower extremity of this, a second straight transverse cut is carried forwards to the insertion of the peroneus tertius. This should divide the skin and fascia. The flaps thus made are dissected up. The sheath of the peroneus longus and brevis is opened and the tendons turned out and held aside. Avoiding carefully the terminal branches of the peroneal artery, the external saphena nerve, the veins of the peroneal artery, and the external saphena vein, the soft parts and periosteum are carefully separated from the malleolus, a chain saw passed about the narrow portion of the bone, the latter divided, and the upper end of the malleolus seized with strong forceps, pressed downwards and outwards, and the ligamentous attachments separated. The patient is then turned upon the unsound side, and a similar incision made as above described, extending in front to the tendon of the tibialis anticus. The flaps having been dissected up, turn out the flexor tendons of the toes, avoiding carefully the posterior tibial vessels and nerves, and in front carefully isolate the extensor tendons and anterior tibial vessels, and after separating the soft parts and periosteum from the bone, pass a chain saw around and divide the bone, removing a small section. The foot should now be turned outwards, and the projecting portion of the divided extremity separated from its ligamentous attachments. If the disease of the extremity of the tibia is not all removed, a further section may be made of the bone, and the division of the two leg-bones should be effected upon the same level. If the astragalus is diseased, a section may be removed from it with a narrow saw, the soft parts being separated and protected. If the astragalus is wholly diseased it should be excised either with the gouge or the knife. If the other tarsal bones are diseased they should be removed. The external incisions given above are according to Moreau's method. Roux adopted this mode. Guthrie began his incision behind the external malleolus an inch and a half above its summit, carried this downwards, forwards, and across the front of the ankle, and upwards behind the internal malleolus an inch and a half. This incision should only divide the skin. Chassaignac proposed a single longitudinal incision upon the external face of the joint. Bourgerie and Barwell made upon the tibia and fibula longitudinal incisions. Jaeger made an inverted ⊥ incision, and Velpeau and Guepratte a rounded L on either side of the joint, J. F. Heyfelder and Sédillot made a transverse anterior incision, M. Hussey a similunar, and M. Boeckel a quadrilateral (base supe-

rior) anterior flap; these surgeons divided the extensor tendons. Wakely and Textor (son) made a posterior semilunar incision from one malleolus to the other, dividing the tendo Achillis. Erichsen made a curved incision beneath the external malleolus and carried this forward, and to this he added a perpendicular cut back of the fibula. He removed both bones through this incision. Syme employed the incisions of Moreau. Gross advises two lateral vertical incisions united inferiorly with a semilunar cut across the front of the joint. Ashhurst recommends either two lateral incisions or a single cut passing around the lower border of the external malleolus and continued along the line of the fibula longitudinally. Gant operated in two cases by longitudinal incisions. Hancock's incisions are those of Guthrie above described. He did not divide the tendons. Bellamy advises this method.

TREATMENT.—The bony surfaces having been made to correspond, the bleeding arrested, the wound filled with a long strip of lint saturated with a weak solution of carbolic acid, and dressed (the lower angle left open), the limb is bandaged and placed in a tin splint supplied with a foot-piece and reaching from the middle of the thigh to the foot, posteriorly. This splint is suspended. When placed in the apparatus the limb is laid in a bed of plaster of Paris upon the splint; when this is solidified, the member is secured in the splint. Applications can now be made about the joint, discharges removed, and cleanliness favored. The wound should be frequently washed out with disinfectants, when the tent has been removed, and the healing process should be promoted by the usual remedies. When the wound is beginning to close, and the parts to consolidate, passive motion should be instituted, and practised with perseverance, the object being to obtain a movable articulation. Heyfelder and Textor used pasteboard splints, Baudens and Sédillot a box splint, Günther a suspension apparatus, Gant a back splint and foot-board, Syme secured the limb with a splint and bandage in the extended position, Erichsen applied Liston's splint, and Guthrie used an outside leg splint with a foot-board. Whatever fixation apparatus is employed should be seldom removed at first. The foot should be maintained at right angles to the leg, and the tendency of the foot to extension overcome.

The following works have been consulted in this brief statement of the treatment and the operation for this excision. The reader is referred to these and to the "Remarks" as to treatment of this resection.

Authorities.—Velpeau; Heyfelder, O.; Smith, Stephen, Handbook; Bellamy, Surg. Anat.; Bernard and Huette; Gross, Surgery; Ashhurst, Surgery; Gant, Surgery; Erichsen, Surgery; Liston, Surgery; Syme, by Maclean; Gray, Anatomy; Bèraud, Surg. Anat.; Guthrie, Comm.; Mac Cormac, Notes and Recol.; and other works and medical journals.

TABULAR STATEMENT

OF

EXCISIONS OF ANKLE-JOINT.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Heyfeld. ta. No. 5 total exc.; Hodges' exc. p. 173; Velpeau Surg. ii. 825.	Read, quoted by Faure, France	Battle of Fontenoy.	?	M. ?	.....	1819.	P. ?	Wound of joint by "biscaien:" fibula fractured, also tibia.
2	Macleod's Surg. Notes, p. 293; Hodges, p. 173.	Reported by Macleod, G. H. B., Glasgow, Scotland.	Crimean War.	Crimea.	M.	.....	Bet. April 1, '55, and end of war.	?	Injury of os calcis and astragalus.
3	Arch. für Klin. Chir., 16, 2, p. 505.	Langenbeck, B. Von, Berlin.	Berlin.	Kwizinsky, Von, Emperor's Russian Lieutenant-General: "Patient not a strong man, and exhaust'd from suppuration and suffering."	M. 68	1854. B'ttle of Alma, Crim. War.	May 30, 1859.	S.	Fracture of malleolus internus, and tibial diaphysis split (astragalus in several fragments, fibula simply fractured); from Minié-ball; free suppuration; later, sinuses remained discharging; continual pains, and could not use crutches; joint anchylosed; foot flexed and turned slightly inwards; large deposit of bone between astragalus, calcaneum, and tibia.
4	Letter, 1872.	Morton, and Owenes, J.M., Monticello, Arkansas.	Ashley Co., Ark.	Hampton, Mr. Arkansas.	M. 22	April 6, 1862.	July, 1863.	S.	Caries of internal malleolus, from gunshot wound of right ankle.
5	Arch. für Klin. Chir. Lang. 16, 2, pp. 480, 507.	Langenbeck, B. Von, Berlin, assisted by Staff Surgeon Dr. Baum, Göttingen.	German-Danish War, Field Lazaretto at Rinkenis.	"Young man" Werkmeister, Drummer King's Body Grenadier Regt. No. 8. "Fever."	M. 24	April 18, 1864, Duepeler.	May 1, 1864.	S.	Fracture of inner left malleolus and calcis; ball entered at inner, and came out at outer malleolus; Minié-ball; foot dislocated; great inflammation and suppuration, with swelling of member as high as middle leg.
6	Letter, 1872; Cir. No. 6, p. 57.	Bontecou, R. B., Troy, New York.	Harwood General Hospital.	Roberts, Wm. soldier.	M. 30	April 10, 1864.	May 24, 1864.	S.	Perforating wound, involving left joint, with comminution of bones.
7	Letter, 1872; Cir. No. 6, p. 57.	Bontecou.	Harwood General Hospital.	Greer, Judson E., soldier.	M. 22	June 2, 1864.	June 25, 1864.	S.	Perforating wound of left joint, with comminution.
8	Letter, 1872; Cir. No. 6, p. 57.	Bontecou.	Harwood General Hospital.	Lisbon, Thomas.	M. 26	May 12, 1864.	July 5, 1864.	S.	Perforating wound, involving joint, with comminution.
9	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 421.	Bontecou.	Harwood General Hospital.	McCool, Alonzo B., Pr. 188 Pa.	M. 21	June 3, 1864. Cold Harbor.	July 12, 1864.	S.	Wound involving right joint; caries and fracture.

of Ankle-Joint for Gunshot Wounds.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	Lower ¼ of fibula; several portions of tibia, astragalus, and portions of other tarsal bones.	Recovered, after 47 days.	.....	Amputation 47 days after the accident.		
2	?	Os calcis and part of astragalus.	Recovered.	.....	?		
3	.....	During about four years, portions of bone discharged from wound; end of tibia (subperiosteal); attachments of callus divided with chisel separating same from calcaneum and fibula, which was very difficult to do; this callus included the astragalus, and was attached above to the tibia; this mass of bone was 3.93 inches in length.	Recovered, 1 month, (wound healed).	Not seen.	Recovered without complications, and end of June wound healed: joint anchylosed, and free reproduction of bone; summer 1860 can walk without "his" boot, though he generally wears it.	.....	Had also flesh wound of shoulder and side of breast; plaster dressing and immersion baths of limb used; late in summer 1860, died of double pneumonia, from taking cold; autopsy; fibula irregularly surrounded with bone-masses developed from the periosteum.
4	I	Internal malleolus.	Recovered.	.....	"Good use of limb."	120	
5	.....	(Subperiosteal) Total excision; 3 fragments of external malleolus resected 2¾ inches; fractured upper surface of astragalus; several fragments of tibia sawed off; 2¾ in.	Recovered, 4 months, wound healed.	.....	24th of May free suppuration; much broken down; after this improved; end of August, 1864, malleoli wonderfully well restored; ankle only as large as other ankle-joint was, yet somewhat movable; Dec. 1864, ankle anchylosed, and in right angle position; toes active and completely movable; now wears ordinary shoes; end of Dec. 1864, went into service as servant of the King; later, very little difference in the usefulness of the two limbs; his business requires him to stand long, walk rapidly, and ascend stairs, and on smooth surfaces, and his limb enables him to do this; size of joint ultimately diminished; figure of joint normal.	108	Plaster of Paris dressings; day following fever diminished; was placed in open air.
6	II	1½ inches of tibia and fibula; gouged out astragalus.	Died, 42 days, exhaustion.				
7	II	1½ inches of tibia and fibula, and gouged out diseased portions of astragalus.	Recovered.	.....	"Useful."	In 1864.	
8	II	1½ inches of tibia, and gouged out astragalus.	Died, 43 days, pyæmia.				
9	II	1 inch of ends of tibia and fibula, and portion of astragalus.	Died, 9 days, exhaustion.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
10	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 421.	Bontecou.	Harwood General Hospital.	Perkins, James C., Pr. B, 81 New York.	M. 27	June 3, 1864. Cold Harbor-	July 7, 1864.	S.	Wound involving joint; fracture of internal malleolus, os calcis, and astragalus.
11	Arch. für Klin. Chir. Lang. 16, 2, p. 510.	Langenbeck, B. Von, Berlin.	Windmill Lazaretto No. 2, in Sonderburg, Rebellion	Groen, from Hadersleben, 5th Danish Inft'y Regt. High fever.	M.	June 29, 1864, Isl. of Alsen	July 15, 1864.	S.	Shot fracture of the left internal malleolus and astragalus, former separated with fracture of external malleolus; ball then passed out; foot dislocated inwards; great swelling of foot and ankle; tendon tibialis porticus lacerated.
12	Arch. für Klin. Chir. 16, 2, p. 508, plate 9.	Langenbeck, B. Von, Berlin.	Lazaretto at Castle Augustenburg, Rebellio	Leth, Lieut. of the King's Danish Vols., a theological candidate from Horne, near Faaborg, Fuenen. "High fever; exhaustion; diarrhœa; want sleep; broken down."	M.	June 29, 1864, At Isl. of Alsen	July 29, 1864.	S.	Shot fracture of both malleoli of right foot; ball passed through the crista tibia above the crucial ligament and emerged at the outer side of tendo Achillis, fracturing tibia; dislocated foot reduced, which was with difficulty retained in situ; great swelling and free discharge of unhealthy pus; later, outward dislocation; external malleolus simply fractured: upper surface of astragalus roughened.
13	Arch. für Klin. Chir. Lang. 162, p. 309, pl. 10.	Langenbeck, B. Von, Berlin.	School-House Lazaretto at Broagger, Rebellion	Wedell, Jarlsberg, Count Von, from Norway. "A very robust man, but became very much exhausted from suppuration."	M.	June 29, 1864, at Isl. of Alsen	Aug. 19, 1864.	S.	Shot fracture right ankle, at short range, from conical ball, which entered just under malleolus externus and passed out under the malleolus internus. From July 29th foot began to swell; profuse suppuration.
14	Traité de Chir. d'Armée, p. 794; Gross' statistics	Legouste, L., France.	Schl'swig 1864.	Soldier.	M.	.....	1864.	....	Shot wound of joint.
15	Gross' statistics	Neudorfer, Surgeon, Vienna.	1864.	Probably Austrian Soldier.	M.	.....	1864.	S.	Shot wound of joint.
16	Cir. No. 6, p. 57.	Lindell, J. A., Surgeon U. S. Volunteers.	War Rebellion 1861.	Soldier.	M.	.....	1861 to 1865.	S.	Wound of joint, with injury of calcaneum and astragalus.
17	Cir No. 6, p. 57.	Whitehill, Surgeon U. S. Volunteers.	War Rebellion 1861-65.	Roberts, Pr. (soldier) 7th Wis. Battery.	M.	.....	1861 to 1865.	?	Wound of joint.
18	Letter, 1874; Cir. No. 6, p. 57.	Whitehill, Surgeon U. S. Volunteers.	War Rebellion 1861-65.	Negro boy.	M. 19	.....	1861 to 1865.	P.	Shot fracture of astragalus

of Ankle-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
10	| |	1 inch of end of tibia and fibula, and portion of astragalus.	Died, 10 days, exhaustion.				
11	⊥ Long cut over fibula.	(Subperiosteal) tibia; 1½ inches of fibula; 1½ inches; all of the comminuted astragalus.	Recovered, 2½ months, wound healed.	⅝	Walks for hours without limping in ordinary boots; ankle is anchylosed.	36	Plaster dressings.
12	U	(Subperiosteal) as far as the periosteum remained; 14 large and many small fragments of tibia; latter sawn off; external malleolus and astragalus permitted to remain; 4½ inches of bone removed.	Recovered.	1.17	June 30, 1865, joint anchylosed; foot in good position; motion of toes incomplete; Oct. 1867, can walk for hours; tibia now well reproduced; in summer, 1873, had just returned from a foot journey from Switzerland, and stated that he had walked with Alpine-shoes; now very little motion in ankle; form of foot good; malleolus internus very completely reformed; walks normally, and without high-heeled boot.	108	Foot kept in warm bath 14 days after being wounded, and before operation; the incision was on inner surface of leg and ankle, and cut carried to the bone; wound sewed except at lower part; an oiled tent passed through wounds of entrance and exit; plaster of Paris dressings; Aug. 1, no fever, sleeps, and has an appetite; diarrhœa better; swelling of limb going down; wound irrigated through shot openings with chlorinated water.
13	⊥ In middle tibia.	Subperiosteal; end of tibia and upper joint surface of astragalus; tibia 2⅞ inches; ⅝ inch of astragalus.	Recovered.	⅝	Fall of 1865 is a complete reformation of internal malleolus; foot not quite at a right angle; slight motion in ankle; he was now chloroformed, and the foot bent up to a right angle with leg, this position was maintained by splints; when last seen could walk on the member with a splint-boot.	After fall, 1865.	Ice treatment for eight days, then warm water bath for severe pain and great swelling of foot, which was continued until July 29; dressed with plaster of Paris dressings.
14	?	External malleolus.	Recovered.	.....	Recovered only after having escaped the greatest dangers.	.....	Operator rejects this excision (I suppose for gunshot wounds) on the following grounds The gravity of the lesions of this articulation, the dangers of the operation, and the uncertainty which attends its definite results.
15	.....	Excision.	Recovered.	.....	?		
16	?	Portions of astragalus and calcaneum.	Died.				
17	?	Total calcaneum and astragalus.	Recovered, 2 months.	.....	"Prospects of a useful limb."	2	
18	Curved in front inner malleolus.	Fragments of astragalus and ball.	Recovered, 2 months.	.....	"No anchylosis; able to walk without limping; remarkable result."	2	"Scarcely any suppuration, and no inflammatory action perceptible."

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
19	Cir. No. 6, p. 57.	Not stated.	War Rebellion 1861–65.	Soldier.	M.	.....	1861–1865.	?	Wound of joint.
20	Cir. No. 6, p. 57.	Not stated.	War Rebellion 1861–65.	Soldier.	M.	.....	1861–1865.	?	Wound of joint.
21	Cir. No. 6, p. 57.	Not stated.	War Rebellion 1861–65.	Soldier.	M.	.....	1861–1865.	?	Wound of joint.
22	Arch. für Klin. Chir. 16, 2, 511.	Langenbeck, B. Von, Berlin.	Lazaretto at Horic, Austrio-Prussian War.	Standinger, Carl, from Bitterthal, Prussian, 31, Infty. Co. 10. "Fever."	M. 21	July 3, 1866. Koenig-graetz	July 31, 1866.	S.	Shot wound of joint; from grenade fragment; soft parts on inner side of ankle shot off; fracture of internal malleolus; edges of wound sloughing; wound suppurating freely and joint filled with granulations; some swelling of foot and joint; abscess near tendo Achillis; astragalus fractured, upper part; great pain of joint.
23	Arch. für Klin. Chir., 16, 2, 511.	Langenbeck, B. Von, Berlin.	Reserve Lazaretto at Liegnitz. Austrio-Prussian War.	Fitzner, Prussian, 46th Infantry. "Greatly exhausted."	M. 24	July 3, 1866. Battle near Koenig-graetz	Aug. 7, 1866.	S.	Comminuted fracture of lower end of right tibia, from grenade shot; great laceration of soft parts over inner ankle; tendon of tibialis posticus lacerated and exposed; severe inflammation of joint, with free suppuration.
24 to 34	Gross' statistics	Langenbeck, B. Von, Berlin.	German-Danish, 1864, and Austrio-Prussian Wars.	11 cases not tabulated.	M.	.....	1864 to 1866.	S.	Shot wounds of joint.
35	Gross' statistics	Bruns, Prof. Von, Tübingen.	Austrio-Prussian War.	Soldier.	M.	.....	1866.	S.	Shot wound of joint.
36	Lang. Arch. für Klin. Chir., 16, 2, 346 and 487, Plate 13; Med. Record, N. Y., June 3, 1872, p. 236.	Langenbeck, B. Von, Berlin, Germany.	Private house at Gorze.	Berkhauer, Lieutenant 48th Regt.	M.	Aug. 16, 1870. Mars la Tour.	Sept. 2, 1870	S.	Large wound of outer part of right leg, and ankle-joint fractured; fibula exposed in wound; four fragments of fibula; internal malleolus fractured longitudinally.
37	Krigs-chirurgische Esinnerungen Von Fischer, S. 35, 104, 107.	Reported by Fischer, G., Hanover, Germany.	Franco-Prussian War, Castle, Versailles	Soldier.	M. ?	Sept. 19, 1870.	Oct. 19, 1870.	S.	Fracture of tibia, with grazing of astragalus; foot œdematous; fibula sound.
38	Krigs-chirurgische Esinnerungen Von Fischer, S. 35, 104, 107.	Reported by Fischer, G., Hanover, Germany.	Franco-Prussian War, Castle, Versailles	Soldier.	M. ?	Jan. 19, 1870.	Feb. 10, 1871.	S.	Fracture of tibia and fibula, with grazing of astragalus; ball entered malleolus internus and came out malleolus externus; swelling of foot and ankle.
39 to 45	Arch. für Klin. Chir., 16, 2, p. 485, and Med. Record, N. Y., ix. 236, from Schmidt's Jarb. 11, 1873.	Beck, B., Freeburg, Germany.	Franco-Prussian War.	3 German soldiers 14th Army Corps.	M.	.....	1870 to 1871.	P.	Shot wounds of joint.
		Beck, B., Freeburg, Germany.	Franco-Prussian War.	4 German soldiers 14th Army Corps.	M.	.....	1870 to 1871.	S.	Shot wounds of joint.

of Ankle-Joint for Gunshot Wounds.—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
19	?	Total excision.	Died.	.....	.....	.....	As the particulars of the other cases of excision mentioned on page 57, Cir. No. 6, are not given; and as it is possible these cases may not involve the ankle-joint proper, we include only 12 of the 22 cases mentioned.
20	?	Total excision.	Recovered.				
21	?	Total excision.	Recovered.				
22	.....	Subperiosteal as far as possible; internal malleolus 1.96 inches, and upper surface of astragalus ⅝ inch.	Recovered. ?	⅝	Never wore a splint-boot; walks perfectly well in ordinary boots or shoes; summer of 1867 last seen, and this was his condition.	12	Plaster dressings.
23	U	Subperiosteal; malleolus internus, and tibia above point fractured; the fibula and astragalus not touched; 2¾ inches of tibia.	Recovered, 3 months (wound healed).	.58	In the beginning of Dec. first began to walk in splint boot; Feb. 1867, discharged, and then could walk well without splint boot, and without limping, although he was requested to wear the splint boot for some time.	.....	Wound approximated with sutures; plaster dressings, and kept in this appliance until Sept. 1866, and was only once renewed after this date; new bone reformed as far as periosteum was not destroyed by the wound.
24 to 34	.....	Subperiosteal, total, or partial.	8 recovered, 3 died.				
35	.....	Excision.	Died.				
36	?	Fibula 2¾ inches above external malleolus, and including it (subperiosteal); the astragalus, the cuboid, and a portion of calcaneum; internal malleolus not touched.	Recovered, 6 months.	1	Regeneration of bone almost normal; foot anchylosed; in rectangular position; some atrophy of muscles of leg; walked without limping in ordinary shoes; wound healed; walks for hours without limping or fatigue.	20	Plaster of Paris dressings, with openings at the joint.
37	?	Total resection.	Died, 13 days, pyæmia.	.....	Dressed with plaster of Paris splints, with an opening at the joint.		
38	?	Fragments of tibia at joint; malleolus internus and 1 inch of tibia: astragalus and fibula not touched.	Died, 6 days, septicæmia.	.....	.....	.....	"Counter opening in front of fibula; oiled tent passed through."
39 to 45	.....	Excision.	3 recovered.	.....	3 satisfactory.	.....	Von Langenbeck says that Beck treated 60 cases of shot wounds of this joint with 11 deaths, 42 treated conservatively with 8 deaths.
		Excision.	4 recovered.	.....	4 satisfactory.		

Remarks.—In this Table of Excisions for "Disease and Injuries" are included three operations for Deformity, viz., numbers 245, 255, and 280, and four of "Extraction of Bone," viz., numbers 27, 69, 101, and 224. Of the cases of Deformity, one was an example of double talipes, and the other two were instances of mal-position of the foot from injury.

The following numbers represent cases of excision done for injuries: 1 to 15 inclusive, 17 to 20; 22, 24, 25, 28 to 32; 34, 35, 36, 38 to 45; 47 to 53; 55 to 68; 70 to 78; 80, 82, 84 to

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Heyfeld. ta. Astragalus, 1.	Fabricius Hildanus.	.....	.....	....	.....	1670.	....	Complicated luxation of astragalus.
2	Heyfeld. ta. 1, p. 132; Velpeau's Surg. ii. 825.	Gouey, France.	France.	France.	M. ad't	.....	1716.	P.	1st. Fracture of the fibula 3 fingers' breadth above the lower end, with protrusion through the flesh. 2d. Necrosis of astragalus.
3	Velpeau's Surg. ii. 820; Heyfeld. ta. Astragalus, 2.	Broilie, Vonder.	?	?	....	.....	1741.	?	Complicated luxation of astragalus.
4	Heyfeld. ta. Astragalus, 3; Velpeau, ii. 820.	Aubray.	France.	France.	....	Same day of operation.	.....	? P.	Complicated luxation of astragalus.
5	Heyfeld. ta. 4.	Ferraud, Paris.	France.	France.	....	.....	.....	?	Complicated luxation of astragalus.
6	Heyfeld. ta. 5.	Desault, Pierre Jos.	France.	France.	....	.....	.....	?	Complicated luxation of astragalus.
7	Heyfeld. ta. 6.	.....	France.	France.	....	.....	.....	?	Complicated luxation of astragalus.
8	Heyfeld. ta. 7.	Desault, Pierre Jos.	France.	France.	....	.....	.....	?	Complicated luxation of astragalus.
9	Heyfeld. ta. 8.	Desault, Pierre Jos.	France.	France.	....	.....	.....	?	Complicated luxation of astragalus
10	Heyfeld. ta. 9.	Desault, Pierre Jos.	France.	France.	....	.....	.....	?	Complicated luxation of astragalus.
11	Heyfeld. ta. Astragalus, 10.	Manduyt, France.	France.	France.	....	.....	.....	....	Complicated luxation of astragalus.
12	Hodges' Exc. p. 170; Heyfeld. ta. 2, p. 132.	Cooper, Bungay, England.	England.	England.	M. ad't	.....	Many years before 1758.	?	Complicated luxation of ankle.
13	Heyfeld. ta. 1, p. 130.	Hey, W., Leeds.	England.	England.	....	.....	1766.	?	Complicated luxation.
14	Heyfeld. Part. ta. 2, p. 130.	Kirtland, London.	England.	England.	....	.....	1782.	?	Complicated luxation.
15	Velpeau, ii. 826; Heyfeld. Part. ta. 3, p. 132, and 129.	Moreau, G. F., Sr., Bar, France.	France.	France.	M. ?	19 days before operation.	1782.	S.	Compound dislocation with fracture.
16	Hodges' ta. 33; Jaeger's Oper. Resect., p. 26.	Moreau.	France.	France.	....	.....	1788.	S.	Chronic arthritis.
17	Heyfeld. Part. ta. 4, p. 132; Hodges' Exc. p. 170.	Taylor, Wakefield, England.	England.	England.	....	.....	1789.	....	Luxation and complicated fracture.
18	Heyfeld. ta. Astragalus, 13; Velpeau, ii. 820.	Trye, Chas. B. Gloucester, England.	England.	Palmers, Madam.	F. 54	.....	1789.	P.	Irreducible luxation of astragalus, with laceration of soft parts.
19	Heyfeld. ta. Astragalus, 14; Hodges, p. 172; Velpeau's Surg. ii. 821.	Hey, W., Leeds.	England.		....	.....	1786.	....	Complicated luxation of astragalus.

88; 90, 93, 95, 97, 99, 102 to 106; 107, 108, 111, 112, 113, 115 to 121; 125, 127, 129, 131 to 134; 136, 141 to 144; 146, 148, 156, 158, 160, 161, 163, 166, 167, 168, 170, 174, 175, 177, 180, 182 to 187; 191, 194 to 197; 203, 214, 215, 228, 229, 230, 231, 237, 239, 240, 244, 246, 247, 252, 271, 272, 274, 277, 283, and 285.

The other numbers expressed in the Table represent Excisions performed for "Disease."

of Ankle-Joint for Disease, Injuries, and Deformity.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	Entire astragalus.	Recovered.	.....	"Good."		
2	?	1st. Three fingers' breadth of lower end of fibula. 2d. Entire astragalus.	Recovered.	.....	"Walked without a cane." "Good."	?	
3	?	Entire astragalus.	Recovered.	.....	"Good."		
4	.....	Entire astragalus.	Recovered.	.....	"Good."		
5	.....	Entire astragalus.	Recovered.	.....	"Good."		
6	.....	Entire astragalus.	Recovered.	.....	"Good."		
7	.....	Entire astragalus.	Recovered.	.....	"Good."		
8	.....	Entire astragalus.	Recovered.	.....	"Good."		
9	.....	Entire astragalus.	Recovered.	.....	"Good."		
10	.....	Entire astragalus.	Died, 2 months, hospital fever.	.....	After death inspection showed the tibia almost consolidated with the os calcis.	.....	See also Velpeau Surg. vol. ii., page 821.
11	.....	Entire astragalus.	Recovered.	.....	"Good."		
12	.....	"Head of tibia and fibula."	Recovered.	.....	Limb so useful that the poor man walks and works for his bread.	Many years after.	Case reported and verified by Gooch, of Norwich, England.
13	?	2¾ inches of tibia and fibula.	Recovered.	.....	"Quite good."		
14	?	Ends of tibia and fibula.	Recovered.	.....	"Good; weakness of the foot."	?	
15	⌊ ⌋	Ends of tibia and fibula.	Recovered, 3 months.	.....	"Very good; new articulation formed."	3	Velpeau says the end of tibia and the fractured ends of the fibula were sawn off and the external malleolus left in this case; also, that operation was done 1792.
16	.....	Astragalus and os scaphoides.	Recovered.	.....	"Doubtful result."		
17	?	Lower extremity of tibia.	Recovered.	.....	"Good."		
18	?	Entire astragalus.	Recovered, 3 months.	.....	"Partial mobility of joint."	3	
19	?	Entire astragalus.	Died, 3 weeks, asthma.	.....	"Did well at first."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
20	Heyfeld. ta. Astragalus, 15, and p. 138; Velpeau, ii. 820.	Chorley, Leeds, England.	England.	England.	....	12 days before operation.	.....	S.	Complicated luxation, with fracture of the astragalus.
21	Hodges' ta. 5; Heyfeld. Total ta. 2; Hodges, p. 170; Dict. de Méd., xix. 297.	Moreau, G. F. Bar, France.	France.	France.	M. 20	.....	April 15, 1792.	S.	Chronic arthritis, with caries of left joint.
22	Cooper, Frac. and Dis. p. 256; Heyfeld. ta. 1.	Rumsey, Amersham, England.	Private practice.	Tolson, ——, Amersham, England.	M. 40	June 21, 1792.	June 21, 1792.	P.	Irreducible compound dislocation of tibia and fibula at left ankle, with fracture of astragalus and simple fracture of left femoris; astragalus fractured horizontally.
23	Velpeau, ii. 822; Heyfeld. Part ta. 3, p. 132.	Moreau, Son.	France.	France.	....	.....	1792.	S.	Caries of tibia.
24	Heyfeld. ta. Astragalus, 11.	Laumonier, France.	France.	.....	....	.....	1792.	?	Complicated luxation.
25	Heyfeld. ta. Astragalus, 25; Cooper s Dis. & Fract., p. 237.	Lynn, ——, Bury St. Edmunds, England.	Bury St. Edmunds	York, J., Bury St. Edmunds, England.	M. 32	.....	1792.	S.	Compound dislocation of tibia and fibula at ankle, with fracture of astragalus; from a fall.
26	Dict. de Méd. t. 18, p. 297; Braith. Retro., Part 56, p. 139; Heyfeld. Total ta. 3; Hodges' ta. 35, p. 271; Velpeau, ii. 823.	Moreau, Son, France.	France.	Meunier, France.	M. 17	.....	1796.	S.	Caries of end of tibia and astragalus; end of fibula sound.
27	Dis. and Fract. Cooper, p. 237; Heyfeld. ta. Astragalus, 23.	Cooper, A., London.	Saint Paul's Church-Yard, London.	"Gentleman" Duke St., Smithfield, England.	M. ad't	.....	1797.	P.	Shattered fracture of the astragalus, with dislocation (compound) of tibia; from jumping from second story window.
28	Heyfeld. Part. ta. 4, p. 132; Velpeau, ii. 820.	Hey, W., Leeds, England.	England.	England.	....	.....	1799.	....	Fracture of tibia, with dislocation of same at ankle.
29	Heyfeld. Part. ta. 6, p. 132.	Taylor, Wakefield, England.	England.	England.	....	.....	1802.	?	Compound luxation of tibia at ankle.
30	Heyfeld. Part. ta. 7.	Taylor, Wakefield, England.	England.	England.	....	.....	1804.	?	Compound luxation of tibia at ankle.
31	Heyfeld. Part. ta. 8.	Taylor, Wakefield, England.	England.	England.	....	.....	1804.	?	Compound luxation of tibia at ankle.
32	Heyfeld. Part. ta. 9.	Taylor, Wakefield, England.	England.	England.	....	.....	1805.	?	Compound luxation of tibia at ankle.
33	Heyfeld. Part. ta. 10.	Moreau, Son, France.	France.	France	....	.....	1808.	S.	Caries of anterior half of external malleolus; from fracture.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
20	?	The body of the astragalus ("all except head").	Recovered.	.....	"Good."		
21	⌊ ⌋	Total excision; ends of tibia and fibula, and surface of astragalus.	Recovered, 9 months.	.....	Walked almost without a halt; the mobility of the other bones of the foot supplied to a certain extent the loss of that of the ankle-joint.	9	
22	None; through irregular lacerated wound.	Superior and posterior portion of astragalus.	Recovered, 101 days.	.....	Able to walk with a small stick; the latter he will probably not require long; joint movable.	3½	
23	⌊ ⌋	End of tibia.	Recovered.	.....	"Good."		
24	?	Total of astragalus.	Recovered.	.....	"Good."		
25	None made.	Astragalus in two portions.	Recovered, 4½ months.	.....	Wound healed; good use of limb.	4½	
26	Internal only	Entire astragalus and end of tibia.	Recovered, 6 weeks.	.....	"The end of fibula not having been removed, caused the foot to turn inwards, still he ran away from the hospital at 6 months and got along without crutches; he was lame."	6	
27	None made.	Loose portions of astragalus.	Recovered, 5 months.	.....	Anchylosis; could follow his avocations nearly as well as at any former period of his life.	48	This was Mr. Batley's patient of St. Paul's Churchyard, London.
28	?	End of tibia.	Recovered.	.....	"Good."	.....	R. M. Hodges in his work on Excisions, p. 175, states that the removal of bone, as in this case, is not generally attended with those unfortunate accidents characterizing these operations elsewhere; "leaving the articular surface does not seem to retard or complicate the case. Says anchylosis generally results."
29	?	End of tibia.	Recovered.	.....	"Good."		
30	?	End of tibia.	Recovered.	.....	"Good."		
31	.....	End of tibia.	Recovered.	.....	"Good."		
32	?	End of tibia.	Recovered.	.....	"Good."	.....	"This is probably the case spoken of by Henry Park (see Hodges' Excisions, p. 170) as most satisfactory."
33	L	Anterior half of external malleolus.	Recovered.	.....	"Good."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
34	Heyfeld. Part. ta. 11.	Lynn, Bury St. Edmunds, England.	England.	England.	M. 25	.....	1808.	?	Luxation of tibia.
35	Heyfeld. Part. ta. 5, p. 132.	Cooper, A., London, England.	London.	England.	M. 27	.....	1810.	?	Luxation, and complicated fracture.
36	Heyfeld. Part. ta. 6; Dis. and Fract., Cooper, p. 252.	Cooper, A., London, England.	Guy's Hospital.	Taylor, Nathaniel, "Health good."	M. 13	.....	.....	P.	"Fracture of fibula (external malleolus); compound luxation of tibia and fibula; from boat falling on limb."
37	Chelius, by South, ii. 743; Velpeau's Surg; Blackman; Heyfeld. Part. ta. 34.	Mülder, Gröningen, Prussia.	Prussia.	Prussia.	....	.....	1810.	S.	Caries of fibula (a fungous growth on the bone, and an open wound).
38	Dict. de Méd., xviii. 297; Heyfeld. Part. ta. 8, p. 132; Velpeau's Surg. ii. 822.	Josse and Ladent, France.	France.	France.	F. 16	.....	1811.	?	Complicated luxation of left ankle.
39	Heyfeld. Part. ta. 12; Velpeau, ii. 822; Dict. de Méd., loc. cit.	Josse and Ladent, France.	France.	France.	F. 16	.....	1811.	?	Complicated luxation at right ankle.
40	Heyfeld. Part. ta. 13; Velpeau, ii. 822.	Josse, France.	France.	"Woman." France.	F. ad't	5 days before.	1811.	S.	Luxation of tibia.
41	Heyfeld. Part. ta. 14; Velpeau, ii. 822.	Josse, France.	France.	France.	M. 73	.....	.....	....	Luxation of tibia.
42	Heyfeld. Part. ta. 15.	Deschamp, France.	France.	France.	....	.....	.....	....	Luxation of tibia.
43	Heyfeld. ta. Astragalus, 16.	Daniel, France.	France.	France.	....	.....	1811.	....	Complicated luxation of astragalus.
44	Dis. and Fract., Cooper, p. 259, and Cooper and Traver's Essays p. 341; Heyfeld. Part. ta. 9.	Hicks, Geo., Baldock, England.	Baldock, England.	Curwan, John Coachman.	M. ad't	Nov. 10, 1812.	Nov. 10, 1812.	P.	Compound dislocation at right ankle, with fracture of fibula; soft parts largely torn; from coach falling on leg.
45	Heyfeld. ta. Astragalus, 17.	Percey, P. F., France.	France.	France.	....	.....	1812.	?	Complicated luxation.
46	Velpeau's Surg. ii. 823; Heyfeld. ta. Total Ex., 4.	Champion, L., France.	France.	Pérre, Theresa.	F. ?	.....	Mar. 6, 1813.	S.	Caries.
47	Heyfeld. Part. ta. 10; Velpeau's Surg. ii. 826.	Moreau, Son.	France.	France.	F. 52	.....	1815.	?	Luxation complicated.
48	Heyfeld. Part. ta. 12; Velpeau's Surg. ii. 826.	Weber, O., Erlangen, Germany.	Germany.	Germany.	....	.....	.....	....	Complicated luxation.
49	Heyfeld. ta. Astragalus, 18; Velpeau's Surg. ii. 821.	Roux, P. J., Paris.	Paris.	France.	....	.....	Sept. 20, 1817.	?	Complicated luxation.
50	Heyfeld. ta. Astragalus, 20; Velpeau's Surg. ii. 820.	Dupuytren, Baron, France.	France.	A woman, France.	F. ad't	.....	April 3, 1818.	S.	Complicated luxation; astragalus.
51	Heyfeld. Part. ta. 11; Dis. and Fract., Cooper, p. 260.	Cooper, G., Brentford, England.	Brentford England.	Smith, Thos., Brentford, "Suffered from lead colic; was a painter."	M. 36	Oct. 28, 1818.	Oct. 28, 1818.	P.	Dislocation of foot inwards, with fracture of fibula 3 inches above joint, and oblique fracture of tibia from joint; from fall.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
34	?	End of tibia.	Recovered, rapidly.	.....	"Perfect."		
35	?	End of tibia and fibula.	Recovered.	.....	"Good."		
36	None; made through torn parts.	Fractured portion of external malleolus and ½ inch of end of tibia.	Recovered, 4 months.	.....	Some motion at ankle; partly anchylosed; increased mobility of the tarsal bones compensated for the stiffness of the ankle; walked with very little lameness.	4	
37	I	End of fibula.	Recovered.	.....	Good.		
38	?	1½ inches of left tibia and fibula.	Recovered, 3 months.	.....	Very good; anchylosis compensated for by increased motion in tarsus; walks without a cane.	After 3	This was a simultaneous operation upon the right and left ankle in the same patient.
39	?	2 inches of right tibia.	Recovered, 3 months.	.....	Very good; anchylosis compensated for by increased motion in tarsus; walks without a cane.	After 3	
40	?	End of tibia.	Recovered.	.....	"Good."		
41	?	End of tibia.	Recovered.	.....	"Good."		
42	?	End of tibia.	Recovered.	.....	"Good."		
43	?	Total of astragalus.	Recovered.	.....	"Good."		
44	None.	End of tibia; 1½ in.; 1½ inches of fibula.	Recovered, 7 weeks.	Slight	Healed; walked perfectly well; ascended and descended his box with great agility (coachman); "joint movable."	29	
45	?	Entire astragalus.	Recovered.	.....	"Good."		
46	.....	Total excision.	Recovered.	.....	Has repeatedly walked three leagues.	?	
47	L	End of tibia and fibula.	Recovered.	1½	"Good."		
48	?	Ends of tibia and fibula.	Recovered.	.....	"Good."		
49	?	Entire astragalus.	Recovered.	.....	"Good."		
50	?	Entire astragalus.	Recovered.	.....	"Good."		
51	Wound enlarged.	Rather more than 1 inch of tibia, and small portion of fibula.	Recovered.	.....	"Patient says his leg is nearly as useful as the other; can go up a ladder and follow his business as a painter nearly as well as ever."	16	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
52	Heyfeld Part. ta. 18; Dis. and Fract., Cooper, p. 247.	Cooper, A., London.	Trowbridge, England.	Saxty, Thos., Trowbridge.	M. 13	Oct. 22, 1818	Dec. 3, 1818.	S.	Comp. dislocation of tibia and fibula outwards: gangrene of outer side of leg resulted; machinery injury.
53	Heyfeld. Part. ta. 17; Cooper's Dis. & Fract., p. 253.	Cooper, A., London.	London.	West, ——, England.	M. 40	Dec. 11, 1818.	Dec. 11, 1818.	P.	Irreducible dislocation at ankle, with projection of the tibia, from jumping.
54	Heyfeld. ta. Total Exc., 7; Hodges' Exc. p. 171, and ta. 31.	Liston, Robt., Edinburgh.	Royal Infirmary	Scotland.	F. 12	.....	1818.	S.	Caries.
55	Heyfeld. Part. ta. 13.	Graefe, C. F., Berlin, Germany.	Germany.	Germany.	....	.....	1818.	?	Complicated luxation.
56	Heyfeld. Part. ta. 16; Velpeau's Surg. ii.	Josse, France.	France.	France.	M. 65	.....	1818.	....	Luxation of tibia.
57	Heyfeld. ta. Astragalus, 21.	Dupuytren, Baron, France.	France.	France.	....	.....	.....	....	Complicated luxation.
58	Heyfeld. ta. Astragalus, 22.	Dupuytren, Baron, France.	France.	France.	....	.....	.....	....	Complicated luxation.
59	Heyfeld. ta. Astragalus, 23.	Evans.	?	?	....	.....	.....	....	Complicated luxation.
60	Dis. and Fract., Cooper, p. 254.	Forster, London.	Guy's Hospital.	Williams, John. "A sailor."	M. 38	Aug. 9, 1819.	Aug. 9, 1819.	P.	Luxation of the tibia and fibula, with fracture of the latter; from fall.
61	West. Med. and Phys. Jour. vi. 183; Am. Jour. Med. Sci. x. 21.	Wells, Thos., Columbia, S. Carolina.	Columbia S. Ca.	S——, G. W., a physician of S. Carolina. Operation done to save life.	M. 30	8 mos. before.	Aug. 18, 1819.	S.	Caries of astragalus; from injury; ulcer of skin.
62	Cooper and Travers' Essays p. 347; Heyfeld. Part. ta. 7.	Fletcher, R., England.	In Hospital, England.	.....	F. 18	.....	No later than 1819.	P.	Comp. luxation at ankle, with fracture.
63	Surg. Essays, Cooper's and Travers', p. 346.	Sanford, Worcester, England.	Worc'ster Infirmary England.	Boy.	M. 15	.....	No later 1819.	P.	Luxation of tibia.
64	Heyfeld. ta. Part. Ex. 14.	Graefe, C. F., Berlin, Germany.	Germany.	Germany.	....	.....	1819.	?	Complicated luxation.
65	Heyfeld. ta. Part. Ex. 20.	Averill.	England.	England.	M. 38	.....	1819.	?	Luxation of tibia.
66	Heyfeld. ta. Part. Ex. 21.	Kerr.	England.	England.	....	.....	.....	...	Luxation of tibia.
67	Heyfeld. ta. Astragalus, 19.	Dupuytren, Baron, Paris.	France.	France.	M. ?	.....	1819.	?	Complicated luxation; astragalus; soft parts intact at time of operation.
68	Dis. and Fract., Cooper, p. 289. Heyfeld. ta. Astragalus, 24.	Green, London.	Saint Thomas' Hospital, London.	Thoms, Thos., Bricklayer.	M. 23	July 14, 1820.	July 14, 1820.	P.	Compound dislocation of astragalus; lacerated wound of inner side of foot; from fall.
69	Dis. and Fract., Cooper, p. 283; Heyfeld. ta. Astragalus, 27.	Cooper, A., London.	Bloomsburg, England.	Downes, ——, Bloomsburg, England. "Strength much impaired."	M. ad't	July 28, 1820.	Oct. 5, 1820.	S.	Irreducible luxation of astragalus, with fracture of fibula, sloughing in front and inside of joint.
70	Heyfeld. ta. Astragalus, 28.	West.	?	?	....	.....	.....	?	Luxation and fracture of astragalus.
71	Heyfeld. ta. Total Ex., 6.	Weber, O., Erlangen, Germany.	Germany.	Germany.	M. 42	.....	1821.	?	Complicated luxation and fracture.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
52	None, remov'd thro'gh sloughed parts.	The external malleolus exfoliated; removed a broad portion of articulating surface of tibia.	Recovered, 9 weeks after operation.	.....	"Some motion; joint not completely anchylosed; can put foot on ground and walk across a room without aid of stick; uses crutches in walking."	2½	The extensive sloughing in this case impaired the result.
53	None, done thro'gh wound.	Lower end of tibia.	Recovered, 4 months.	.....	"A small wound still open, and the bone not yet separated; limb firm."	4	
54	?	End of tibia, astragalus, scaphoid, and two cuneiform bones.	Recovered.	.....	"Lasting cure, without much deformity or lameness."		
55	?	End of tibia and fibula.	Recovered.	.....	"Good."		
56	?	End of tibia.	Recovered.	.....	"Good."		
57	?	Entire astragalus.	Recovered.	.....	"Good."		
58	?	Entire astragalus.	Recovered.	.....	"Good."		
59	?	Entire astragalus.	Recovered.	.....	"Good."		
60	Thro' large lacerated wound.	Whole of the cartilaginous surface of tibia.	Recovered, 6 weeks.	.....	"Wound healed in six weeks; escaped from hospital at two months, was retaken, when he had free motion of ankle."	4	
61	Curved over outer ankle.	Entire astragalus.	Recovered, 43 days.	1	Walked without the least difficulty; ankle sound.	12	
62	Thro' lacerated wound.	1½ inches of protruded ends of tibia and fibula.	Recovered.	.....	"Good."		
63	Thro' lacer. wound.	Protruded portion of tibia sawn off.	Recovered.	.....	"Good; slight motion of ankle-joint."		
64	?	Ends of tibia and fibula.	Recovered.	.....	"Good."		
65	?	End of tibia.	Recovered.	.....	"Good."		
66	?	End of tibia.	Recovered.	.....	"Good."		
67	?	Entire astragalus.	Recovered.	.....	"Good."		
68	Thro' torn parts.	Entire astragalus.	Recovered, 3½ months.	.....	"Since discharge, has resumed his business (bricklaying)."	3½	
69	Thro' slough.	Astragalus with forceps through ulcerated skin.	Recovered.	.....	"Able to walk without a stick; slight and increasing motion at joint; health restored."	12	
70	?	All of the astragalus.	Recovered.	.....	"Good."		
71	?	Ends of tibia, fibula, and portion (at least) of astragalus.	Recovered, 8 months.	.....	"Good; solid reunion; very little lame."	8	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
72	Lancet, ii. 192, 1826–27; Heyfeld. ta. Part., 22.	Tyrrell, Fred. London.	Saint Thomas' Hospital.	H——, T.	M. 40	.....	Aug. 23, 1826.	P.	Complicated luxation at ankle, with fracture of internal malleolus (right side).
73	Heyfeld. Part. ta. 23.	Thierry, France.	France.	France.	F. ?	.....	.....	?	Luxation of tibia.
74	Heyfeld. ta. Astragalus, 29; Smith's Oper. Surg. ii. 721.	Stevens, A. H. New York.	N. York.	New York.	M. ?	.....	1826.	....	Complicated luxation of astragalus.
75	Am. Jour. Med. Sci. iii. 473; Heyfeld. ta. Astragalus, 30.	Follot, ——, Pouilly, France.	Pouilly, France.	France.	M.	.....	Probably 1828.	....	Complicated luxation of astragalus.
76	Heyfeld. Total ta. 8.	Rothmund, Munich.	Germany.	Germany.	M. ?	.....	1828.	?	Complicated luxation at joint.
77	Heyfeld. Part. ta. 15.	Textor, K., père, Würzberg.	Germany.	Germany.	F.	.....	1828.	?	Luxation and complicated fracture.
78	Heyfeld. ta. Astragalus, 31; Velpeau's Surg. ii. 821.	Norman, G.	?	?	....	.....	.....	?	Complicated luxation of astragalus.
79	Velpeau's Surg. ii. 823; Heyfeld. Total ta. 9.	Champion, L., Paris, France.	France.	Chauvel, Etienne, France.	M.	.....	April 3, 1828.	S.	Caries.
80	Heyfeld. Part. ta. 16.	Roux, P. J., France.	La Charité, Paris.	France.	....	.....	1830.	?	Complicated luxation with fracture.
81	Heyfeld. Part. ta. 24.	Veiel, France.	France.	France.	....	.....	1830.	?	Caries of tibia.
82	Heyfeld. Part. ta. 25.	Textor, K., père.	Germany.	Germany.	M.	.....	1830.	?	Fracture of fibula.
83	Heyfeld. Part. ta. 26.	Champion, L.	France.	France.	....	.....	1830.	?	Caries of fibula.
84	Heyfeld. Part. ta. 27.	Jaeger, M., Würzberg.	Germany.	Germany.	M. 22	.....	1830.	?	Luxation of fibula.
85	Heyfeld. ta. Astragalus, 33.	Arnott, Henry 6 Nottingham Place, W. London.	London.	England.	....	.....	.....	?	Complicated luxation of astragalus.
86	Heyfeld. ta. Astragalus, 34.	Thierry.	France.	France.	....	.....	.....	?	Complicated luxation of astragalus.
87	Heyfeld. ta. Astragalus, 35.	Norris.	?	?	....	.....	.....	?	Complicated luxation of astragalus.
88	Heyfeld. Part. ta. 17.	Jaeger, M., see Case 84.	Germany.	Germany.	M. 52	.....	1831.	?	Complicated fracture.
89	Lond. Med. Gaz. vi. 926; Heyfeld. Part. ta. 18.	Roux, P. J., Paris.	La Charité Hospital, France.	M——, D., France.	M. 16	?	June 29, 1832.	S.	Caries, abscesses, and osteitis.
90	Heyfeld. Part. ta. 19.	Jaeger, M., Berlin.	Germany.	Germany.	F.	.....	1832.	....	Complicated fracture.
91	Heyfeld. ta. Total Exc., 10; Velpeau's Surg. ii. 823.	Roux, P. J., Paris.	La Charité, France.	France.	M. ?	.....	1832.	....	Caries.
92	Cooper's Surg. Dict. i. 85.	Dunn, Scarborough, England.	England.	"Boy." England.	M	.....	.....	S.	Chronic arthritis and caries.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
72	None; soft parts greatly lacer'd.	The small portion of internal malleolus adhering to the astragalus, and 1½ inches of tibia.	Recovered, 1 month.	.....	"Wound nearly closed; good movements of the diseased member; equal to the sound side."		
73	?	End of tibia.	Recovered.	.....	Good.	.....	This is not case spoken of by this operator on p. 140, Heyfelder Op. Res., which patient died, and autopsy showed fibrous union of remains of astragalus to end of tibia, and in which the body of the astragalus had been successfully excised for luxation and fracture of that bone.
74	?	All of the astragalus.	Recovered.	.....	"Good; motion of ankle-joint subsequently."		
75	?	All of the astragalus.	Recovered.	.....	"Wound healed; good."	?	Reported in Archives Gén. de Med., Sept. 11, 1828.
76	?	Total excision.	Recovered.	.....	"Good; success confirmed after 30 years."	360	
77	?	Ends of tibia and fibula.	Died, gangrene.				
78	?	All of the astragalus.	Recovered.	.....	"Amputated for incurable deformity of the foot, after the operation, i. e., pes equinus."		
79	?	Total excision.	Recovered.	.....	"Can use his foot very advantageously."		
80	⌊ ⌋	Ends of tibia and fibula.	Recovered.	.....	"Good."		
81	?	End of tibia.	Recovered.	.....	"Good."		
82	?	End of fibula.	Died, pyæmia.	.....	"Amputation; cause not stated."		
83	?	End of fibula.	Recovered.	.....	"Perfect."		
84	⌊	End of fibula.	Recovered.	.....	"Perfect."		
85	?	Total of astragalus.	Recovered.	.....	"Good."		
86	.....	Total of astragalus.	Recovered.	.....	"Good."		
87	.....	Total of astragalus.	Died.				
88	⌊ ⌋	Ends of tibia and fibula.	Died, 5 days.				
89	⌊ ⌋	End of tibia ½ inch above articulating surface; fibula on same level; surface of astragalus.	Recovered.	.....	"Good."		
90	⌊ ⌋	Ends of tibia and fibula.	Recovered.	.....	"Very good; mobility."		
91	.....	Ends of tibia, fibula, and portion of astragalus.	Died.				
92	?	Several of the tarsal bones; diseased surface of astragalus, and some of the metatarsi.	Recovered.	.....	"Complete final success."	?	"After operation, profuse hemorrhage, which was stopped with much difficulty."

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
93	Am. Jour. Med. Sci. xii. 552.	Gillispie, William A., Ellisville, Va.	?	A——, Mrs.	F. ab't 50	Mar. 23, 1833.	Mar. 24, 1833.	P.	Luxation of both ankles; by fall from a horse; that of the right ankle accompanied with luxation of the astragalus and lacerated wound.
94	Heyfeld. Total ta. 11; Hodges' ta. 42.	Jaeger, M., see Case 84.	Germany.	Germany.	M. ?	.....	1833.	S.	Caries and fracture.
95	Heyfeld. Part. ta. 20.	Jaeger, M., see Case 84.	Germany.	Germany.	F. 58	.....	1833.	...	Complicated fracture.
96	Heyfeld. Part. ta. 29.	Jaeger, M., see Case 84.	Germany.	Germany.	M. 17	.....	1834.	S.	Caries of fibula.
97	Heyfeld. Part. ta. 30.	Velpeau, A., A. L. M.	France.	France.	....	.....	.....	....	Luxation of tibia.
98	Heyfeld. Total ta. 12; Hodges' ta. 40.	Jaeger, M., see Case 84.	Germany.	Germany.	....	.....	1835.	S.	Caries.
99	Heyfeld. Part. ta. 21.	Jaeger, M., see Case 84.	Germany.	Germany.	M. 54	.....	1835.	?	Fracture and complicated luxation.
100	Smith's Oper. Surg. ii. 722.	Smith, Nathan R., Baltimore, Md	U. S.	United States.	?	.....	1835.	S.	Necrosis of astragalus.
101	Cooper's Dis. & Fract. p. 290.	Liston, Robt., Edinburgh.	Royal Infirmary Edinb'gh.	Haggart, John Edinburgh.	M. 18	Sept. 29, 1836.	Sept. 29, 1836.	P.	Compound dislocation of astragalus; lacerated wound below external malleolus; sacrum fractured; from fall.
102	Lancet, 1837–38, ii. 526.	Liston, Robt., Edinburgh.	Univ. College Hospital, London.	J——, E., London.	M. 24	.....	June 4, 1838.	P.	Compound dislocation at right joint, with fracture of internal malleolus; skin torn.
103	Heyfeld. Part. ta. 22.	Textor, K., père.	Germany.	Germany.	F. ?	.....	1838.	?	Fracture and complicated luxation.
104	Cooper's Fract. and Dis. p. 291.	Callaway,	Private practice, London.	S——, ——, London.	M. 48	May 4, 1839.	May 4, 1839.	P.	Compound dislocation of astragalus; lacerated wound.
105	Letter, 1872.	Manson, M., Jefferson City Missouri.	Private practice, Missouri.	Deel, John.	M. 28	April 1839.	July 1839.	S.	Compound fracture at ankle, with laceration of soft parts; from fall from building.
106	Cooper's (B. B.) Surg. Lectures p. 313.	Cooper, B. B., London.	Guy's Hospital.	England. Intemperate.	M. 45	.....	Aug. 1839.	P.	Compound dislocation with fracture of astragalus at neck, and fracture of external malleolus; soft parts lacerated.
107	Heyfeld. Part. ta. 23.	Küster, E., Berlin.	Germany.	Germany.	....	.....	1839.	?	Complicated fracture.
108	Heyfeld. Part. ta. 32.	De Costella.	France.	France.	....	.....	1840.	?	Luxation of tibia.
109	Heyfeld. Part. ta. 33.	Rothmund, Munich.	Germany.	Germany.	....	.....	.....	S.	Caries of fibula.
110	Heyfeld. Part. ta. 35.	Schwartz, H.	Germany.	Germany.	....	.....	.....	S.	Caries of fibula.
111	Heyfeld. ta. Astragalus, 36.	Heidenreich.	Germany.	Germany.	....	.....	1840.	?	Complicated luxation of astragalus.
112	Heyfeld. ta. Astragalus, 37.	Hinterberger.	Germany.	Germany.	....	.....	1841.	?	Complicated luxation of astragalus.
113	Heyfeld. ta. Astragalus, 38.	Rognetta.	?	?	M. 50	.....	1842.	?	Complicated luxation of astragalus.
114	Heyfeld ta. Astragalus, 39.	Dietz.	Germany.	Germany.	....	.....	1842.	S.	Caries of astragalus.
115	Heyfeld. ta. Astragalus, 40.	Oustalet.	?	?	....	.....	1843.	?	Complicated luxation of astragalus.
116	Heyfeld. ta. Astragalus, 41.	Velpeau, A., A. L. M.	France.	France.	M. 50	.....	1843.	?	Complicated luxation of astragalus.
117	Heyfeld. Part. ta. 24.	Lasserre.	France.	France.	....	.....	1844.	?	Complicated fracture at ankle.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
93	Thro' wound.	The entire astragalus (right).	Recovered, 2 months, wound healed.	.....	"Cannot yet walk; operator feels confident she will in a reasonable time."	2	Progress complicated with abscess about ankle and tetanus.
94	?	Ends of tibia, fibula, and astragalus.	Recovered,	.....	"Good; movable joint."		
95	.....	Ends of tibia and fibula.	Died, pneumonia.				
96	?	End of fibula.	Recovered.	.....	"Unknown."		
97	C	End of tibia.	Recovered.	.....	"Perfect."		
98	[ ]	Ends of tibia, fibula, and the astragalus.	Recovered, 12 months.	.....	"Amputation for return of disease after about one year."	12	
99	?	Ends of tibia and fibula.	Died, phthisis.				
100	?	All of astragalus.	Recovered.	.....	"Cured."		
101	Thro' wound.	Comminuted astragalus.	Died, 19 days, exhaustion, from abscesses and other injuries.				
102	Thro' wound.	1 inch of end of projecting tibia.	Recovered.	.....	"Doing well, and is comfortable."	1	
103	?	Ends of tibia and fibula.	Died, phlebitis.				
104	Thro' wound.	All of astragalus.	Died, 11 days, gangrenous erysipelas and abscess of leg.				
105	Thro' wound.	2 inches of lower end of tibia.	Recovered.	.....	Had a good stiff joint; could walk and do any kind of business, but not with the same facility as before.	180	
106	Thro' wound.	Upper articular surface of astragalus.	Died, 5 days, tetanus.	.....	.....	.....	4th evening taken with delirium tremens.
107	?	End of tibia and fibula.	Recovered.	.....	"Perfect."		
108	?	End of tibia.	Recovered.	.....	"Good."		
109	?	End of fibula.	Recovered.	.....	"Good."		
110	I	External malleolus and half of the fibula.	Recovered.	.....	"Good."		
111	?	All of astragalus.	Recovered.	.....	"Good."		
112	?	All of astragalus.	Recovered.	.....	"Good."		
113	.....	All of astragalus.	Recovered.	But little.	"Good; motion of joint."		
114	?	All of astragalus.	Recovered.	.....	"Good."		
115	?	All of astragalus.	Died.	.....	.....	.....	Cause not stated.
116	?	All of astragalus.	Died, 3 days.	.....	.....	.....	Cause not stated.
117	?	End of tibia and fibula.	Recovered.	.....	"Good."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
118	Heyfeld. Part. ta. 31.	Beck, B.	Germany.	Germany.	M. ?	.....	1844.	?	Luxation of tibia.
119	Heyfeld. ta. Astragalus, 42.	Smart.	?	?	...	.....	1844.	?	Complicated luxation of astragalus.
120	Heyfeld. ta. Astragalus, 43.	Kittner.	?	?	....	.....	.....	?	Complicated luxation of astragalus.
121	Heyfeld. ta. Astragalus, 44.	Velpeau, A., A. L. M.	France.	France.	....	.....	.....	?	Complicated luxation of astragalus.
122	Heyfeld. Total ta. 13.	Textor, K., père.	Germany.	Germany.	M.	.....	1844.	S.	Caries.
123	Operator and personal inspection of case.	Hildreth, C.C. Zanesville, O.	Zanesville, O.	Shippley, R. R., Zanesville, O.	M. 9	.....	1844.	S.	Necrosis of os calcis and astragalus; sinuses.
124	Heyfeld. Total ta. 14; Hodges' ta. 7.	Heyfelder, J. F., Erlangen, Germany.	Germany.	Germany.	M. 35	.....	1845.	S.	Caries.
125	Heyfeld. Part. ta. 25.	Velpeau, A., A. L. M., Paris.	France.	France.	....	.....	1845.	....	Complicated fracture.
126	Heyfeld. Part. ta. 36, p. 140.	Robert, Ferd., Marburg.	Germany.	Germany.	F. 20	.....	1846.	S.	Necrosis of fibula.
127	Heyfeld. ta. Astragalus, 45.	Robert, Ferd., Marburg.	Germany.	Germany.	....	.....	1846.	?	Complicated luxation of astragalus.
128	Lancet, i. 528, 1851; Heyfeld. Total ta. 15; Hodges' ta. 21; Braith. Retro. Part 17, p. 131; Lancet, ii. 310, 1859.	Wakley, T., London.	Royal Free Hospital, London.	B——, N. Symptoms of hectic; pale and emaciated.	M. 23	Originally 12 years, re-c'ntly 10 mos.	Dec. 27, 1847.	S.	Caries of os calcis and astragalus; sinuses, and ichorous discharge re-excited; from a sprain (left side).
129	Braith. Retro. Part. 18, p. 162.	Faircloth, Richard, Newmarket, England.	Newmarket, England.	England.	M. 14	.....	1847.	P.	Compound dislocation and fracture at neck of left astragalus.
130	Heyfeld. Part. ta. 37.	Velpeau, A., A. L. M., see Case 125.	France.	France.	....	.....	1847.	S.	Caries of fibula.
131	Heyfeld. Part. ta. 38.	Velpeau, A., A. L. M., see Case 125.	France.	France.	F. ?	.....	1847.	?	Luxation of tibia.
132	Heyfeld. ta. Astragalus, 32.	Cloquet, J.	France.	France.	M. 30	.....	1830.	?	Complicated luxation of astragalus.
133	Braith. Retro. Part 13, p. 200.	Solly, Samuel.	Saint Thomas' Hospital, London.	A laborer. Muscular conformation.	M. 42	Nov. 4, 1845.	Nov. 4, 1845.	P.	Compound dislocation of tibia, with fracture of fibula; integuments contused and torn; astragalus separated below, but attached above to tibia.
134	Heyfeld. Part. ta. 39.	Stromeyer, L., Hanover.	Germany.	Germany.	F.	.....	1847.	S.	Luxation, with necrosis, of tibia.
135	Heyfeld. Part. ta. 40.	Kerst.	Germany.	Germany.	....	.....	.....	S.	Caries of fibula.
136	Heyfeld. ta. Astragalus, 46.	Wakley, T., 7 Arlington St., W. London.	Royal Free Hospital, London.	England.	....	.....	1847.	....	Complicated luxation of astragalus.
137	Heyfeld. Total ta. 16 and p. 128; Hodges' ta. 43.	Günther.	Germany.	Germany.	....	.....	1848.	S.	Chronic arthritis; caries.
138	Am. Jour. Med. Sci., N. S., xxxv. 357.	Jackson, A. Reeves, Stroudsburg, Pennsylvania	Stroudsburg, Pa.	R——, Mrs., Pennsylvania "Greatly emaciated; bed-sores."	F. 37	May 1849, first noticed.	Dec. 22, 1849.	S.	Fibro-cartilaginous degeneration of fibula; no cause given.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
118	?	End of tibia.	Recovered.	.....	"Perfect."		
119	?	All of astragalus.	Died.	.....	.....	.....	"Cause not stated."
120	?	All of astragalus.	Recovered.	.....	"Good."		
121	?	All of astragalus.	Recovered.	.....	"Good."		
122	?	Ends of tibia, fibula, and the astragalus.	Recovered.	.....	"Good."		
123	Opened up sinuses.	Greater portion of astragalus and articulating surface of calcis.	Recovered.	⅝	"Sinuses discharged 16 years; anchylosis of joint; works at anything; walks with very little halt."	28 years.	Removed with a gouge.
124	Transverse. —	Ends of tibia, fibula, parts of astragalus, and scaphoides.	Died, 10 weeks, pyæmia (5 days after amputation).	.....	Amputation for exhaustion in 10th week.		
125	C C	Ends of tibia and fibula.	Recovered.	.....	"Good."		
126	?	End of fibula.	Recovered.	.....	"Rapid recovery; good."		
127	?	All of astragalus.	Recovered.	.....	"Good."		
128	See Lancet.	Malleoli, os calcis, and astragalus.	Recovered, 7 months.	.....	"Walks well at 7 months with high-heeled shoe; perfect flexion and extension; returned to his employment, that of a tailor, Jan. 1851; has remarkable control and mobility of foot.	48	
129	Thro' wound.	Upper and posterior four-fifths of astragalus.	Recovered, 10 weeks.	1	"Walks well with stick, sometimes without; flexion and extension improving."	7½	
130	C	End of fibula.	Recovered.	.....	"Good."		
131	? C	End of tibia.	Recovered.	.....	"Good."	.....	This is believed to be the same case as No. 28, Heyfeld. Part. ta.
132	?	Total astragalus.	Died, pyæmia.				
133	?	All of astragalus separated from its attachments to tibia.	Died, 38 days, exhaustion.	.....	"Nov. 22d limb amputated below knee for inflammation of absorbents of a low character."		
134	?	End of tibia.	Recovered.	.....	"Perfect; mobility in six months; osseous sequestrum."	6	
135	?	End of fibula.	Recovered.	.....	"Good."		
136	?	All of astragalus.	Recovered.	.....	"Good."		
137	?	End of tibia, fibula, and astragalus.	Died, 5 months, phthisis.	.....	.....	.....	At the post mortem it was seen that the osseous surfaces were rounded, the tibia convex, the astragalus concave.
138	‖	Entire fibula; knee-joint not entered.	Recovered, 2½ months.	.....	"Walks with a cane; foot everted from loss of the origin of the peroneal muscles; motion of ankle-joint somewhat impaired; tendency to partial flexion of foot."	24	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
139	Rank. Abst., No. 19, 159; Hodges, No. 25.	Buchanan, Glasgow.	Scotland.	A girl from Paisely, Scotland.	F. 18	.....	April 1850.	S.	Caries.
140	Hodges' ta. 22, and p. 171.	Wakley, T., see Case 136.	Royal Free Hospital, London.	England.	F. 18	.....	Mar. 1850.	S.	Chronic arthritis of right joint.
141	Rank. Abst. No. 20, p. 168.	Turner, Thos., 77 Mosley St., Manchester.	Manchester, England.	"A man." England.	M. ad't	.....	1850.	?	Oblique fracture of astragalus.
142	Heyfeld. ta. Astragalus, 47.	Chabanon.	?	?	?	.....	1850.	?	Complicated luxation of astragalus.
143	Heyfeld. ta. Astragalus, 48.	Thore, Paris.	France.	France.	M. ad't	.....	1850.	?	Complicated luxation of astragalus.
144	Heyfeld. ta. Astragalus, 49.	Latenneur.	?	?	?	.....	1850.	?	Complicated luxation of astragalus.
145	Lancet, i. 445, 1851; Ibid. ii. 510, 1859.	Hancock, H., 76 Harley St., W. London.	Charing-Cross Hospital, London.	H——, J. Feeble; had recently recovered from scarlatina.	M. 8	3 years' standing.	Feb. 17, 1851.	S.	Caries; abscess; sinuses of left joint; from injury.
146	Rank. Abst. No. 20, p. 171; Am. Jour. Med. Sci., N. S., xxvii. 414.	Robertson, F. M., Charleston, S. C.	Charleston, S. C.	B——, T. Drank; system failing fast; recent attack delirium tremens.	M. ab't 44	July 19, 1851.	Aug. 9, 1851.	S.	Irreducible dislocation of astragalus, with dislocation of fibula (left); free suppuration; astragalus fractured.
147	Heyfeld. Total ta. 17; Hodges' ta. 44.	Textor, Son.	Germany.	Germany.	M. 5½	.....	1851.	S.	Caries.
148	Am. Jour. Med. Sci., N. S., xxx. 243.	Williams, Professor, Dublin, Ireland.	Ireland.	Phillips, Stephen, Ireland.	M. 54	April 11, 1852.	April 23, 1852.	S.	Astragalus fractured; dislocation and abscess.
149	Gant's Surgery, p. 647.	Busk, Geo., 32 Harley St., W. London.	London.	England.	....	.....	1850.	....	"For disease; astragalus."
150	Braith. Retro., Part 29, p. 187; Hodges' ta. 4.	Solly, Samuel, London.	Saint Thomas' Hospital.	S——, James.	M. 15	.....	1st, June 16, 1852. 2d, July 2, 1852.	S.	Chronic arthritis and caries.
151	Hodges' ta. 20; Lancet, Nov. 12, 1853.	Solly, Samuel, London.	Saint Thomas' Hospital, London.	England. Exhausted.	M. 52	.....	June 18, 1852.	....	Chronic arthritis.
152	Am. Jour. Med. Sci., N. S., xxvii. 497; Hodges' ta. 3.	Statham, S.F., London.	London Univ. College Hospital.	C——, Henry.	M. 5	.....	Aug. 27, 1852.	S.	Caries of left astragalus and calcis.
153	Heyfeld. Total ta. 18; Hodges' ta. 41.	Textor, Son.	Germany.	Germany.	M. 23	.....	1852.	S.	Chronic arthritis and caries.
154	Heyfeld. Part. ta. 41.	Isnard.	?	?	M. 27	.....	1852.	S.	Caries of fibula.
155	Heyfeld. Part. ta. 42.	Isnard.	?	?	M. 25	.....	1852.	S.	Caries of fibula.
156	Heyfeld. ta. Astragalus, 50.	Letenneur.	?	?	....	.....	1852.	?	Complicated luxation of astragalus.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
139	Outer semi-lunar.	External malleolus; astragalus; articular surface of tibia; internal malleolus gouged.	Died, 6 weeks, phthisis.				
140	?	End of fibula, and surface of astragalus.	Recovered, 7 weeks.	.....	"Left hospital in a very satisfactory state."	1¾	
141	?	Greater portion of astragalus.	Recovered.	.....	"Had a foot he could use, not a useful foot for hard labor; do for a clerk or merchant."	36	
142	?	All of astragalus.	Recovered.	.....	Good.		
143	Wound enlarged.	All of astragalus.	Recovered.	.....	Could walk and dance with facility, and without pain; joint anchylosed.	12	See also Ranking's Abstract, No. 14, p. 126.
144	.....	All of astragalus.	Recovered.	.....	Passable member; serviceable.		
145	U	¾ inch of external malleolus; end of tibia and upper half of astragalus.	Recovered, 3 months.	.....	"Had grown tall and stout; wore a thick sole; walked, ran, and jumped without inconvenience; scarcely limped."	84	
146	Semi-lunar in front joint.	All of astragalus.	Recovered, 4 months.	.....	"Good lateral motion of joint; flexion and extension limited; walks comfortably with a cane."	4	
147	?	Ends of tibia, fibula, and astragalus.	Recovered, 4 months.	.....	"Very good mobility; perfect."	4	
148	+	All of astragalus.	Recovered, 11 months.	.....	"Able to work, but not at such laborious employment as before; tendo Achillis contracted and divided; left hospital, then walking with a cane."	11	
149	?	Total astragalus.	Not stated.	.....	"Not stated."		
150	Over extern'l malleolus.	1st. One side; external malleolus, portion of astragalus, and articular surface of tibia. 2d. A portion of right and left os calcis.	Recovered, 16 months.	.....	Can walk with aid of a stick, and feet are quite sound.	16	
151	.....	End of tibia and surface of astragalus.	Recovered.	.....	At 22d day amputated for exhaustion.		
152	Longitudinal and transverse.	Astragalus and part of calcis.	Recovered, 10 months.	.....	"Complete mobility; walks and runs without pain."	10	
153	Posterior ∩	Astragalus, part of calcis, and scaphoid; ends of tibia and fibula.	Recovered.	Little	"Very good; movable joint."	.....	Incision from malleolus to malleolus posteriorly; tendo Achillis divided.
154	?	End of fibula.	Recovered, after 7 months.	.....	"Amputation at 7 months for return of disease."	After 7	
155	?	End of fibula.	Died, 10 months, phthisis.				
156	?	All of astragalus.	Recovered.	.....	"Good."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
157	Hodges' Exc. p. 171, and ta. 9; Gross' Surgery, ii. 1094.	Peace, Dr., Philadelphia.	Penna. Hospital, Philada.	.....	M. 11	7 mos. before.	Mar. 1853.	S.	Chronic arthritis; from injury.
158	Hosp. Records, by Surgeon Gray, U. S. A.	Buck, Gurdon 46 W. 29th St. New York.	New York Hospital.	Riley, Jas. "Robust."	M. 49	June 23, 1853.	June 23, 1853.	P.	Compound dislocation of joint.
159	Lancet, i. 207, 1854.	Solly, Sam'l, London.	Saint Thomas' Hospital, London.	L——, J. O.	M. 12	Originally 4 years, re-c'ntly 18 mos.	Nov. 26, 1853.	S.	Caries of astragalus; from injury; suppuration and sinuses of right foot.
160	Heyfeld. Part. ta. 43.	Metz, H.	Germany.	Germany.	M. 40	.....	1853.	?	Luxation of tibia.
161	Hodges, p. 174; Heyfeld. Part. ta. 44.	Klose, C. W.	Germany.	Germany.	M. 60	5 mos. before.	1853.	S.	Luxation of tibia.
162	Lancet, ii. 170, 1854.	Hancock, H.	Charing-Cross Hospital.	London.	F. 6	.....	Mar. 22, 1854.	S.	Necrosis of astragalus.
163	Braith. Retro. Part 31, p. 104; Hodges, p. 174.	Jones, G. M., Jersey Island Eng. Chan.	Jersey Hospital.	England.	M. ad't	22 days before.	April 18, 1854.	S.	Compound dislocation with fracture of malleoli; death of bones, and profuse suppuration.
164	Hodges' ta. 38; Statham, Stromeyer, Esmarch p. 117.	Statham, S. F., London.	Univ. College Hospital.	England.	F. 5	.....	Aug. 4, 1854.	....	Chronic arthritis of right joint.
165	Med.-Chir. Rev. Oct. 1857; Hodges' ta. 8.	Morrough, Clifford, New Brunswick.	Canada.	Canada.	M. 12	.....	Oct. 24, 1854.	S.	Chronic arthritis.
166	Heyfeld. Total ta. 19.	Heusser, F.	Hombrechtikon, Switzerland.	Switzerland.	....	.....	1854.	?	Complicated fracture.
167	Heyfeld. ta. Astragalus, 51.	Statham, S. F., London.	Univ. College Hospital, London.	England.	M. 52	.....	1854.	?	Complicated luxation.
168	Heyfeld. ta. Astragalus, 52.	Estevenet.	France.	France.	...	.....	1854.	....	Complicated luxation.
169	Braith. Retro. Part 56, p. 143.	Moore, London.	Middlesex Hospital, London.	"A clerk." Thin and pale.	M. 21	Old disease. reëxcited, 2 mos. before.	Mar. 2, 1855.	....	Caries, abscess, and sinuses of joint.
170	Letter, 1872.	Cross, E. E., Rochester, Minn.	Not stated.	Ward, Henry, Guilford, Vt.	M. 40	4 w'ks' before.	Sp'ng 1855.	S.	Complicated fracture, with lower end of tibia protruding.
171	Hodges' ta. 17; Med. Times and Gaz., Feb. 24, 1855.	Fergusson, W., 16 George St., W. Lond.	King's College Hospital.	England.	M. ?	.....	1855.	S.	Chronic arthritis of right joint.
172	Lancet, ii. 407, 1855; Hodges' ta. 15.	Statham, S. F., London.	Univ. College Hospital.	H——, Henry.	M. 43	.....	July 25, 1855.	S.	Caries and false anchylosis of joint (left).
173	Heyfeld. Total ta. 22; Hodges' ta.; Med. Times and Gaz.	Cotton, England.	England.	England.	M. 30	.....	Jan. 17, 1855.	S.	Chronic arthritis and caries of right joint.
174	Heyfeld. Part. ta. 45.	Schintzinger.	Germany.	Germany.	F. 25	.....	1855.	....	Luxation of fibula.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
157	?	All of astragalus.	Recovered, 6 months.	¾	"Healed; foot had tendency to turn in; now nearly at proper angle; some motion at joint."	6	
158	Enlarged wound.	All of astragalus.	Died, 42 days, pyæmia.	.....	"No anchylosis or pus at joint."	.....	Did not do well from first; had chills, diarrhœa, collections of pus at remote points.
159	Single cut on astragalus.	Portion of astragalus gouged out.	Doing well.	.....	"Doing well."	Few days.	
160	?	Nearly 4 inches of lower end of tibia.	Recovered, 2 months.	.....	"Perfect."	2	
161	?	Nearly 2 inches of lower end of tibia.	Recovered, 10 weeks.	.....	"Perfect; osseous regeneration; walked without a crutch."	2½	
162	Semilunar.	Half of astragalus; upper part.	Recovered, 5 weeks.	.....	"Wound nearly closed, and discharge nearly ceased."	5½	
163	?	Ends of tibia, fibula, and surface of astragalus; 3 inches of fibula.	Recovered, 86 days.	.....	"Ran away from the hospital; walked five miles with aid of a stick and crutch."	3½	
164	.....	Ends of tibia, fibula, and astragalus.	Recovered, 18 months.	.....	"Walks with iron supports."		
165	?	Ankle-joint, and one or more tarsal bones.	Recovered.	.....	"Walked eventually with a stick."		
166	?	Ends of tibia, fibula, and astragalus.	Recovered.	.....	"Good."		
167	?	All of astragalus.	Recovered.	.....	"Good mobility of the new formed joint."		
168	?	All of astragalus.	Recovered.	.....	"Good."		
169	Angul'r on inside joint.	Internal malleolus, and diseased surfaces of tibia and astragalus.	Recovered, 3 months.	.....	Wound not quite closed; ankle feeling strong; health good.	After 3	
170	Thro' wound.	4 inches of lower end of tibia.	Recovered.	.....	"Could walk pretty well with aid of cane; motion of joint limited."	120	Died of a fever ten years after.
171	?	End of tibia and all of astragalus.	Recovered.	.....	"Anchylosis, but useful limb."		
172	?	Astragalus; ends of tibia and fibula 3 years after the 1st operation.	Recovering.	.....	"Limb amputated after last resection."	.....	See, also, Braith. Retro., No. 56, p. 138.
173	.....	Total excision: ends of tibia and fibula; all of astragalus; part of calcis, and 3 cuneiform bones.	Recovering at 10 weeks.	.....	Considerable firmness; able to move foot without support; some discharge.	2½	
174	?	End of fibula.	Recovered.	.....	"Good; movements of joint limited."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
175	Heyfeld. ta. Astragalus, 53.	Hancock, H., see Case 145.	Univ. College Hospital.	London.	....	.....	1855.	?	Luxation complicated; astragalus.
176	Lancet, i. 1856; Ibid. ii. 511, 1859; Hodges' ta. 16.	Hancock, H., see Case 145.	Charing-Cross Hospital.	G——, M. A., London.	F. 22	4 years' standing.	Jan. 1856.	S.	Caries, with discharge and sinuses of joint; no cause stated.
177	Lancet, ii. 523, 1856.	Adams, London.	London Hospital, London.	A gentleman.	M. ad't	.....	April, 1856.	S.	Irreducible dislocation, with fracture of astragalus.
178	Hodges' ta. Exc. 12; Braith. Retro. Part. 56, p. 138.	Price, P. C., London.	London.	England.	M. 8	.....	Aug. 8, 1856.	S.	Chronic arthritis; caries (right limb).
179	Hodges' ta. 13; Braith. Retro. Part 56, p. 138.	Price, P. C., London.	London.	England.	M. 15	.....	Aug. 18, 1856.	S.	Chronic arthritis; caries (left limb).
180	Heyfeld. Part. ta. 26.	Esmarch, Fr., Kiel, Denmark.	Denmark.	Denmark.	M. 27	.....	1856.	?	Fracture and complicated luxation.
181	Heyfeld. ta. Astragalus, 54, p. 138.	Addenbrook, E. H., Birmingham.	England.	England.	M. 4	.....	1856.	S.	Caries of astragalus.
182	Heyfeld. ta. Astragalus, 55.	Smith, H., London.	England.	England.	....	.....	.....	....	Luxation complicated.
183	Heyfeld. ta. Astragalus, 56.	Smith, H., London.	England.	England.	....	.....	.....	....	Luxation complicated.
184	Heyfeld. ta. Astragalus, 57.	Smith, H., London.	England.	England.	....	.....	.....	?	Complicated luxation of astragalus.
185	Heyfeld. ta. Astragalus, 58.	Smith, H., London.	England.	England.	....	.....	.....	....	Complicated luxation of astragalus.
186	Heyfeld. ta. Astragalus, 59.	Smith, H., London.	England.	England.	....	.....	.....	....	Complicated luxation of astragalus.
187	Heyfeld. ta. Astragalus, 60.	Smith, H., London.	England.	England.	....	.....	1856.	....	Complicated luxation of astragalus.
188	Hodges' ta. 23; Med. Times and Gaz. Nov. 14. 1857.	Statham, S. F., London.	Univ. College Hospital.	England.	M. 2	.....	April 22, 1857.	....	Chronic arthritis of left joint.
189	Lancet, i. 251, 1858; Ibid. ii. 511, 1859; Hodges' ta. 24.	Hancock, H., see Case 145.	Charing-Cross Hospital.	R——, W. Gen'l health affected.	M. 25	Old standing.	Sept. 10, 1857.	S.	Caries; sinuses; swelling and suppuration of joint.
190	Ohio Med. and Surg. Jour., x. 506.	Hamilton, J. W., Prof. Columbus, O.	Clinic Starling Medical College.	Cosgniff, Jno.	M. 28	?	Nov. 3, 1857.	S.	Osteo-sarcoma of fibula, involving ankle-joint.
191	Heyfeld. Total ta. 20, p. 128.	Sèdilot, C., Strasburg.	Germany.	Germany.	M. 27	.....	1857.	?	Luxation and complicated fracture.
192	Heyfeld. Part. ta. 46, p. 129.	Hutchinson.	England.	England.	M. 14	.....	1857.	S.	Necrosis of tibia, with anchylosis between astragalus and tibia.
193	Heyfeld. Part. ta. 48, p. 130.	Heyfelder, J. F., Erlangen.	Erlangen.	Lakowleff, Michael.	M. 14	3 mos. before.	1857.	S.	Caries of the external malleolus; from sprain.
194	Heyfeld. Part. ta. 47; Hodges' Exc. p. 176.	Hamilton, Robert, Liverpool.	England.	England.	....	.....	1857.	P.	Luxation of tibia.
195	Heyfeld. Part. ta. 49; Hodges' Exc. p. 176.	Hamilton, Robert, Liverpool.	England.	England.	....	.....	1857.	P.	Luxation of tibia.
196	Heyfeld. Part. ta. 50.	Smith, H., London.	England.	England.	M. 52	.....	1857.	?	Luxation of fibula.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
175	?	All of astragalus.	Recovered.	.....	"Good."		
176	U	Articular surface of tibia and astragalus.	Died, 7 months, phthisis.	.....	"At one month doing very well."		
177	Thro' slough.	All of astragalus.	Uncertain.	.....	"Much inflammation; well-founded hopes of his recovery."	Day of operation.	
178	?	Gouged away astragalus; surface of tibia and malleoli (right). 2d operation at end of five months.	Recovered, 15 months.	.....	"Tolerable result claimed; description not satisfactory."	15	Mr. Hancock disapproves of the gouging, and prefers removal of entire joint surface.
179	?	Gouged away astragalus, articular end of tibia, portion of end of cuboid, and portion of fibula.	Recovered, 10 weeks.	.....	Limb amputated at three months for abscess and infiltrating disease.	2½	
180	?	Ends of tibia and fibula.	Recovered.	.....	Amputation at about six weeks.		
181	∪	Upper part of astragalus.	Recovered.	.....	"Good."		
182	?	All of astragalus.	Recovered.	.....	"Good."		
183	?	All of astragalus.	Recovered.	.....	"Passable; the member serviceable."		
184	?	All of astragalus.	Died.				
185	?	All of astragalus.	Recovered.	.....	Passable; the member serviceable.		
186	?	All of astragalus.	Died.				
187	?	All of astragalus.	Recovered.	.....	"Good."		
188	.....	Entire astragalus.	Recovered, 7 months.	.....	"Walks well with an iron support."	7	
189	Transverse.	Fibula 1½ inches above malleolus; tibia 1½ inches above articular surface; upper articulating surface of astragalus.	Recovered, 4 months.	.....	"Wound healed, free motion of toes, and considerable motion of joint at 4 months; at 2 years walks remarkably well."	24	
190	⊥	8½ inches of fibula, including malleolus, and attached diseased mass.	Recovered, 6½ months.	.....	"Ankle anchylosed; slight extension of foot, and when the foot is thrown forward can bear weight of body on foot; operator thinks a high-heeled shoe will enable him to walk."	6½	Tumor measures 16½ inches in circumference at one point, and 15½ at another.
191	Transverse. ?	Ends of tibia, fibula, and astragalus.	Recovered.	1½	"Good; anchylosis; the foot supported perfectly the weight of the body."	.....	An excessive sensibility of the toes and heel.
192	?	End of tibia.	Recovered.	.....	"Good."		
193	⌣	External malleolus.	Recovered.	.....	"Good."		
194	?	End of tibia.	Recovered.	.....	"Very good."		
195	?	End of tibia.	Recovered.	.....	"Good."		
196	?	End of fibula.	Recovered.	.....	"Good; mobility."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
197	Heyfeld. ta. Astragalus, 61.	Smith, H., London.	England.	England.	....	.....	1857.	....	Luxation complicated of astragalus.
198	Lancet, ii. 216, 1858; Ashhurst's Erichsen, p. 752.	Erichsen, J. E., 6 Cavendish Pl. W. London.	Univ. College Hospital.	London.	M. 17	.....	1857.	S.	Caries of astragalus.
199	Hodges' ta. 11; Med. Times and Gaz., Oct. 17, 1857.	Simon, John, 40 Kensington Sq., W. Lond.	Hospital, London.	England. Exhausted.	M. 42	.....	1857.	S.	Chronic arthritis and caries.
200	Hodges' ta. 14; Med. Times and Gaz. Aug. 7, 1858.	Hussey, Edw. Law, Oxford.	Oxford, England.	England.	M. 26	.....	Jan. 15, 1858.	S.	Chronic arthritis of left joint.
201	Hodges' ta. 48; Med. Times and Gaz., Aug. 10, 1861.	Davis, Dr.	England.	A youth. England.	M. ?	.....	Jan. 1858.	....	Chronic arthritis.
202	Braith. Retro. Part 56, p. 142.	Wood, John, 68 Wimpole St W. London.	King's College Hospital.	"A single woman."	F. 25	10 years before, and recent injury.	July 27, 1858.	S.	Chronic arthritis and caries of right joint; from sprain, and later a kick.
203	Lancet, i. 52, 1859.	Canton, Edw. 30 Montague Place, W. C. London.	Charing-Cross Hospital, London.	N——, S.	M. 40	Sept. 23, 1859.	Sept. 24, 1859.	P.	Irreducible dislocation outwards of astragalus.
204	Lancet, i. 481, 1859; Ibid. ii. 512, 1859; Hodges' ta. 29.	Hancock, H., see Case 145.	Charing-Cross Hospital.	T——, J., Hounslow, England, "Very weak and feverish"	M. 6	5 mos. standing.	Oct. 9, 1858.	S.	Ulceration of cartilages; suppuration and caries; from disease, aggravated by an injury of left joint.
205	Heyfeld. Total ta. 21; Hodges' ta. 10.	Hussey, Edw. Law, Oxford, England.	Oxford, England.	England.	M. 26	.....	1858.	S.	Chronic arthritis and caries.
206	Heyfeld. Part. ta. 51, and Work, p. 129.	Heyfelder, J. F., Erlangen, Germany.	Germany.	Iwanoff, Leonid.	M. 16	.....	1858.	S.	Caries of the lower half of the left tibia, and of the bones of the tarsus.
207	Heyfeld. ta. Astragalus, 62, p. 139; Hodges' ta. 45.	Heyfelder, J. F., Erlangen, Germany.	Germany.	Basileieff, Matheus.	M. 17	.....	Dec. 7, 1858.	S.	Caries of astragalus and calcaneum; from injury.
208	Lancet, ii. 509, 1859.	Teal, T. P., 20 Park Row, Leeds.	Probably Leeds Infirmary	England.	....	.....	About 1859.	S.	Chronic arthritis.
209	Braith. Retro. Part 56, p. 142.	Tudor, John, Dorchester, England.	Dreadnaught Hospital Ship.	K——, H. "A sailor."	M. 23	2½ years' standing.	June 9, 1859.	?	Caries, with sinuses and suppuration of joint; from injury.
210	Letter, 1872.	Foster, T. A., Portland, Maine.	Private practice, Maine.	L——.	M. 24	.....	Aug. 1859.	S.	Necrosis of tibia and astragalus of 10 years' standing.
211	Bost. Med. and Surg. Jour., lxi. 362; Hodges' ta. 28, p. 171.	Cabot, S., Boston, Mass.	Mass. General Hospital, Boston.	United States.	M. 36	.....	Sept. 3, 1859.	S.	Necrosis of the astragalus; calcis and disease of end of fibula; right joint.
212	Heyfeld. ta. Astragalus, 63.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	F. 14	.....	1859.	S.	Caries of astragalus.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
197	?	All of astragalus.	Recovered.	.....	"Good."		
198	?	Astragalus and both malleoli.	Recovered, 6 months.	.....	Perfectly useful and strong, and ankle movable.	6	See also Hodges, 27.
199	.....	Ends of tibia, fibula, and surface of astragalus.	Died, 4 days, from exhaustion.				
200	.....	Ends of tibia, fibula, and surface of astragalus.	Recovered, 4½ months.	.....	Amputation for disease of soft parts.	4½	
201	.....	Ends of tibia, fibula, and astragalus.	Recovered, 4 months.	.....	"Does not support body in a very satisfactory manner."		
202	I Over intern'l malleolus.	Internal malleolus; portion of articular surface of tibia which was loose; astragalus gouged on surface.	Recovered, 1 month.	¾	Foot inclines to turn inward; walks well, firmly, and with the slightest possible limp; wound healed.	16	
203	Anterior semilunar.	All of astragalus.	Died, 3 days, sloughing and general inflammation of leg.	.....	.....	.....	Refused amputation.
204	⌣	Fibula on level with tibial surface, and ½ inch of end of tibia and inner malleolus to level with tibial section; convex surface and whole body of astragalus behind inter-osseous ligament, and remains of, and the articulation of, os calcis.	Recovered, 5 months.	.....	"Can stand upon his foot and walk without pain; wound quite healed."	5	
205	?	Ends of tibia, fibula, and surface of astragalus.	Recovered, 3 years.	.....	At the request of patient amputated, never having used the limb.	36	
206	?	Lower half of tibia.	Died, 2 months, exhaustion, from gangrene.	.....	.....	.....	This autopsy showed caries of the tarsal bones present.
207	⊥	Astragalus and calcaneum.	Recovered, over 24 days.	.....	"Amputation 24th day; the wound assumed a bad appearance, and the powers of life failed rapidly."	After 24 days.	
208	?	Astragalus, calcis, and cuboid bone.	Recovered.	.....	"Successful."	March, 1859.	
209	⌣	1 inch of external malleolus; three-fifth inches of astragalus.	Recovered.	.....	"When he left hospital every prospect of a useful joint."	?	
210	L	End of tibia and part of astragalus.	Recovered.	.....	"Recovery perfect, with some motion of joint."	120	
211	Modified Wakeleys.	Astragalus, calcis, 1 inch of fibula, and corresponding portion of tibia.	Recovered, 4 months.	.....	"Amputated for returning disease."	4	
212	?	All of astragalus.	Under treatment.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
213	Heyfeld. ta. Astragalus, 64.	Moreau, père.	France.	France.	....	.....	.....	S.	Caries of astragalus.
214	Heyfeld. ta. Astragalus, 65.	Duverney.	France.	France.	....	.....	?	?	Luxation of astragalus.
215	Heyfeld. ta. Astragalus, 66.	Rattley.	?	?	M. ?	.....	?	?	Complicated fracture.
216	Heyfeld. ta. Astragalus, 67; Velpeau's Surg. p. 821.	Champion, L.	France.	France.	....	.....	.....	S.	Caries of surface of astragalus.
217	Hodges' ta. 46; Med. Times and Gaz., April 27, 1861.	Humphry, C. M., Cambridge, England.	Addenbrooke Hospital, Cambridge.	England.	M. 12	.....	June 21, 1860.	....	Chronic arthritis; caries.
218	Med. Times and Gaz., April 27, 1861; Hodges' ta. 47.	Humphry, C. M., Cambridge, England.	Addenbrooke Hospital, Cambridge.	England.	F. 6	.....	1860.	....	Chronic arthritis; caries.
219	Ashhurst's Erichsen, p. 751.	Erichsen, J. E. see Case 198.	Univ. College Hospital.	A boy. England.	M. boy	.....	About 1860.	?	Caries of astragalus.
220	Heyfeld. Part. ta. 27, p. 36.	Boeckel, E., Strasbourg.	Strasbourg.	Germany. Quite active.	F. 52	4 years' standing.	Jan. 1861.	S.	Medullary abscess of the right tibia, with caries, sinuses, and discharge.
221	Phila. Med. Times, iv. 310; Hosp. Records; Letter, 1874.	Levis, J. R., Arch & 13th St., Philada., Pa.	Patient's residence, Phila. Pa.	Buehler, Ellen. Scrofulous.	F. 4	.....	April 16, 1861.	S.	Scrofulous necrosis ("not known to be traumatic").
222	Lancet, i. 27, 1862.	Hillman, W. A., 1 Argyll St. W. London.	Westminster Hospital, London.	G——, Wm. "Scrofulous looking; health improved by treatment."	M. 7	12 mos. standing.	June 24, 1861.	S.	Necrosis of astragalus; sinuses and discharge; from injury (right side).
223	Lancet, i. 28, 1862.	Hillman, W. A., 1 Argyll St. W. London.	Westminster Hospital, London.	C——, Harriett. "Poorly nourished; health poor."	F. 19	Many mos. standing.	Soon after June, 1861.	S.	Necrosis of tibia (a sequestrum was previously removed) and astragalus.
224	Am. Jour. Med. Sci., N. S., xliii. 175.	Bryant, T., 2 Finsbury Sq., E. C. London.	Guy's Hospital.	England.	....	.....	About 1861.	P.	Compound fracture and dislocation of astragalus.
225	Letter, 1872.	Lee, J. W., Majority Point, Ill.	County Infirmary Cumberland Co., Illinois.	German girl.	F. 24	.....	Nov. 1862.	S.	Chronic arthritis and caries; result of syphilis.
226	Syd. Year Book, 1863, p. 234; Letter, Operator, 1874.	Canniff, Wm., 301 Church St. Toronto, Canada.	Canada.	Canada.	M. 21	.....	1862.	S.	Necrosis of tibia, with disease of astragalus and os calcis; from injury.
227	Letter, 1872.	Foster, T. A., Portland, Maine.	Private practice.	——, Mrs.	F. 40	.....	Fall of 1863.	S.	Necrosis of lower end of fibula; from neglected fracture.
228	Letter, 1872.	Lee, J. W., Majority Point, Ill.	Cumberland Co., Illinois.	Anderson, Mrs., Cumberland County, Ill.	F. 30	.....	Oct. 1863.	P.	Compound comminuted fracture of tibia and fibula, involving joint.
229	Letter, 1872.	Gamble, Jas., LeClare, Iowa	Private practice.	Graham, Henry. Constitution good.	M. 13	Dec. 8, 1863.	Dec. 20, 1863.	S.	Pott's fracture, with compound fracture of tibia and fibula at middle third of other leg.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
213	?	Part of astragalus.	Recovered.	.....	?	.....	Operation with a gouge
214	?	Part of astragalus.	Recovered.	.....	?		
215	?	Part of astragalus.	Recovered.	.....	"Good."		
216	?	Part of astragalus; entire tibial portion.	Recovered.	.....	"Good."	.....	"Resection very superficial."
217	.....	Ends of tibia and fibula; astragalus and os scaphoides.	Recovered, 8½ months.	.....	"Amputated."		
218	.....	Ends of tibia, fibula, and astragalus.	Unsatisfactory.	.....	"Unsatisfactory."		
219	⌣	Astragalus.	Recovered.	.....	"Useful foot."		
220	⊔	Both bones sawed off one and one-fifth inches above the joint; astragalus untouched.	Died, 2 months, exhaustion, from enormous bed-sore upon the sacrum.	.....	"Wound healed, excepting 2 fistulæ, and the bones were beginning to consolidate."	2	
221	⌣	Entire astragalus, and transverse section; ¾ inch of tibia and fibula.	Recovered, in a few weeks.	.....	"Anchylosis; walks gracefully, and dances upon the foot; increase of motion between other bones of foot."	168	
222	Semi-lunar at outer ankle.	At least part of astragalus.	Recovered, 2 months.	.....	"Walks about very well with aid of a crutch."	2	
223	?	Nearly all of astragalus.	Recovered.	.....	Foot at a good angle; splint kept on to prevent foot from turning inward; walks about ward daily.	After Aug. 30, 1861.	Sequester removed by Dr. Brooke.
224	?	9 portions of astragalus removed after the accident and subsequently.	Recovered.	.....	"Takes free exercise without inconvenience."	?	Placed primary as it is probable the most of the fragments were removed within the primary period.
225	⊥	"Three separate operations; last removed entire joint."	Recovered, 15 months.	.....	At 15 months could perform household duties; left the poor-house; able to walk.	24	Incision median anterior between tibia and fibula.
226	?	2 inches of tibia and fibula; all of astragalus, and part of os calcis.	Recovered.	1½	Good, firm, and strong joint; is well; is "posting" in one of the Western States.	96	Hancock in his Surgery of the Foot gives date of this operation as 1862; operator says 1862.
227	‖	2 inches of lower end of fibula.	Recovered.	.....	Partial anchylosis; walked with cane, and limped but very little.	24	
228	‖	4 inches of ends of tibia and fibula in fragments from ankle up.	Recovered, 18 months.	.....	Limb useful; could do her household duties, and walked at 18 months.	48	
229	?	3 inches of lower end of tibia and fibula.	Recovered, 6 months.	Several.	"Ploughing; not at all lame; no one could tell he had been injured; other leg shortened by fracture to correspond with length of excised limb."	18	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
230	Letter, 1872.	De Camp, W. H., Grand Rapids.	Regimental Hospital, Murfreesborough, Tenn.	Shotts, Wm.	M. 22	.....	1863.	P.	Accidental cut by an axe, involving joint.
231	Syd. Year Book, 1863, p. 234.	Johnston, J. C., England.	England.	England.	....	.....	1863.	?	Compound dislocation of ankle-joint.
232	Lancet, 423, 1865; Dis. Infancy & Childhood, pp. 505, 507.	Holmes, T., 31 Clarges St., Mayfair, W. London.	Hospital for Sick Children, London.	Taylor, Ruth.	F. 10	7 years before.	Mar. 14, 1864.	S.	Caries and necrosis; astragalus and scaphoid united; from injury; right side.
233	Letter, 1872.	Walter, A. G., 66 and 68 6th Avenue, Pittsburgh, Penna.	Parents' house.	Leitz, Jos., son Wm. Leitz Allegheny City, Penna.	M. 4½	3 mos. standing.	Mar. 20, 1864.	S.	Caries of end of tibia, with necrosis of part of its shaft, and of the body of the astragalus (right side).
234	Letter, 1872.	Walter, A. G., see Case 233.	Walter's Hospital, Pittsburg Penna.	O'Brien, Jas., Loretto, Cambria Co., Pennsylvania	M. 21	2 years' standing.	April 4, 1864.	S.	Caries of the left tibia and astragalus.
235	Bost. Med. and Surg. Jour., lxxi. 324.	Cabot, S., Boston, Mass.	Boston General Hospital.	Boston, U. S.	M. 8	.....	About Aug. 1, 1864.	S.	Necrosis of astragalus.
236	Letter, 1872.	Post, Geo. E., Beirût, Syria.	Beirût, Syria; private practice.	Ali ——. Scrofulous.	M. 40	.....	1864.	S.	Chronic arthritis; caries.
237	Letter, 1872.	Dickerson, E. D., Kansas City, Kansas.	Regt. Hosp. at Halltown W. Va.	A private of 1st New York Vet. Cavalry.	M. 30	.....	June, 1865.	S.	Compound fracture of tibia and fibula near malleoli.
238	Letter, 1872.	Walter, A. G., see Case 233.	At patient's mother's.	Hartman, Conrad, Allegheny City, Penna. "Scrofulous; marked emaciation."	M. 19	18 mos. standing.	July 5, 1865.	S.	Caries of tibia and the astragalo-calcanean joint, with osteo-malacia of the tarsal and metatarsal bones.
239	Letter, 1872.	Walter, A. G., see Case 233.	Walter Hospital.	Knoblauch, Charles.	M. 55	.....	July 12, 1865.	P.	Complicated luxation of tibia through a wound on inner side of ankle.
240	Letter, 1872; Walter's Conservative Surgery.	Walter, A. G., see Case 233.	Patient's house.	Grieser, Christian, Allegheny City, Penna.	M. 16	1 mo. before.	July 16, 1865.	S.	Compound comminuted fracture of end of right tibia and fibula; the joint opened by suppuration.
241	Letter, 1872.	Lee, John W., Majority Point, Ill.	Cumberland Co., Illinois.	Eliotte, Henry Cumberland County, Ill.	M. 54	20 years' standing.	Oct. 1865.	S.	Chronic arthritis and caries.
242	Letter, 1872.	Walter, A. G., see Case 233.	Patient's home.	Dixion, Wm., colored, Allegheny City, Penna. Strumous.	M. 19	2 years' standing.	Dec. 10, 1865.	S.	Strumous caries of the tibio-astragalo-calcanean joint.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
230	None, through wound.	All of the trochlear part of astragalus.	Recovered.	.....	"Good use of ankle."	18	
231	?	?	?	.....	?		
232	⌣ Tendons divided	Astragalus and scaphoid united.	Recovered, 9 months.	½	Can walk with hardly a perceptible limp; slight motion at joint; free use of limb.	9	
233	⌣	¾ inch of articular surface of tibia and the malleoli; the sequestrum in lower part of tibia; all the astragalus; upper surface of calcis gouged.	Recovered, 9 weeks.	¾	Walks with comfort without lameness; perfectly useful limb; voluntary motion of joint; wound healed in 9 weeks.	36	Tendons not divided.
234	U	Articulating surfaces of tibia and astragalus, with both malleoli.	Recovered, (after) 5 weeks.	.....	Did well for 3 weeks when hospital gangrene set in, and profuse suppuration, for which amputation was done 2 weeks later.	?	The neoplastic deposits around the diseased articulation were freely removed.
235	Single incision	Entire astragalus.	Recovered, 10 weeks.	.....	"Walked without crutches; motion of joint good."	2½	
236	II	2½ inches of tibia and fibula; whole articular surface of astragalus.	Died, cause of death unknown.	.....	"No use of joint."		
237	II	End of tibia and fibula.	Recovered, 1 month.	.....	At 1 month about on crutches; later, patient wrote he had very good use of his leg.	60	
238	U	½ inch of articulating surface of tibia, with malleoli; entire astragalus; upper surface of calcaneum gouged.	Recovered, 9 months.	¾	Ankle-joint in motion, and appearance normal; no deformity; locomotion perfect, without lameness.	72	"Recovery slow but uninterrupted, notwithstanding the disease of the tarsus."
239	Wound enlarged.	2 inches of end of tibia, which projected.	Died, 24 days, pyæmia.	.....	Amputated 2 weeks after for profuse suppuration and hospital gangrene of the wound.		
240	II	½ inch of upper fragment of tibia; 2½ inches of lower end of fibula; the lower fragment of the tibia, and the lower end of the malleolus externus gouged.	Recovered.	Not perceptible.	"Perfectly useful and pliable joint; as strong as before operation."	90	Recovery unexpected.
241	I	"1st operation, fragments of 2 of the metatarsal bones. 2d. 2 inches of end of tibia and fibula."	Recovered.	.....	"Could walk with very little difficulty."	.....	Died of typhoid fever in 1868.
242	U	Articulating surface of tibia, with malleoli; entire astragalus and surface of calcaneum gouged.	Recovered, after 13½ months.	.....	January 22, 1867, leg amputated by "Teal's" method at request of patient; sinuses remaining and discharging grumous pus; patient had tubercles at apex of both lungs, with purulent expectorations; joint anchylosed.	72	"Last seen was free from cough; was well and hearty, and had gained in flesh."

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
243	Syd. Biennial Retro., 1865–66, p. 236; Boston City Hospital Reports, 1870, p. 366.	Jambon and Aubert, Mâcon France.	France.	France.	M. 21	.....	1865.	S.	Suppurative osteitis, with separation of the epiphysis and invasion of ankle-joint.
244	Cir. No. 6, p. 57; Letter, 1874.	Billings, J.S., Asst. Surgeon U. S. A.	War Rebellion 1861–65.	Ettinger, Lüdwig, Pr. 58th N. York.	M. 52	.....	1861 to 1865.	S.	Incised wound of joint; from axe cut.
245	Letter, 1872.	Kinlock, R.A. Charleston, S. Carolina.	South Carolina.	Not stated.	?	Long standing.	From 1860 to 1865.	S.	Deformity and bad position of limb; result of a fracture.
246	Rank. Abst., xlvii. 192.	Ollier, M., Lyons, France	Lyons.	France.	?	.....	Aug. 16, 1866.	P.	Comminuted fracture of tibia and fibula.
247	Rank. Abst., xlvii. 193.	Ollier, M., Lyons, France	Lyons.	France.	?	.....	Later than above	P.	Comminuted fracture of tibia and fibula.
248	Rank. Abst., xlvii. 193.	Broca, M., France.	France.	France.	?	.....	2 mos. before last.	?	?
249	Letter, 1872.	Ownes, J. M., Hamburg, Arkansas.	Ashley County, Arkansas	Landis, Meriam, Ashley Co., Arkansas.	M. 56	.....	May 1867.	S.	Necrosis of fibula, external and middle cuneiform and cuboid bones (right side).
250	Letter, 1872.	Walter, A. G., see Case 233.	Private residence in country.	Wimer, Sam'l S., farmer, Worth Twp., Butler Co., Pennsylvania	M. 22	2 years' standing.	June 26, 1867.	S.	Caries of tibio-astragalean joint; from a sprain.
251	Bellevue Hosp. Reports, p. 116, 1870.	Sayre, L. A., 285 5th Ave., New York.	Bellevue Hospital, New York.	Rush, John, Davenport, Iowa.	M. 27	Nov. 1866.	April and July, 1868.	S.	Caries; result of sprain.
252	Letter, 1872; Photographic Rev. Med. and Surg. Dec. 1870.	Brinton, J. H. 1423 Spruce St Philadelphia.	Private practice.	L——, Mr., S. Carolina.	M. 75	14 days before.	Nov. 3, 1868.	S.	Complete luxation forward and inward of astragalus.
253	Bellevue Hosp. Reports, p. 113, 1870.	Sayre, L. A., see Case 251.	Bellevue Hospital, New York.	Roe, Lewis, Newark, N.J.	M. 9	Jan. 1868.	Nov. 16, 1868.	S.	Caries of joint; from sprain.
254	Boston City Hosp. Reports, p. 362, 1870.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	M——, F. M. Reduced and feeble.	F. 13	Over 3½ mos.	July, 1868.	S.	Necrosis of the shaft of the tibia, involving the lower epiphysis and ankle-joint; astragalus not diseased; result of periostitis; from scarlatina and rubeola.
255	Arch. für Klin. Chir. 16, 2, p. 512.	Langenbeck, B. Von, Berlin.	King's Clinic, Berlin.	Tintelot, John "Mason," from Paderborn, Germany.	M. 35	Feb. 13, 1866.	Jan. 29, 1867.	S.	Deformity; the toes turned out, the foot inwards (walks partially on outer side of foot); the result of fracture of the fibula above malleolus and dislocation of foot at ankle; from a fall; some motion of joint; wound healed.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
243	?	4 inches of end of tibia; subperiosteal.	Recovered, 6 months.	Some.	"Slight motion in foot; walks long distances; dances for hours; later, works at his trade; can walk 20 miles."	48	
244	Below external malleolus, includ. original wound.	External malleolus; entire astragalus, and part of scaphoid.	Recovered, 8 months.	.....	"Could walk with aid of a cane."	8	
245	U	End of tibia and fibula.	Recovered.	.....	"Good result; limited motion."	?	
246	?	Nearly 2 inches of tibia; about 1½ in. of fibula and the astragalus; subperiosteal.	Recovered, 3 months.	.....	"Joint remarkably solid; flexion and extension; no suppuration."	3	
247	?	4¾ inches of tibia; less of fibula; subperiosteal.	Recovered, 5 months.	.....	"Made good use of limb with mechanical apparatus."	5	
248	?	Ends of tibia and fibula; probably subperiosteal.	Recovered, 2 months.	.....	"Performed with success."	2	
249	+	Middle and external cuneiform, cuboid, and lower ⅓ of fibula.	Recovered.	.....	"Good use of limb and foot."	30	Died of pneumonia November, 1869.
250	U	Surfaces of tibia and astragalus, and the malleoli.	Recovered, 10 weeks.	.....	"Wound healed in ten weeks; limb well; some motion in joint; some deformity in the shape of the joint; from neglect in subsequent treatment of case."	24	Not attended subsequently by Dr. Walter.
251	Thro'gh sinuses.	Subperiosteal; scaphoid; part of astragalus and pieces which appeared to be portions of other tarsal bones; in July, 1868, greater portion of calcaneum.	Recovered, 7 months.	.....	"Walks without limping; fistula healed."	7	After 1st operation, treatment of Prof. Sayre discontinued, viz., oakum-seaton and rest.
252	I	Entire astragalus.	Recovered.	.....	"Walks comfortably with aid of cane and high-heeled shoe."	?	
253	Thro'gh sinuses.	Size of a hickory-nut, and part of articular surface of tibia; also débris of carious bone.	Recovered, 4 months.	.....	"Wounds all healed, and good motion at joint; July, 1870, in perfect health, and motion almost as perfect as the other foot."	8	Used the oakum-seaton after operation.
254	I	9 inches of the tibia, including the lower epiphysis and internal malleolus.	Recovered, 5 months.	¾ on inside of limb.	"With an apparatus is beginning to walk; fair mobility in ankle-joint; sole comes squarely to the ground, and the foot which was turned in, is beginning to turn out."	9	
255	I outside.	Subperiosteal; astragalus and fibula; astragalus removed, as the removal of the fibula would not suffice to bring the foot in proper position.	Recovered, 2 months (healed).	Not detectable.	End of April left hospital; foot in normal position; could walk without splint-boot; malleolus externus completely reformed; slight motion in ankle joint.	3	Plaster dressings; cure delayed by attack of diphtheria, and collection of matter on inner side of ankle.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
256	Am. Jour. Med. Sci., N. S., lxi. p. 424.	Morton, T. G., Philada., Pa.	Penna. Hospital, Philada.	C——, D., Philadelphia.	M. 13	1 year's standing.	Oct. 2, 1869.	S.	Caries of os calcis and astragalus; from injury.
257	Letter, 1872.	McGaugey, Winona, Minn.	Residence Winona, Minn.	Hessburg, Joseph.	M. 21	June 25, 1869.	Oct. 20, 1869.	S.	Necrosis following compound complicated fracture at ankle-joint.
258	Lancet, p. 489, 1869.	Canton, Edwin.	Charing-Cross.	"Boy."	M. 4	.....	Prob. 1869.	S.	Chronic arthritis; caries.
259	Letter, 1872.	Muscroft, C.S. 333 John St., Cincinnati, O.	Saint Mary's Hospital, Cincinnati, O.	Brown, Mary.	F. 25	.....	1868.	S.	Necrosis of fibula.
260	Dis. Infancy & Childhood, pp. 501, 507, 504, 503.	Holmes, T., see Case 232.	Hospital for Sick Children, London.	Weiner, Gertrude.	F. ch.	Advan'd state.	No later than 1869.	S.	Caries of astragalus.
261	Dis. Infancy & Childhood, pp. 502, 507.	Holmes, T., see Case 232.	Hospital for Sick Children, London.	Jones, Alice.	F. ch.	?	No later than 1869.	S.	Caries of astragalus.
262	Dis. Infancy & Childhood, pp. 500, 513.	Holmes, T., see Case 232.	Hospital for Sick Children, London.	A child.	? ch.	.....	1869.	?	Disease of os calcis and astragalus.
263	Am. Jour. Med. Sci. N. S. lx. 212; St. George's Hosp. Reports, 1869.	Holmes, T., see Case 232.	Saint George's Hospital, London.	"Lad."	M. 18	.....	1869.	S.	Chronic arthritis.
264	Am. Jour. Med. Sci. N. S. lxi. 576; Syd. Bien. Retro., 1871–72, p. 226.	Watson, P.H., Edinburgh, Scotland.	Scotland.	Scotland.	M. ?	.....	Feb. 1870.	?	For disease.
265	Letter, 1872.	Walter, A. G., see Case 233.	Parents' home in country.	Grein, John, Birmingham, Pa.	M. 15	6 mos. standing.	April 27, 1870. April 30, 1872.	S.	1st. Caries of tibio-tarsal articulation. 2d. Sequestrum 3 inches long in an involucrum of lower end of tibia.
266	Rank. Abst., liii. 216.	Lehmann, Germany.	Germany.	"Workingman." Germany.	F. 40	.....	About 1870.	S.	Probably for disease.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
256	?	Astragalus and os calcis.	Recovered.	1	"Very perfect recovery followed as to motion and usefulness of foot."	7	M. Ollier's view (see London Lancet, Am. Ed., 1872, p. 659), that the development of the tibia and fibula takes place mainly at the upper conjugate cartilage, is favorable to excisions at the ankle, as the growth continues above.
257	Irregular owing to wound.	Nearly 2 inches of end of tibia and fibula with malleoli.	Recovered.	.....	"Walks with cane; very little lame; hinge motion from ¼ to ½."	16	
258	?	Articular surface of tibia.	Too soon to state.				
259	I	All of fibula save 2 inches of upper part.	Recovered.	.....	"Health perfect; very good."	48	
260	⌣ tendons divided	All the astragalus.	Recovered.	.....	"Some shortening of foot; anchylosis; useful foot; walks nearly as well as ever."		
261	⌣ tendons divided	All the astragalus.	Recovered.	.....	"Useful almost as ever."		
262	Posterior transverse for removal of os calcis, tendo Achillis divid'd; for astragalus, ⌣ tendons divided	1st. Os calcis. 2d. A few months later disease recurred in astragalus, which was removed.	Under treatment.	.....	Under treatment.	In 1869.	
263	I I	Articulating ends of tibia and fibula, with whole of astragalus.	Recovered, 4 months.	.....	"Walked well with a stick; the toes moved freely and there was some little passive motion at seat of operation."	4	Operator prefers this to Syme's or Pirogoff's operation, and thinks it best to remove the entire astragalus when diseased, and not a portion of that bone.
264	?	Astragalus, end of tibia and fibula.	Recovered, 10 months.	.....	"Healed; can bear his whole weight on limb, and walks smartly and readily."	10	
265	U	1st. Lower surface of tibia, and slice of astragalus. 2d. Removal of sequestrum through involucrum.	Recovered, 14 months.	.....	"At 14 months able to work in a glass factory; perfect usefulness of joint in every respect; joint and foot normal in shape."	30	From 1st operation 30 months.
266	Sickle shaped.	Os calcis, astragalus, and navicular bones.	Recovered, 3 months.	.....	Useful foot for walking; walked without a stick; motion in joint.	3	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
267	Letter, 1872.	Walter, A. G., see Case 233.	Parents' home.	Toods, Rosalie, Monongahela Borough, Pittsburg, Pa.	F. 10	3 mos. standing.	Sept. 4, 1870.	S.	Caries of ankle-joint, with necrosis of the fibula and astragalus; result of erysipelas of limb.
268	Letter, 1872; Med. and Surg. Reporter, Phila. xxvi. 89.	Walter, A. G., see Case 233.	Patient's home.	Stoeckinger, Balthasar, Centre Ave., Pittsburg. "Greatly emaciated and worn out."	M. 40	18 mos. before.	Nov. 13, 1870.	S.	Caries of the right tibio-astragalean joint; result of compound fracture of the malleoli, with deformity.
269	Letter, 1872.	Steinriede, J. J., Benton, Mississippi.	Benton, Miss.	Smithson, Jackson, Negro, Benton, Miss.	M. 16	.....	1870.	S.	Necrosis of portion of end of fibula; from injury.
270	Rank. Abst., 1. 134.	Barnes, Liverpool,	Liverpool	England.	....	.....	Report'd 1870.	....	?
271	Letter, 1872.	Gregory, E.H. St. Louis, Mo.	.....	O'Kee, Michael, St. Louis, Mo.	M. 21	.....	July 1871.	P.	Injury of ankle; from a fall.
272	Med. Record, N. Y., v. 22.	Campbell, G. T., Skaneateles, N. York.	Private case.	New York.	M.	.....	About 1871.	P.	Compound double luxation of astragalus; posterior artery torn across (left side); astragalus fractured.
273	Syd. Biennial Retro., 1871–72, p. 226.	Jackson, T. Carr, 3 Weymouth St. W. London.	London.	England.	....	.....	1871.	S.	Ch. arthritis (morb. cox.).
274	Syd. Biennial Retro., 1871–72, p. 226.	Jackson, T. Carr, 3 Weymouth St. W. London.	London.	England.	....	.....	1871.	?	Luxation at ankle-joint.
275	Syd. Biennial Retro., 1871–72, p. 226.	Maunder, C. F., 29 New Broad Street, E. C. London.	London.	England.	....	.....	Probably 1871.	....	Chronic arthritis.
276	Syd. Biennial Retro., 1871–72, p. 226.	Swain, W. P., 20 Ker St., Devonport, England.	Devonport.	England.	M. 14	.....	1871.	S.	Chronic arthritis, with caries of bones of ankle and tarsus.
277	Syd. Biennial Retro., 1871–72, p. 226.	Hancock, H., see Case 145.	Charing-Cross Hospital, London.	England.	M. 47	.....	1871.	?	Dislocation of right astragalus.
278	Letter, 1872.	Muscroft, C.S. see Case 259.	Saint Mary's Hospital, Cincinnati, O.	B——, Mary.	F. 18	.....	1871.	S.	Necrosis of tarsal and metatarsal bones.
279	Letter, 1873.	Walter, A. G., see Case 233.	Patient's home.	McClelland, Mrs. Eliza, Ormsby Borough, Pittsburg, Pa.	F. 43	12 years' standing.	Aug. 25, 1872.	S.	Caries of the astragalo-calcanean joint, of the cuboid and navicular bones, of right side; from sprain; necrosis of fibula.
280	Syd. Biennial Retro., 1871–72, p. 226.	Lund, Edw., 22 St. John St., Manchester.	Manchester.	England.	M. 7	.....	1872.	P.	Severe double talipes.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
267	U	6 inches of fibula; ¾ inch of tibia; entire astragalus; almost all of the calcaneum; all of the os naviculare, and part of the cuboid.	Recovered, 17 months.	Less than 1	"An admirable limb and foot; useful to the fullest extent, without any deformity save the scars."	28	"This result has been admired by many medical gentlemen."
268	U	Articulating facets of tibia and astragalus.	Recovered, 3 weeks.	.....	"Wound healed in three weeks; limb perfectly useful during locomotion; ankle-joint pliable to a good extent; no deformity; patient able to superintend a boarding house."	23	The tendo Achillis divided, and foot forced into proper position.
269	I	2 portions of end of fibula.	Recovered.	.....	Joint movable, with slight depression and malformation at ankle.	24	
270	?	?	Recovered.	.....	?	1	
271	Irregular.	Articular facet of tibia, and small fragment of fibula.	Recovered, 8 months.	.....	Anchylosis; result satisfactory; he complains more of his other sprained ankle than the one resected.	8	
272	Thro'gh wound.	All the (2 portions of) astragalus.	Recovered.	.....	"Walks with very little perceptible limp."	12	
273	?	Not stated.					
274	?	Not stated.					
275	?	?	Recovered.	.....	"Successful."	?	
276	?	"Total excision of ankle, with bones of tarsus."	Recovered.	.....	"The result was good."	?	
277	* I	All of astragalus.	Recovered.	.....	Successful.		
278	I	Parts of all the tarsal and metatarsal bones.	Recovered.	Very much.	Improving, but motion very much restricted.	12	"Health perfect."
279	U	Astragalus; the articular face of same with tibia being saved; greater part of os calcis; part of cuboid and navicular bones; see remarks.	Recovered, 5 months.	.....	"Walks with comfort and ease without crutches; perfect usefulness of the joint and foot; no deformity; the scars alone giving evidence of former destructive disease."	5	2 months after resection 5 inches of necrosed fibula removed; the tendo Achillis detached from os calcis.
280	?	Astragalus and thin slice of scaphoid, and slice of external malleolus of one foot, and the astragalus from other foot.	Recovered, 91 days.	.....	Walks with the aid of the usual shoes for talipes.	3	Simultaneous operation on both feet.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
281	Syd. Biennial Retro., 1871–72, p. 226.	Gant, F. J., 16 Connaught Sq W. London.	Royal Free Hospital, London.	England.	....	.....	About 1871–1872.	S.	Ch. arthritis (morb. cox.).
282	Syd. Biennial Retro., 1871–72, p. 226.	Gant, F. J., 16 Connaught Sq W. London.	Royal Free Hospital, London.	England.	....	.....	About 1871–1872.	S.	Ch. arthritis (morb. cox.).
283	Am. Jour. Med. Sci., N. S., lxvii. 123.	Miner, A. G., Niles, Ohio.	Residence of patient's father.	H——, G. "Very little shock; good state."	M. 15	July 28, 1873.	July 28, 1873.	P.	External malleolus cut off, and thin slice off top of astragalus; left joint freely opened on outer side; by wound of knife of mowing-machine; anterior tibial and peroneal divided; the posterior tibial vessels and nerves uninjured.
284	Med. Times, Phila., iv. 310; Letter, operator, from Hospital Records.	Levis, J. R., Philada., Pa., see Case 221.	Pennsylvania Hospital, Phila., Pa.	"Boy." General health much impaired.	M. 17	15 years before	Sept. 8, 1873.	S.	Chronic arthritis, with caries and sinuses; from contusion.
285	Med. Record, N. Y., ix. 145: Letter, 1874.	Spier, S. Fleet, 162 Montague St., Brooklyn, New York.	Brooklyn City Hospital, N. Y.	R——, Ann, Ireland. Critical state of general system.	F. 45	14 days before	Sept. 11, 1873.	S.	Unreduced compound dislocation of right astragalus; much swelling of limb and joint.

of Ankle-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
281	‖	Not stated.	Recovered.	.....	"Useful limb."	?	
282	‖	Not stated.	Recovered.	.....	"Useful limb."		
283	None, thro'gh wound.	Articulating surface of tibia and internal malleolus; enough of the astragalus to give neat apposition.	Recovered, 2 months.	.....	"At 2 months about with an albumen bandage; later anchylosis; can bear some weight on limb; later, runs and jumps; chops wood; walks with scarcely a halt; health perfect; chops 2 cords of wood a day; increased motion of other tarsal bones."	9	I suppose the external malleolus was removed in this case; the anterior tibial and peroneal artery tied at both divided ends.
284	⌣	Astragalus, portion of scaphoid and cuboid, and 1 inch of tibia and fibula.	Recovered, 7 months.	.....	"Still on crutches; able to bear some weight on the foot; two sinuses slightly discharging pus; no signs of caries by probing."	7	
285	Wound enlarged.	All of astragalus.	Recovered, 7 months.	.....	Recovery delayed by erysipelas of limb; has now, April 24, 1874, considerable motion in joint, and can walk about comfortably.	7½	

EXCISION OF THE SHOULDER-JOINT.

EXCISION OF THE SHOULDER-JOINT.

HISTORY.

THOMAS of Pezenas, of Languedoc, France, was probably the first to institute a line of treatment somewhat analogous to excision of this joint, in extracting, August, 1740, the separated head, and, previously, some sequestra of the humerus, for necrosis. In 1767, Vigaroux, of Montpellier, and David, *père*, of Rouen, France, removed the upper end of the humerus as high *as the epiphysis* for disease. But it will be seen that these cases were not even examples of extraction of bone *from this joint*, and are only reported here to settle their relation to excision of this joint.

In 1745, Boucher, of Lille, France, removed the fragments of the head of the humerus for a shattered gunshot fracture of the upper extremity of that bone, which was received at the battle of Fontenoy, France. The cases reported by Guthrie in 1812, 1814, and 1846 (see Table), and by Larrey, in 1792, were all similar examples of extraction, simply, and for gunshot wounds.

The first *formal excision* of this joint for *disease* was done by Charles White, of Manchester, England, April 14, 1768, for acute necrosis of the upper part of the humerus. He removed the head, and two months later a sequester, from the upper portion of the shaft of that bone. Ridewald followed, in April, 1770, excising the head for the effects of rheumatic arthritis, and Bent, in October, 1771, and Lentin, in 1771, for caries; the second removed the head, the last the entire humerus, except two inches of the lower extremity of this bone. These operations were followed by those of Orred in 1778, and those of Moreau, son, in 1812 and 1815, which were performed for disease. Previously, however, P. F. Moreau, the father, had executed the first *complete excision* of this joint, July 8th, 1786, removing the head of the humerus and the glenoid cavity, and a portion of the acromion process of the scapula. D. J., afterwards Baron Larrey, first removed the separated head of the humerus for incised wound, at Salehyeh, Egypt, August

8th, 1798. This celebrated surgeon seems to have been the first to excise the head of the humerus for gunshot injury in the campaign of the Rhine, in 1793. According to Charles Bell, *this* was simply a case of *extraction of bone;* on carefully considering the case we are of the opinion that it was an example of excision, especially as a longitudinal incision was made as one of the steps of the operation. Again, the same surgeon performed similar opetions in 1798 and 1799, always making incisions (in one case several), and separating the fractured bones from the soft parts in the excision. It is evident that this able authority clearly recognized the principle of excision, *i. e.*, the early removal of the epiphysis of this joint, as a means of saving a useful member, after gunshot lesions involving this articulation; and there is no doubt that his example influenced others to prefer excisions of this joint. In 1812, Sabatier and Bottin did excisions of this joint for gunshot wounds. The first case of excision of this joint for gunshot injury in the United States was performed by Wm. Ingalls, of Boston, Mass., in the winter of 1812–13, which was followed by the operations of Brown, Walker, J. Mann, and Henry Hunt, in 1814, and that of the late Dr. George McCook, recently of Pittsburg, Pa., but then of New Lisbon, Ohio. The last-named gentleman removed 5½ inches of the humerus, including the head.

In France, Morel, Reynaud, Baudens, and Gorré practised the operation for gunshot wounds; and in Germany, B. Von Langenbeck was a firm supporter of the operation for gunshot wounds as early as 1848, and with Schwartz, Esmarch, Dohrn, Francke, and other surgeons, contributed to popularize this measure as a proper resource in military surgery. In 1855, the English and French surgeons practised the operation frequently in the Crimean war; and, lastly, in our country during the war of 1861–65, this excision became a standard operation among our surgeons in the United States.

Among the class of excisions for *disease,* Dr. George McCook, before mentioned, was the first to execute the operation, in 1826. He did a similar operation in 1827, in another patient. In England and Scotland, Syme and Liston, and Sir Benj. Brodie, were early advocates of this excision for *disease,* as well as Key, Hancock, Erichsen, Solly, Birkett, Fergusson, and other skilful surgeons.

A glance at the tables will show the gradually increasing popularity of this excision in England, Scotland, Ireland, Russia, Aus

tria, Germany, and the United States, until now there is no operation more uniformly regarded as a proper surgical resource. The further history of this subject may be considered by reference to the several tables.

It should be stated here that the excisions of this joint are regarded as "complete" and "partial." The latter includes the removal of more or less of the humerus alone, or the scapula alone; the former embraces those examples in which the glenoid cavity is gouged or scraped, or the neck of the scapula alone or the entire scapula is removed, as well as more or less of the humerus. Inasmuch as the outer end of the clavicle, or the acromion process, does not form an integral part of the scapulo-humeral articulation, excisions involving the removal of these bones *merely* are not considered as constituting an element of a *complete* excision, unless the joint itself was opened in the operation.

Excisions for Gunshot Wounds, for Injuries and Disease and for Extraction of Fragments.

Subject No. 1.— *Where treated.*

Conclusion.—That the mortality in "hospital" for gunshot excisions equals 34.78 per 100; for *injuries*, 50; for *disease*, 18.18; and for the three classes, 31.07 per 100; while in the cases of simple *extraction* of bone no deaths occurred in hospital practice. In those examples of this excision performed in "private practice," for *gunshot wounds* the mortality was 8.33 per 100; for *injuries*, no mortality; for *disease* it is 27.27 per 100 (greater in this class than in those done in hospital "*for disease*"), and for *the three classes* it equals 17.39 per 100; while no deaths are shown in "private practice" in the cases of simple *extraction*. Thus viewed it may be concluded that in this excision the mortality is greater in hospital than in private practice, and that in the cases of extraction it is immaterial whether the operation was done in "hospital" or private practice, so far as the fatality is concerned.

Remark.—The mortality in the following table is based on the deaths and recoveries, the cases "uncertain as to life" not being considered:—

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
In hospital	318	160	7	10	4	..	242	102	..	34.78	3	3	1	..	..	..	..	..	..	50.
In private practice	10	1	..	1	..	..	...	...	..	8.33	1	..	..	..	..	..	..	..	..	0
Not stated as to subject	1	...	..	..	..	..	...	. .	..	.....	4	..	..	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	.	50.
	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
In hospital	29	5	1	8	1	..	...	...	..	18.18	8	..	..	..	..	..	..	..	..	0
In private practice	7	3	..	1	..	..	...	...	..	27.27	1	..	..	..	..	..	..	..	..	0
Not stated as to subject	42	8	..	7	4	..	...	...	..	.....	3	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	...	...	..	.....	12	..	..	..	..	..	..	..	..	.....

SUBJECT No. 2.—"*In what country performed,*" *and the attending mortality.*

The following is a *résumé* of this subject according to the mortality per 100:—

Country.	Per cent. in gunshot excisions.	Per cent. in excisions for injury.	Per cent. in excisions for disease.	Per cent. for the three classes.
Egypt	36.36			
France	16.16	.....	9.09	12.5
Algiers	No	.....	.....	0
United States	31.05	50.	10.25	30.04
England	25.00	No	10.52	11.62
India and Canada	No			
Denmark	33.33			
Germany	38.20	No	41.66	39.21
Russia	15.50	.....	100.00	17.64
Italy	31.61			
Turkey	44.44	.....	.....	44.44
Poland and Peru	.....	.....	No	
Scotland	.....	.....	40.00	
Austria and Ireland	.....	.....	No	
Belgium	.....	.....	No	

In extractions simply of bone no mortality followed the practice.

Conclusion.—For the *three classes*, the mortality rate, considered in relation to the country in which the operations were performed,

is in the following order, from least to greatest, as will be seen by reference to the last table, viz., Algiers, India, Canada, Poland, Peru, Austria, Ireland, Belgium, no mortality (the cases too few in number to depend upon this rate); next England, France, Russia, United States, Italy, Denmark, Egypt, Germany, Scotland, and, greatest, Turkey.

Such a wide diversity of mortality with often so limited variation of climatic influence, as is shown by this general exhibit, leads to the conclusion that such agencies had very little to do with the mortality shown in the several countries named.

This subject may be again considered by comparing the mortality in each class separately. Thus viewed, the mortality per cent. from least to greatest in gunshot excisions is least in Russia (15.50); next in France (16.16); next in England (25.00); then in United States (31.05); next in Italy (31.61); next in Denmark (33.33); next in Egypt (36.36); next in Germany (38.20); and greatest in Turkey (44.44).

It will thus be seen that as to Russia and France the mortality is nearly equal, although the climates of these countries are vastly different; and that although the climates of France and England are more nearly alike, the mortality varies greatly. Again, that although the climates found in the United States and Italy are unlike, yet the mortality presented in these is nearly equal, while that shown in Egypt and Denmark is nearly equal, and that found in Germany is much greater than in Denmark.

In considering the same subject in relation to the class of excisions done for "*injuries*," we find still the same inconsistency of results. Thus in the United States the mortality is 50 per 100 *for this class*, and in England and Germany there is presented no mortality.

In the excisions *performed for "disease,"* the mortality is least in France (9.09); next greater, in the United States (10.25); next in order, in England (10.52); next in Scotland (40.00); next in Germany (41.66); and greatest in Russia (100).

Notwithstanding the similarity of the mortality expressed as to France, the United States, and England, the analogy ceases as to Scotland and Germany, in which healthy countries the death-rate reaches about 40 per 100.

From this review, we cannot believe that the climate of the country in which these several operations were performed exerted much influence upon the mortality of the cases.

Remark.—The English surgeons did many operations of this character, which are credited to "Russia," because performed in Russia.

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Egypt	6	4	..	1	..	..	...	...	..	36.36	1	..	..	..	..	..	..	..	..	0
France	5	1	..	..	..	..	...	...	..	16.16	..	..	..	..	..	..	..	..	..	.....
Algiers	7	...	..	..	..	..	...	...	..	0	..	..	..	..	..	..	..	..	..	.....
United States	213	105	6	6	2	..	225	93	..	31.05	3	3	..	..	..	..	..	..	..	50.
England	3	1	..	..	..	..	...	...	..	25.	1	..	1	..	..	..	..	..	..	0
India	1	...	..	..	..	..	...	...	..	0	..	..	..	..	..	..	..	..	..	.....
Canada	1	...	..	..	..	..	...	...	..	0	..	..	..	..	..	..	..	..	..	.....
Denmark	9	5	..	1	..	..	...	...	..	33.33	..	..	..	..	..	..	..	..	..	.....
Germany	53	35	1	1	..	..	...	...	..	38.20	1	..	..	..	..	..	..	..	..	0
Russia	26	4	..	2	1	..	...	...	..	15.50	..	..	..	..	..	..	..	..	..	.....
Italy	...	...	..	..	..	..	17	9	..	31.61	..	..	..	..	..	..	..	..	..	.....
Turkey	5	4	..	..	..	..	...	...	..	44.44	..	..	..	..	..	..	..	..	..	.....
Poland	...	..	..	..	..	..	...	...	..	.....	1	..	..	..	..	..	..	..	..	0
Peru	...	...	..	..	..	..	...	...	..	.....	1	..	..	..	..	..	..	..	..	0
Scotland	...	...	..	..	..	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Ireland	...	...	..	..	..	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Belgium	...	...	..	..	..	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Austria	...	...	..	..	..	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Spain	...	...	..	..	..	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	...	2	..	..	1	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Egypt	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
France	9	..	..	1	1	..	..	..	..	9.09	4	..	..	..	..	..	..	..	..	0
Algiers	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
United States	31	3	1	4	1	..	..	..	..	10.25	4	..	..	..	..	..	..	..	..	0
England	27	3	..	7	1	..	..	..	..	10.52	1	..	..	..	..	..	..	..	..	0
India	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Canada	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Denmark	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Germany	6	4	..	1	1	..	..	..	..	41.66	2	..	..	..	..	..	..	..	..	0
Russia	..	1	..	..	..	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
Italy	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Turkey	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Poland	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Peru	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Scotland	3	1	..	..	1	..	..	..	..	40.	..	..	..	..	..	..	..	..	..	.....
Ireland	..	..	..	2	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Belgium	1	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Austria	1	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Spain	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	0
Not stated as to subject	..	4	..	1	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	..	..	..	..	..	..	..	..	.....

SUBJECT No. 3.—*State of Constitution.*

In the class of excisions for *gunshot wounds*, the mortality among the "vigorous" was 19.05 per 100. In the class of excisions for

injuries, 25 per 100 died among the "vigorous," and 50 per 100 in those classed as "exhausted." In the class of excisions for *disease* none died who were "vigorous," and 25 per 100 died who are classed as "exhausted." Considering the three classes together, the mortality among the "vigorous" is equal to 24.47 per 100; while among the "exhausted" it reaches 27.58 per 100. But this difference in *these* mortality rates is not sufficiently great, and arises from there being no cases expressed among *the* "exhausted" in the class of gunshot excisions. If we consider the mortality in the class of excisions for *injury* and disease, disregarding the class "gunshot excisions," a more truthful solution of this subject will appear. Thus estimated, the mortality among the "vigorous" for the two classes is equal to 10 in the 100; and among the "exhausted" it reaches 27.58 per 100.

Remark.—This refers to the state of the general system at date of operation. By "exhaustion" is understood more or less impairment of the power of the system.

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
"Vigorous"	118	46	4	4	..	..	122	35	..	19.05	3	1	..	..	..	..	..	..	..	25.00
"Exhausted"	..	..	..	..	..	..	..	..	..	.....	1	1	..	..	..	..	..	..	..	50.
Not stated as to subject	211	115	3	7	4	..	120	67	..	.....	4	1	1	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE									
"Vigorous"	4	..	..	2	..	..	..	..	..	0.	3	..	..	..	..	..	..	..	..	0
"Exhausted"	15	7	..	5	..	..	..	..	..	25.92	1	..	..	..	..	..	..	..	..	0
Not stated as to subject	59	9	1	9	5	..	..	..	..	.....	8	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	..	..	..	..	..	..	..	..	.....

In gunshot wounds every primary case, excepting those operations done in Russia and Turkey, is considered more or less "vigorous."

Conclusion.—So far, then, as excisions of this joint for *injuries* and *disease* are concerned, an exhausted state of the constitution at

the time of the operation contributes greatly to increase the mortality of the operation; but from the lack of data (as to "exhaustion"), we cannot determine if the law holds good in the class of excisions of this articulation for *gunshot wounds*. In the class of extraction of bone, three of the patients were "vigorous" and one "exhausted," yet all recovered, a result in favor of extraction over excision at this joint.

SUBJECT No. 4.—"*Of Sex.*"

The relative mortality of this excision for gunshot wounds cannot be determined as between *males* and *females*, because none of the latter suffered excision for *gunshot* lesions. The mortality, however, among males in *gunshot excisions* is equal to 31.66 per 100; in those for *injuries* among males it is 42.88 per 100, and among females suffering this operation no deaths are recorded in this class; in the class of excisions for *disease* among males it is 18.75 per 100, and among females it is 14.28 per 100; for the two classes ("injuries and disease"), among the former it is equal to 20.68 per 100, and among the latter it is but 12 per 100.

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Males	321	160	7	11	4	..	242	102	..	31.66	4	3	1	..	..	..	..	..	..	42.85
Females	..	...	..	..	..	..	...	...	..	.....	2	..	..	..	..	..	..	..	..	.....
Not stated as to subject	8	1	..	..	..	..	...	...	..	.....	2	..	..	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	
	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Males	55	10	1	10	5	..	..	..	..	18.75	8	..	..	..	..	..	..	..	..	.....
Females	13	3	..	6	..	..	..	..	..	14.28	1	..	..	..	..	..	..	..	..	.....
Not stated as to subject	10	3	..	..	..	..	..	..	..	.....	3	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	..	..	..	..	..	..	..	..	.....

Conclusion.—It is thus evident that in excisions of the joint, for *injuries* and *disease*, the mortality is greater in men than women.

No conclusion can be drawn as to the influence of sex upon the mortality in "gunshot excisions," for lack of data.

In the nine cases of extraction of bone from this joint eight were males, and one was a female, but all recovered. It cannot, therefore, be determined that in extraction, sex exercised any influence.

SUBJECT No. 5.—"*Of Age.*"

In gunshot excisions those aged 5–10 and 10–15 suffered no mortality. When the age was between 20 to 25 the mortality was least (21.73 per 100). Next in order between 30 and 40 years (30 per 100); next between 15–20 years (38.88); next from 25 to 30 years (40 per 100), and greatest in those aged from 40 to 50 years (42.71 per 100). The table shows that all recovered (1) between the ages from 60–70, and from 70–80 (1). The most favorable age for the performance of the operation, according to these data, then, in this class of excisions, is from 5–10, and from 10–15 years; next between 20–25 years; next between 30–40 years; next between 15–20 years; next between 20–30 years; and least favorable between the ages of 40 and 50 years.

In the class of excisions for "*injuries*" no mortality is shown between the ages of 15–20 and 25–30 years. In those aged from 30–40 the mortality is 100 per cent., and in those aged from 40 to 50 *it* is 33.33 per 100.

In the excisions *for disease*, the mortality is as follows:—

From	1 to 5 years	. . . . .	16.16 per 100.
"	5 to 10 "	. . . . .	11.11 "
"	10 to 15 "	. . . . .	10. "
"	15 to 20 "	. . . . .	10.52 "
"	20 to 25 "	. . . . .	33.33 "
"	25 to 30 "	. . . . .	15.30 "
"	30 to 40 "	. . . . .	15. "
"	40 to 50 "	. . . . .	37.5 "
"	50 to 60 "	. . . . .	25. "
"	60 to 70 "	. . . . .	50. "

It thus appears that the most favorable age for the operation in this class is in those aged from 10–15 years; next those from 15–20 years; next, 5–10 years. The difference in these several age-periods is but little, one being about as favorable to the performance of the operation as the other. The periods next less favorable in this class of excisions is from 30–40; 25–30, and 1–5 years (about 15 per 100); next from 50–60 years; next from 20–25 years; next

from 40-50 years; and least favorable in those aged from 60–70 years.

In considering this subject in the *three* classes of excisions the following is the mortality :—

From	1 to	5	years	. . . . .	16.16	per 100.
"	5 to	10	"	. . . . .	9.09	"
"	10 to	15	"	. . . . .	8.33	"
"	15 to	20	"	. . . . .	28.57	"
"	20 to	25	"	. . . . .	21.62	"
"	25 to	30	"	. . . . .	35.55	"
"	30 to	40	"	. . . . .	23.52	"
"	40 to	50	"	. . . . .	38.88	"
"	50 to	60	"	. . . . .	25.	"
"	60 to	70	"	. . . . .	40.	"
"	70 to	80	"	. . . . .	00.00	"

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
From 1 to 5 years	..	...	..	..	..	..	..	...	..	.....	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	2	...	..	..	..	..	...	...	..	0	..	..	..	..	..	..	..	..	..	.....
" 10 " 15 "	2	...	..	..	..	..	...	...	..	0	..	..	..	..	..	..	..	..	..	.....
" 15 " 20 "	21	14	1	1	..	..	...	...	..	38.88	1	..	..	..	..	..	..	..	..	0
" 20 " 25 "	50	14	..	4	1	..	...	...	..	21.73	..	..	..	..	..	..	..	..	..	.....
" 25 " 30 "	21	14	..	..		..	...	...	..	40.	1	..	..	..	..	..	..	..	..	0
" 30 " 40 "	21	9	1	..	..	..	...	...	..	30.	..	1	..	..	..	..	..	..	..	100
" 40 " 50 "	4	3	..	..	..	..	...	...	..	42.71	2	1	..	..	..	..	..	..	..	33.33
" 50 " 60 "	...	...	..	..	..	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
" 60 " 70 "	1	...	..	..	..	..	...	...	..	0	..	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	1	...	..	..	..	..	...	...	..	0	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	206	107	5	6	3	..	242	102	..	.....	4	1	1	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
From 1 to 5 years	5	1	..	..	..	..	..	..	..	16.66	1	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	5	1	..	3	..	..	..	..	..	11,11	..	..	..	..	..	..	..	..	..	.....
" 10 " 15 "	8	1	..	1	..	..	..	..	..	10.	..	..	..	..	..	..	..	..	..	.....
" 15 " 20 "	12	2	..	5	..	..	..	..	..	10.52	1	..	..	.	..	..	..	..	..	.....
" 20 " 25 "	4	1	..	..	1	..	..	..	..	33.33	2	..	..	..	..	..	..	..	..	.....
" 25 " 30 "	6	2	..	1	..	..	..	..	..	15.30	..	..	..	..	..	..	..	..	..	.....
" 30 " 40 "	16	1	1	1	2	..	..	..	..	15.	..	..	..	..	..	..	..	..	..	.....
" 40 " 50 "	3	2	..	2	1	..	..	..	..	37.5	..	..	..	..	..	..	..	..	..	.....
" 50 " 60 "	2	1	..	1	..	..	..	..	..	25.	..	..	..	..	..	..	..	..	..	.....
" 60 " 70 "	1	1	..	1	1	..	..	..	..	50.	..	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	16	3	..	1	..	..	..	..	..	.....	8	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	..	..	..	..	..	..	..	..	.....

Thus considered the mortality is least from 10–15 years; next greater from 5–10 years; next, from 1–5 years; next, 20–25 years, next, 30–40 years; next, 50–60 years; next, 15–20 years; next, 25–30 years; next, 40–50 years; and greatest from 60–70 years. That there is no mortality in one case between the ages of 70–80 we consider accidental.

Conclusion.—That the most favorable age for the successful performance of this operation is from 5 to 15 years, and next less favorable from 1–5 years; that those operated upon between the ages of 25 to 30, and between 40–50 years, do not bear the excision well; that those aged from 15–20 years endure the operation badly, and those aged from 20–25 years do better than those of the last class. That those aged from 60–70 years present the least favorable results as to age.

In four of the cases of "extraction of bone," in which the age is given, no deaths are reported.

SUBJECT NO. 6.—"*Duration of disease or injury.*"

In the class of "*Gunshot excisions*" no conclusions are drawn on *this subject*, as nearly all the operations were performed within one month from the date the wound was received. This class is more nearly considered, as to duration of disease or injury, under the subject "period of operation," as primary, secondary, or intermediate excisions.

In the class of excisions for *injury* so few cases are stated as to *this subject* that it is useless to draw conclusions from these cases alone.

In the class of excisions for disease the following is the *résumé* in the order of mortality as related to the standing of the disease:—

	Deaths per 100.
From 6 to 9 months' standing	No
" 15 to 18 " "	No
Over 18 " "	7.69
From 9 to 12 " "	20.
" 1 to 3 " "	50.
" 3 to 6 " "	66.66

Conclusion.—From this review it is evident patients generally do best after the disease has been long continued, and that the least favorable period for the excision is when the affection has existed but from 3 to 6 months. We regard the fact that there were no deaths in those patients who had endured the disease from 6 to 9, and from 15 to 18 months, as accidental.

In four cases of "extraction," in which "the duration" is expressed, no deaths occurred.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
From 1 to 3 months	.....										...	...	..	..	..	..	..	..	..	.....
" 3 " 6 "	.....										...	...	..	..	..	..	..	..	..	.....
" 6 " 9 "	In this class of excisions										...	...	..	..	..	..	..	..	..	.....
" 9 " 12 "	no conclusions are drawn,										...	...	1	..	..	..	..	..	..	.....
" 12 " 15 "	as almost all the operations										1	...	..	..	..	..	..	..	..	0
" 15 " 18 "	were done within one month										...	...	..	..	..	..	..	..	..	.....
Over 18 months	from date of wound.										...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	.....										7	3	..	..	..	..	..	..	..	.....
Total for subject	.....										8	3	1	..	..	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
From 1 to 3 months	1	1	..	..	..	..	..	..	..	50.	1	...	..	..	..	..	..	..	..	0
" 3 " 6 "	1	2	..	..	..	..	..	..	..	66.66	2	...	..	..	..	..	..	..	..	0
" 6 " 9 "	2	..	..	1	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
" 9 " 12 "	4	1	..	..	..	..	..	..	..	20.	1	...	..	..	..	..	..	..	..	0
" 12 " 15 "	..	..	..	..	..	..	..	..	..	.....	...	...	..	..	..	..	..	..	..	.....
" 15 " 18 "	1	..	1	1	..	..	..	..	..	0	...	...	..	..	..	..	..	..	..	.....
Over 18 months	7	1	..	5	..	..	..	..	..	7.69	...	...	..	..	..	..	..	..	..	.....
Not stated as to subject	62	11	..	9	5	..	..	..	..	.....	8	...	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	...	..	..	..	..	..	..	..	.....

SUBJECT No. 7.—"*Month when performed,*" *or season.*

From a consideration of this sub-table the most favorable month for the performance of excision for gunshot wounds is January; next less favorable, December; next, November; next, September; next, October; next, July and August; next, March; next, May; next, February; and least favorable, June. Or the best results seem to have been secured in the fall and winter months, and the more unfavorable in the spring and summer seasons.

In the class of excisions for *injuries*, reference to the same table develops an absence of mortality in the operations done in December, August, and January; and that the mortality among those cases executed in July was 50 per 100, and those done in April 100 per 100. The results, here, are too varied to enable one to draw conclusions.

In the class of excisions *for disease* the same table reveals the order of mortality, as per month, as follows:—

	Deaths per 100.
February	No
March	No
May	No
August	No
November	No
June	7.69
December	20.00
October	25.00
July	28.33
January and September	33.33
April	37.5

These figures indicate that in this class, in the main, opposite conclusions should be drawn from those expressed on this subject as to gunshot excisions, and hence neither class can be relied upon alone in determining in which month it is best to perform this excision. One fact, however, is clear, viz., that April is an unfortunate month in which to perform this excision.

In considering the *three classes* simultaneously as to this subject, the following is the *résumé*:—

	Deaths per 100.
In January	10.
" February	33.33
" March	9.09
" April	46.11
" May	37.5
" June	35.59
" July	31.81
" August	25.92
" September	22.58
" October	25.71
" November	17.64
" December	13.33

From this review, it may be seen that the month of April is least favorable to this excision, and that May, June, July, and August are less unfavorable, and in the order stated, as to the per cent. The most favorable months for the execution of the excision are March, January, December, November, September; increasing unfavorably in the order stated. Again, if we consider together the mortality shown in the months of January, February, March, September, October, November, and December as one class, and that of April, May, June, July, and August as the other class, we find that the sum of mortality in the cool or cold months

is to the sum of mortality of the warm or hot months as 19 to 35, or the mortality is greater by 16 per cent. in the warm or hot months, or nearly double.

Among the class of "extraction" there were no deaths.

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
January	6	..	..	..	..	..	..	..	..	0	1	..	..	..	..	..	..	..	..	0
February	6	4	..	..	..	..	..	..	..	40.	..	..	..	..	..	..	..	..	..	.....
March	2	1	..	..	..	..	..	..	..	33.33	..	..	..	..	..	..	..	..	..	.....
April	9	8	1	..	..	..	..	..	..	41.17	..	1	..	..	..	..	..	..	..	100
May	31	20	..	1	1	..	..	..	..	39.43	..	..	..	..	..	..	..	..	..	.....
June	22	19	..	3	1	..	..	..	..	44.44	..	..	..	..	..	..	..	..	..	.....
July	23	10	2	1	1	..	..	..	..	31.42	1	1	..	..	..	..	..	..	..	50
August	13	7	..	2	..	..	..	..	..	31.81	1	..	..	..	..	..	..	..	..	0
September	20	6	..	2	..	..	..	..	..	21.67	..	..	..	..	..	..	..	..	..	.....
October	20	7	1	..	..	..	..	..	..	25.88	..	..	..	..	..	..	..	..	..	.....
November	11	3	..	1	..	..	..	..	..	20.	..	..	..	..	..	..	..	..	..	.....
December	7	1	1	..	..	..	..	..	..	12.5	1	..	..	..	..	..	..	..	..	.....
Not stated as to subject	159	75	2	1	1	..	242	10[2]	..	.....	4	1	1	..	..	..	..	..	..	0
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
January	2	1	..	..	..	..	..	..	..	33.33	..	..	..	..	..	..	..	..	..	.....
February	1	..	..	1	..	..	..	..	..	0	1	..	..	..	..	..	..	..	..	.....
March	7	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
April	5	3	..	..	..	..	..	..	..	37.5	..	..	..	..	..	..	..	..	..	.....
May	3	..	..	..	..	..	..	..	..	0	1	..	..	..	..	..	..	..	..	.....
June	9	..	..	4	1	..	..	..	..	7.69	1	..	..	..	..	..	..	..	..	.....
July	3	1	..	2	1	..	..	..	..	28.33	1	..	..	..	..	..	..	..	..	.....
August	4	..	..	..	..	..	..	..	..	0	1	..	..	..	..	..	..	..	..	.....
September	1	1	..	1	..	..	..	..	..	33.33	..	..	..	..	..	..	..	..	..	.....
October	4	2	..	2	..	..	..	..	..	25.	..	..	..	..	..	..	..	..	..	.....
November	1	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
December	4	..	..	..	1	..	..	..	..	20.	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	34	8	1	4	2	..	..	..	..	.....	7	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	..	..	..	..	..	..	..	..	.....

SUBJECT No. 8.—"*Period of Operation.*"

In the class of excisions for gunshot wounds, the "primary" operations show a mortality rate of 25.35 per 100, and the secondary excisions in this class a mortality of 38.28 per 100, and the intermediate a mortality of 50 per 100.

In the class of injuries, the mortality of the primary operations is 40 per 100, and in the secondary excisions no mortality is shown. All the operations done for *disease* were secondary, and the mortality is equal to 17.85 per 100.

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Primary	139	54	3	5	1	..	122	35	..	25.35	3	2	..	..	..	..	..	..	..	40.
Secondary	165	96	3	6	3	..	103	58	..	38.28	4	..	1	..	..	..	..	..	..	0
Intermediate	1	1	..	..	..	..	..	..	..	50.	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	24	10	1	..	..	..	17	9	..	.....	1	1	..	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	.....
	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Primary	..	..	..	..	..	..	..	..	..	.. ...	3	..	..	..	..	..	..	..	..	.....
Secondary	78	16	1	13	5	..	..	..	..	17.85	8	..	..	..	..	..	..	..	..	.....
Intermediate	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	3	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	..	..	..	..	..	..	..	..	.....

In considering the *two classes* together as to this subject, in *gunshot excisions* and excisions *for injury*, the mortality rate equals 25.45 per 100 for the primary cases; while in the *three classes* the death-rate of the secondary cases is 32.66 per 100, and the mortality in the intermediate operations is 50 per 100.

Conclusion.—That primary operations are to be preferred in injuries and gunshot wounds, that secondary excisions for disease are attended with less mortality than *primary* excisions for injuries or gunshot wounds, and likewise with less mortality than *secondary* excisions for injuries and for gunshot wounds, and that intermediate excisions for gunshot wounds are attended with the greatest mortality.

In the class of "extraction" in three primary and eight secondary cases there is no mortality expressed.

SUBJECT No. 9.—*Of the Nature of the Causes rendering the operation necessary.*

It is evident that all the cases in the class of excisions for "gunshot wounds" and "for injuries" are of a traumatic nature; as such cases cannot belong to the non-traumatic class, we can only state that the mortality for both of these forms of excisions equals 31.39 per 100.

In the class of excisions for disease the mortality of the "traumatic" cases is 15.88 per 100; for the "non-traumatic" cases, 22.22 per 100; and for the "malignant" cases, 33.33 per 100.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Traumatic	329	161	7	11	4	..	242	102	..	31.44	8	3	1	..	..	..	..	..	..	27.27
Non-traumatic	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Malignant	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Traumatic	16	2	..	..	1	..	..	..	..	15.88	11	..	..	..	..	..	..	..	..	0
Non-traumatic	5	2	..	2	..	..	..	..	..	22.22	1	..	..	..	..	..	..	..	..	0
Malignant	9	4	..	1	1	..	..	..	..	33.33	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	48	8	1	13	3	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	..	..	..	..	..	..	..	..	.....

Conclusion.—That the greater mortality shown in the class of excisions for *disease* in the "non-traumatic" cases does not necessarily imply a distinct form of idiopathic disease of this joint which is more fatal than the "traumatic" form, depending, as is alleged, upon a peculiar state of constitution styled scrofulous, and being peculiar in its local inflammatory manifestations, but is simply to be regarded as an evidence that a bad state of the general system from any cause increases the mortality of a local disease.

It is not impossible that many of the "non-traumatic" examples recorded would be found, on closer inspection, to belong to the "traumatic" class, many of these joint diseases having their origin in slight and scarcely appreciable injuries of the articulation affected.

SUBJECT No. 10.—"*Of Incisions as related to Mortality.*"

In estimating this subject, the *three classes* will be considered unitedly only. Thus viewed, the mortality attending the several forms of incisions is as follows:—

	Deaths per 100.
"Single longitudinal"	25.18
T shaped incision	26.31
Γ " "	0
U " "	29.26
V " "	29.41
L " "	27.27
) " "	100.00
⅂ " "	0
LJ " "	0
⌐⌐ " "	20.00
E " "	0

Conclusion.—That the T shaped incision should be attended with a mortality of 26.31 per cent., and the Γ shaped incision with no deaths, and the ⌐⌐ shaped incision with a mortality of 20 per cent., and the LJ and the E shaped incisions with no mortality, and the U incision with a mortality of 29.26 per cent., the similar LJ (with the corners off) incision with no mortality, and the unlike U and V incisions with an equal mortality, and the simple longitudinal incision with nearly as great a mortality as the other forms of incision generally, denotes that the form of incision has but little influence upon the mortality attending this operation.

In two of the cases of "extraction" the form of incision is stated, but death did not take place in either case.

This subject may be considered in relation to the degree of usefulness obtained. The form of incisions as related to usefulness of "the member" may be expressed as follows, in 162 cases in which the "usefulness" is stated.

	Per cent.		Per cent.		Per cent.	
Longitudinal,	8.02	"perfect";	45.67	"useful";	1.23	"worthless."
T shaped,	.61	"	10.49	"	0	"
U "	1.23	"	11.11	"	0	"
V "	1.85	"	6.17	"	0.61	"
L "	1.23	"	1.85	"	0.61	"
⅂ "	0	"	1.23	"	0	"
Γ "	0	"	3.08	"	0	"
LJ "	0	"	1.85	"	0	"
⌐⌐ "	0	"	1.85	"	0	"
E "	0	"	.61	"	0	"

Conclusion.—It will thus be seen that by far the best relative success as to usefulness attended the longitudinal incisions of this joint. It is also true that most operators prefer this form of cut. It may, too, be fairly selected on anatomical grounds, though it may not be quite so convenient as some other forms of incision.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Single longitudinal	66	27	4	4	..	..	..	..	..	27.83	2	1	..	..	..	..	..	..	..	33.33
T shaped incision	23	6	..	1	1	..	..	..	..	22.58	..	..	..	..	..	..	..	..	..	.....
⊤ " "	4	...	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
U " "	16	10	..	1	1	..	..	..	..	39.28	1	..	..	..	..	..	..	..	..	0
V " "	6	4	..	1	..	..	..	..	..	36.36	1	..	..	..	..	..	..	..	..	0
< " "	5	1	..	..	..	..	..	..	..	16.66	1	..	..	..	..	..	..	..	..	0
) " "	...	1	..	..	..	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
⊤ " "	1	...	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
None made	...	...	..	..	..	..	..	..	..	.....	2	..	..	..	..	..	..	..	..	0
⊔ shaped incision	...	...	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	0
⊓ " "	...	...	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
⊏ " "	...	...	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	208	112	3	4	2	..	242	102	..	.....	..	2	1	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Single longitudinal	24	6	1	5	..	..	..	..	..	17.14	2	..	..	..	..	..	..	..	..	.....
T shaped incision	4	3	..	..	..	..	..	..	..	42.83	..	..	..	..	..	..	..	..	..	.....
⊤ " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
U " "	8	1	..	3	..	..	..	..	..	8.33	..	..	..	..	..	..	..	..	..	.....
V " "	2	1	..	2	..	..	..	..	..	20.	..	..	..	..	..	..	..	..	..	.....
< " "	2	1	..	..	1	..	..	..	..	50.	..	..	..	..	..	..	..	..	..	.....
) " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
⊤ " "	3	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
None made	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
⊔ shaped incision	5	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
⊓ " "	3	1	..	1	..	..	..	..	..	20.	..	..	..	..	..	..	..	..	..	.....
⊏ " "	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	27	3	..	4	4	..	..	..	..	.....	10	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	..	..	..	.....	12	..	..	..	..	..	..	..	..	.....

SUBJECT No. 11.—*Extent of bone removed as related to the mortality.*

Among the class of excisions for *gunshot wounds* the mortality of *partial excisions* is 32.85 per 100; while that of the complete excisions is 26.66 per 100. The mortality of partial excisions for *injuries* is 27.27 per 100.

In the class of *excisions* for *disease* the mortality of partial excisions is 17.02 per 100, and for complete excisions it is 25.00 per 100.

For the *three classes* considered together the mortality of the "partial" excisions is 30.25 per 100, and for the "complete" excisions, 25.00 per 100.

But this subject may be more exactly estimated, as to mortality, by considering the relation of the mortality to the extent of bone absolutely removed. In this effort we estimate the humerus at 12 (inches) and its head at 1½ (inches) in length, which, however, is only approximative. Thus considered we find, that, when the following portions of bone were excised, the mortality was as stated below:—

	Deaths per 100.
Portion of head of humerus	16.16
" "	28.43
Head and splinters of scapula	20.00
" " more or less of upper ¼ humerus	28.94
" " " " " " " and portion scapula	25.00
" " " " " ½ "	36.69
" " " " " " " and portion scapula	16.16
" " over half of the humerus	9.09
Entire humerus	0.00
" scapula	42.85
" " and head of humerus	60.00

Conclusion.—That excisions involving only a portion of the head of the humerus are not so fatal as those necessitating the removal of the entire head. That when the head and limited portions of the scapula are excised, the mortality is less than when the head alone is excised; that the mortality is no greater in the removal of more or less of the upper fourth of the humerus than of the head alone, and is even less when the upper fourth is removed (more or less of it) with a portion of the scapula. That the mortality is greater when more or less of the upper half of the humerus is removed, but when this extent of humerus is excised, and at the same time a portion of the scapula, the fatality of the operation diminishes, to that found when a portion of the head of the humerus alone is removed; that when more or less, but over half, of the humerus was excised, the mortality diminished still more; and when the entire humerus was excised, the table develops the fact that no deaths occurred; that when the "entire scapula" was removed, the mortality greatly increased over that shown in the other classes; and that when this bone was removed with the head of the humerus, the mortality reached its acme, 60 per cent.

It is evident here that the vital point is a line falling through the shoulder-joint, and, as these excisions extend outward along the humerus, that the mortality does not increase relatively with the extent of its structure excised; but on the other side of this line the mortality increases, not so much from the amount of bone

removed as from the excision approximating the central line of the body, according to a well-recognized law. It is further shown that complete excisions are almost invariably attended with less mortality than the partial. This may arise from, in the former class, the fact that the integrity of the joint is destroyed on both sides, and hence the excision loses those dangers present to a certain extent in the partial excisions, and intimately associated with an inflamed articulation.

The extent of bone removed may be considered as to the *usefulness of member* resulting from the operation. Thus viewed, in 231 cases in which the usefulness is expressed we find, that, when the following portions of bones were removed, the usefulness may be thus expressed:—

	Per cent.	
Portion of head of humerus	100.00	"useful."
Head of humerus	96.78	"
" "	3.22	"worthless."
" " and portion scapula . . .	100.00	"useful."
" and more or less upper ¼ humerus . . .	98.49	"
" " " " " " " . . .	1.51	"worthless."
" " " " " " " portion scapula	94.45	"useful."
" " " " " " " " "	5.55	"worthless."
" " " " " " " . . .	93.88	"useful."
" " " " " " " . . .	6.12	"worthless."
" " " " " " " portion scapula	100.00	"useful."
" and over half of humerus	80.00	"
" " " " "	20.00	"worthless."
Entire humerus	100.00	"useful."
" scapula	100.00	"
" " and head of humerus . . .	100.00	"

Conclusion.—That 100 per cent. of the patients should gain "*useful*" limbs when but a portion of the head was removed, or when the head of the humerus and a portion of the scapula, or when the head and more or less of the upper *half* of the humerus and a portion of the scapula, or the entire scapula, or the entire scapula and head of the humerus was removed, is convincing proof that the usefulness of the member is not proportional to the extent of bone removed, for while the extent varies widely, the "usefulness" is uniformly equal.

Again, it will be seen, that, while in the limited excisions (removal of head humerus) the proportion of worthless limbs is 3.22 per cent., the "worthless" members reach but 1.51 per cent. when much more extensive excisions are executed, as the removal of

more or less of the upper fourth of the humerus; here again the law relating to the extent of bone removed does not indicate the degree of resulting usefulness.

Again, when more or less of the upper fourth of the humerus and a portion of the scapula were removed, the worthless members equalled 5.55 per cent., while, when the upper half of (more or less of) the humerus was removed, the *worthless* limbs are equal to 6.12 per cent.; but when over half of the humerus was removed, the worthless extremities represented 20 per cent. of the cases. These per cents. might be relied on, perhaps, were it not for the fact that when the entire humerus was removed all the cases gained useful members.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
Partial excisions	329	161	7	..	..	..	...	...	..	32.85	8	3	1	..	..	..	..	..	..	27.27
Complete excisions	...	...	..	11	4	..	...	...	..	26.66	..	..	..	..	..	..	..	..	..	.....
Extent not stated	...	...	..	..	..	..	242	102	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	329	161	7	11	4	..	242	102	..	.....	8	3	1	..	..	..	..	..	..	.....

	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Partial excisions	78	16	1	..	..	..	...	...	..	17.02	12	..	..	..	..	..	..	..	..	.....
Complete excisions	...	...	..	16	5	..	...	...	..	25.	..	..	..	..	..	..	..	..	..	.....
Extent not stated	...	...	..	..	..	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	78	16	1	16	5	..	...	...	..	.....	12	..	..	..	..	..	..	..	..	.....

It is probably true, that, the extent of humerus excised remaining the same, the usefulness is increased when a portion of the scapula is also removed, or when *complete* excisions are executed in preference to the *partial*.

In ten of the cases of simple "extraction," all gained more or less useful members. The extent of the fragments extracted, of course, varied in these cases.

SUBJECT No. 12.—*Of the mortality.*

In the class of excisions for gunshot wounds, in 74 cases in which the cause of death is stated, 51.35 per 100 died from the injury, 20.27 per 100 from the *operation*, and 28.51 per 100 from other diseases, while the total mortality for this class is 35.68 per 100.

In the division of excisions for *injuries*, in 3 cases in which the cause of death is stated, all died from the injury, and the general mortality is 27.27 per 100.

In the category of excisions for disease, in sixteen cases in which the cause of death is expressed, 50 per 100 died of the disease, 31.25 per 100 of the *operation*, 18.75 per 100 of other diseases, and the total mortality for the class (cause expressed or omitted) is 18.26 per 100.

If we consider the *three* classes as one, in 93 cases in which the cause of death is given, 53.75 per 100 died of the *injury* or disease, 21.50 per 100 of the operation, 25.80 per 100 of "other diseases," and the mortality rate for the joint (the cause of death *stated* or not expressed) is equal to 29.84 per 100 cases.

Conclusion.—That, so far as the cause is expressed in these tables, the mortality strictly referable to this excision is but 21.50 per cent. That the general mortality from all causes is 29.84 per 100 cases. This is less than the mortality shown from amputation at the shoulder-joint. The tables of Dr. Stephen Smith show a mortality rate of nearly 50 per cent., when performed for general causes and in hospital practice, and when executed for gunshot wounds, the statistics of Dr. S. W. Gross develop a mortality of 45.43 per 100 cases. (See Gross's Surgery, last ed., vol. ii. p. 1113.) Thus, it is evident that the mortality is less in excisions than in amputation of this articulation.

It should be stated that no deaths occurred from the simple extraction of bone in the twelve cases.

The average period in which death resulted in 81 cases (1497 days) for the class of gunshot excisions is $18\frac{3}{8}\frac{2}{1}$ days; and in 20 cases (1463 days) in the class of excisions for *disease* is $73\frac{3}{2}\frac{}{0}$ days; and for the three *classes* of excisions this period is $29\frac{1}{1}\frac{3}{0}\frac{}{2}$ days.

It is therefore clear that death takes place sooner in the excisions for gunshot wounds than in those for disease, and that the general average period for the joint, in which death occurred, is not a long one.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Died of the disease or injury..	...	37	..	..	1	..	...	...	..	51.35	..	3	..	..	..	..	..	..	..	100
" " " operation	...	14	..	..	1	..	...	...	..	20.27	..	..	..	..	..	..	..	..	..	.....
" " other diseases.....	...	21	..	..	..	..	...	...	..	28.51	..	..	..	..	..	..	..	..	..	.....
Cause of death not stated	...	89	..	..	2	..	...	102	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	...	161	..	..	4	..	...	102	..	.....	..	3	..	..	..	..	..	..	..	.....
Sum of days in which patients died.....	1497 days, in 81 cases.										11 days, in 1 case.									
Average number days dying ..	$18\frac{3}{8}\frac{9}{1}$										None.									
Total for the joint, recovered and died	229	161	7	11	4	..	242	102	..	35.64	8	3	1	..	..	..	..	..	..	27.27

	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Died of the disease or injury..	...	6	..	..	2	..	...	...	..	50.	..	..	..	..	..	..	..	..	..	.....
" " " operation.....	...	5	..	..	..	..	..	...	..	31.25	..	..	..	..	..	..	..	..	..	.....
" " other diseases	...	...	..	..	3	..	...	...	..	18.75	..	..	..	..	..	..	..	..	..	.....
Cause of death not stated	...	5	..	..	..	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	...	16	..	..	5	..	...	...	..	.....	..	..	..	..	..	..	..	..	..	.....
Sum of days in which patients died.....	1463 days, in 20 cases.										None.									
Average number days dying ..	$73\frac{3}{2}\frac{3}{0}$										None.									
Total for the joint, recovered and died	78	16	1	16	5	..	...	...	..	18.26	..	..	..	..	12	..	..	..	..	0

SUBJECT No. 13.—*Of Recovery.*

This has mainly been considered under the last subject. The recoveries from gunshot excisions equal 68.56 per 100; from excisions for *injury*, 72.73 per 100; from excisions for *disease*, 81.74 per 100; and for the *three classes* considered together, 70.16 per 100.

The average period of recovery in 60 gunshot excisions (in 8788 days) is $146\frac{7}{6}\frac{8}{0}$ days; for the class of excisions for disease, in 39 cases (4735 days), $121\frac{1}{3}\frac{6}{9}$ days; for extraction of bone simply, in 4 cases (in 1125 days), $281\frac{1}{4}$ days; and for the first two named classes, $136\frac{5}{9}\frac{9}{9}$ days.

Conclusion.—That the general per cent. of recoveries from excisions of this articulation warrants the performance of the operation; that the average period of recovery from *excisions* for *disease* is of shorter duration than those for gunshot wounds, and that this period is more protracted than all when simple "extraction" is practised.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Recovered per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Recovered per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Recovered and died	329	161	7	11	4	..	242	102	..	68.56	8	3	1	..	..	..	..	..	..	72.73
Total for the subject	329	161	7	11	4	..	242	102	..	68.56	8	3	1	..	..	..	..	..	..	72.73
Sum of days patients recovering, in cases	8788 days, in 60 cases.										Not stated.									
Average number days recovering	$146\frac{28}{60}$										Not stated.									
Total cases for joint	856										12									
	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Recovered and died	78	16	1	16	5	..	...	...	..	81.74	12	..	..	..	..	..	..	..	..	100.
Total for the subject	78	16	1	16	5	..	...	...	..	81.74	12	..	..	..	..	..	..	..	..	100.
Sum of days patients recovering, in cases	4735 days, in 39 cases.										1125 days, in 4 cases.									
Average number days recovering	$121\frac{16}{39}$										$281\frac{1}{4}$									
Total cases for joint	116										12									

SUBJECT No. 14.—"*Usefulness of member.*"

In the class of gunshot excisions 2.74 per cent. gained "perfect" limbs, 22.23 per cent. "useful" members, and in 1.03 per cent. the extremities were "worthless." (1 case suffered amputation of the member.)

In the class of injuries, 12.5 per cent. of the patients secured "perfect" results, 62.5 per cent. "useful" members, and in 12.5 per

cent. the limbs were worthless. In the class of excisions for disease, in 9.47 per cent. the results were "perfect," in 70.52 per cent. "useful," and in 4.15 per cent. "worthless." Among the "worthless" are included two amputations, one recovered, and one died, one performed for disease, and the other for the effects of gunshot injury.

In the class of excisions for gunshot wounds, in 74 per cent. the "usefulness" is not stated. This defect diminishes the expression of usefulness for this class. This may be corrected by observing that about 1 in 4 cases of this class were worthless, or 25 per cent., or a usefulness of 75 per cent. This is probably an overestimate, but is much nearer correct than that shown by the table for this class.

In the class of extraction 75 per cent. of the patients gained useful members, and in 25 per cent. the limbs were worthless.

Conclusion.—That it is probable a greater number secure useful limbs in excisions for "disease" and "injury" than in those done for gunshot wounds of this joint, and that the resulting usefulness from the operation for all classes of this excision dictates the execution of the operation in all properly selected cases, and that the usefulness from "extraction" is possibly somewhat greater than that resulting from excisions for gunshot lesions, and about equal to the results obtained in excisions in injuries, but is not so favorable as the usefulness ensuing from excisions for disease.

The average shortening of the members in the class of excision for gunshot wounds is in 9 cases (22½ inches) about 2½ inches, while in the class of excisions for "disease" in 4 four cases (5½ inches) it is $1\frac{5}{16}$ inches, and for the two classes it is $2\frac{2}{13}$ inches.

The relation of the shortening of the limb to the bone removed may be seen by reference to the following *résumé*:—

Bone removed.	Shortening.	
3.93 inches humerus	3 inches.	
4.71 " "	1.17 "	sub-periosteal.
Upper ⅓ humerus	4.75 "	
5 inches "	3.75 "	
2 " "	2. "	
3.93 " "	.75 "	"
Upper ⅓ humerus	4.30 "	
2.33 inches "	.33 "	"
6.25 " "	2.33 "	
Head of "	"Great."	

The above are excisions for gunshot wounds.

In the class excisions for disease, the following is the result:—

Bone removed.	Shortening.
4 inches humerus	½ inch, sub-periosteal.
2½ " "	1½ inches.
Head of "	2½ "
" " "	1 inch.

It will thus be seen that if we do not consider the sub-periosteal excisions, there is a certain degree of shortening which is related to the extent of bone excised, but that in the sub-periosteal excisions this law does not hold good, the shortening being comparatively vastly less in the latter.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Usefulness, "Perfect"	16	*	..	..	..	..	...	..	..	2.74	1	..	..	..	..	..	..	..	..	12.5
Simply "Useful"	123	..	..	7	..	..	...	..	..	22 33	5	..	..	..	..	..	..	..	..	62.5
Worthless { Not useful	5	..	..	..	..	..	...	..	..	} 1.03	1	..	..	..	..	..	..	..	..	12.5
Worthless { Amputated	1	..	..	..	..	..	...	..	..	}	..	..	..	..	..	..	..	..	..	.....
Usefulness not stated	184	..	..	4	..	..	242	..	..	74.	1	..	..	..	..	..	..	..	..	12.5
Total for subject	329	..	..	11	..	..	242	..	..	100.00	8	..	..	..	..	..	..	..	..	100.00
Shortening of member	In 9 cases 22½ inches.										Not stated.									
Average number of months last heard from	In 151 cases 3872 mos. or $24\frac{148}{151}$										In 2 cases 93 mos., or 146½ mos.									
	EXCISION FOR DISEASE.										EXTRACTION OF FRAGMENTS OF BONE.									
Usefulness, "Perfect"	7	..	..	2	..	..	..	...	..	9.47	..	..	..	..	..	..	..	..	..	.....
Simply "Useful"	56	..	..	11	..	..	..	...	..	70.52	9	..	..	..	..	..	..	..	..	75.
Worthless { Not useful	2	..	..	1	..	..	..	...	..	3.15	3	..	..	..	..	..	..	..	..	25.
Worthless { Amputated	...	1	..	..	..	..	..	...	..	1.05	..	..	..	..	..	..	..	..	..	.....
Usefulness not stated	13	..	..	2	..	..	..	...	..	15.81	..	..	..	..	..	..	..	..	..	.....
Total for subject	78	1	..	16	..	..	..	...	..	100.00	12	..	..	..	..	..	..	..	..	100.00
Shortening of member	In 4 cases 5½ inches.										Not stated.									
Average number of months last heard from	In 59 cases 1731 mos., or $29\frac{2}{59}$										In 5 cases 39½ mos., or $7\frac{9}{10}$									

The average number of months in which the patients were heard from after the date of the operation, in the *three classes*, is in 210

cases (5585 months, *sum*) 26$\frac{2}{1}$ months; an average period sufficiently extended to establish generally the permanency of the results of excision of this joint.

REMARKS.—See column of "Remarks," tables of excisions for gunshot wounds, and of excisions for "Disease and Injuries."

REMARKS IN GENERAL.

Gunshot Excisions.

Case 18. When not in use the member hangs its full length, and when drawn up the shortening of the arm is 3 inches.

Case 19. This patient died after his return from the war with Algiers.

Case 22. Dr. McCook was assisted in this operation by the late Dr. Robert Thompson, of Columbus, Ohio.

Case 23. This patient took cold from getting wet at night.

Case 26. In 1840 a very fine false joint had formed in this case.

Case 41. In this case the supra and infra spinatus and teres minor became completely atrophied. The deltoid was sound, but weaker than its fellow, and shoulder was flat.

Case 51. In this case a callus was forming about the joint, at six months.

Case 69. Specimen of bone excised in this case forwarded to Mr. Guthrie by "Deputy Inspector" Macgregor.

Case 247. The death in this case caused by two other severe wounds.

Case 248. This operation performed by a doctor of a New York regiment of sharp shooters.

Case 431. This patient suffered from a series of fractures of the humerus, from slight causes, and always at different points of the humerus, during the treatment.

TABLE OF EXCISIONS FOR DISEASE AND INJURIES.

Case 1. In this case the head removed was replaced by a newly formed head.

Case 2. Velpeau says this operation was executed by Camper as well as Ridewald.

Case 15 and 16. These patients died months afterwards of disease unconnected with the operation.

Case 19. Died three years after operation of fungus hæmatodes of the right thigh.

Case 20. Died one year after operation of pulmonary inflammation.

Case 21. Sir Benj. Brodie's opinion stated—that all disease of joints begins in synovial membrane, cartilage, or bone.

Case 22. Patient died of thoracic disease in Dec. 1832.

Case 29. Patient died of phthisis one year after operation.

Case 92. A sub-periosteal excision by Ollier, in which the bone was reproduced.

Case 93. Died of cancerous tumour of mediastinum in September, 1865.

Case 96. Patient subsequently died (after recovering) from a recurrence of the disease.

Case 104. Died of a recurrence of the cancer in the shoulder.

Case 127. In future Mr. Spence would leave, in excisions of the scapula, the outer end of the clavicle, to prevent the upward motion of the head of the humerus.

REMARKS AS TO TREATMENT.

Gunshot Excisions.

Case 20. Charles Bell decries the use of the U-shaped incision, in this excision, as the insertion of the deltoid is divided. He advises the longitudinal incision through the deltoid. The subject in this case lost two pounds of blood during the operation.

Case 40. In 1850, the ball was cut out from beneath the scapula in this case. In this operation the tendon of the biceps was preserved.

Case 47. The axillary and subclavian arteries were ligated in this case.

Case 100. At this case find the remark of L. Legouste, as follows: "When the fracture ends so far upon the diaphysis as to compel the sawing off of the humerus below the insertions of the romboideus major, the latissimus dorsi, and pectoralis major, he would prefer amputation to excision." (See *Traite de Chirurgie D'Armeé*, p. 746.)

Case 109 to 134. At this case is quoted Prof. Langenbeck's remark—that of 43 cases of gunshot wounds of this joint, treated conservatively during the late Franco-Prussian war, 29 died, or over 67 per cent.

Case 224. The recovery in this case retarded by an attack of erysipelas, and the bad air and surroundings about the patient.

Case 237. There must have been some injury of the large nerves in this case.

Case 285. The attachments of the tendons of the pectoralis major and long biceps preserved in this case.

Case 347. The operator advises, in this excision, to preserve the long tendon of the biceps and the periosteum, and also the use of the chain-saw. He would not project the head of the bone and saw it off with a common saw as this is more liable to injure muscular attachments. (See *Am. Journ. Med. Sci.*, April, 1865, p. 304.)

Case 402. Limb amputated for secondary hemorrhage after ligation of axillary artery. Recovered.

Case 405. Dr. C. A. Rice, Dallas, Texas, recommends the longitudinal incisions, to avoid the division of the long tendon of the biceps, and to cut off, not tear, the insertions of the tendons.

Case 409. Electricity not used in this case.

Case 411. Electricity used after seven months. Passive and voluntary motion of member early instituted.

Case 416. Electricity and active and passive motion used in this case.

Case 429. As far as possible this was a sub-periosteal excision of the shoulder and elbow, simultaneously done.

Case 441. Dr. Fischer here states that M. Sédillot *now* advocates this excision, and states that bandages to support the elbow are of little value. (Prof. Langenbeck thinks they do harm after the early stages of the case); and further adds, that fractures of the head and surgical neck of the humerus form the basis of indication for this operation.

Case 446. Electricity and active motion employed in this case.

Case 856. Here it is stated by Prof. Langenbeck, "That of the 44 excisions of this joint for gunshot wounds during the Franco-Prussian War, 2 gave good results, and 31 had the loose dangling member, and that in most cases all active motions of the shoulder were wanting, while the elbow and hand were useful." On the other hand, he adds, "That of 51 cases of gunshot wounds of the shoulder-joint, 43 treated conservatively, and 8 secondarily

resected, the patients and physicians thought that the conservative treatment gave the best results." He also refers to the opinions of Mossakowski, Berthold, and Seggel, who entertain the same view. (See *Arch. für Klin. Chirg.*, B. 16, 4, 2, S. 305, Langenbeck.)

POST-MORTEM EXAMINATIONS.

Gunshot Wounds.

Case 201. The wound of operation healed in this case, but that of the thorax became unhealthy.

Case 303. Specimen in this case shows two fissures below the line of the excision and necrosis of the upper end of the lower half of the humerus for two inches; some callus; two sequestra; limb amputated for secondary hemorrhage. Patient died two days after amputation.

Case 415. Patient was drowned in 1871. The dissection disclosed a fibrous band 1.57 inch long, about 2 inches wide, and 4 to 5 millimetres thick, attached above to the glenoid cavity, and near to this on the anterior border of the scapula, and below to the end of the humerus. The insertions of the infra and supra spinatus, the teres minor, and the long head of the biceps were into this band. The triceps was united to the band at the upper end of the stump. The insertion of the deltoid normal. The tendon of the pectoralis major inserted into the fibrous mass. All the muscles well developed, and but partly degenerated into fat; scarcely any bone formation.

Case 48. Autopsy showed a new joint and capsule formed, also slight caries of glenoid cavity. At one year patient died of phthisis and lumbar abscess.

Case 66. Specimen showed that a small head, covered with hayline cartilage, had been formed at the upper end of the resected humerus and at the glenoid fossa, and that a synovial capsule had been reformed about the joint.

Case 124. New bone thrown out about the dead bone. Had a useful joint when taken with variola, of which he died.

SYNOPTIC TABLE OF EXCISIONS OF THE SHOULDER-JOINT.

Nature of operation.	No. cases.
Excisions for Gunshot wounds	856
" " Injuries	12
" " Disease	116
Total for joint	984
Extraction of bone simply	12

ANATOMY.

The following illustrations, it is thought, will render unnecessary a lengthy anatomical description, and enable the operator to refresh his memory as to excision of the shoulder-joint.

OPERATION.

The patient having been placed upon the back, anæsthetized, the Esmarch bandage applied, and the subclavian artery compressed, an incision is made parallel to the anterior border of the

deltoid, beginning midway between the acromion and the coracoid process and half an inch below the clavicle, and extending downwards from three to five inches. This cut should divide the skin and superficial fascia. The bicipital groove having been found, the long tendon of the biceps is dissected out and held aside. The tendons of the supra and infra spinati, the teres minor, and the subscapularis muscles should then be divided with a strong, blunt-pointed, straight bistoury. This step may be facilitated by rotation of the humerus. If the disease is very extensive, it may be necessary to cut the insertions of the pectoralis major and latissimus dorsi muscles. The capsular ligament is then divided, and the periosteum carefully separated from the extremity of the bone as far only as diseased; a chain-saw is then passed, the bone divided, and the diseased extremity seized with the forceps and removed; all spicula should be taken away. The condition of the glenoid cavity should be carefully examined, and, if diseased, the affected portion gouged out.

White made an incision through the middle of the deltoid, beginning at the point of the acromion. Baudens added to this a lateral subcutaneous division of the deltoid above and in front. Moreau preferred an incision in front and behind the deltoid, and united these by a transverse cut below the acromion. Manne made the incisions of Moreau, but united them at their inferior extremity. Sabatier made a V-shaped flap in the substance of the deltoid, with the base above. Bent made a T-shaped incision through the deltoid. Morel made a semilunar flap, with the convexity downwards upon the anterior face of the shoulder. Syme made a perpendicular incision through the middle of the deltoid, from the point of the acromion nearly to the insertion of that muscle, and another shorter one upward and backward from the lower extremity of the former, so as to divide the external part of the muscle. Malgaigne recommends Lisfranc's lateral and posterior flap as in amputation at this joint. Nélaton began the incision half an inch within and below the acromio-clavicular articulation, followed the anterior curve of the acromio-clavicular border, and terminated it behind at the angle formed by the acromion with the spine of the scapula. Stromeyer made a semicircular incision, commencing at the posterior margin of the acromion and passing downwards and forwards five inches, opened the articulation above and behind to avoid the tendon of the biceps. Blackman made the triangular flap. Erichsen recommends the U-shaped incision,

EXPLANATION OF PLATE X.

SCAPULO-HUMERAL REGION.

A. Section of the skin bounding the region.

B. Section of the superficial fascia and of the subcutaneous cellular tissue.

C. Aponeurosis of the deltoid.

D. Fibres of the deltoid muscle.

D′. Section of the muscular fibres of the deltoid.

E. Tendon of insertion of the infra-spinatus and of the teres minor muscles.

F. Aponeurosis beneath the deltoid separating the deltoid from the infra-spinatus and teres minor muscles.

G. Coracoid process where are seen the insertions of the coraco-acromial and coraco-humeral ligaments.

H. Coraco-humeral ligament.

I. The head of the humerus seen through an opening in the capsular ligament of the shoulder-joint.

J. Capsular ligament of the shoulder-joint.

K. Serous bursa beneath the deltoid opening and extending beneath the acromio-coracoid arch.

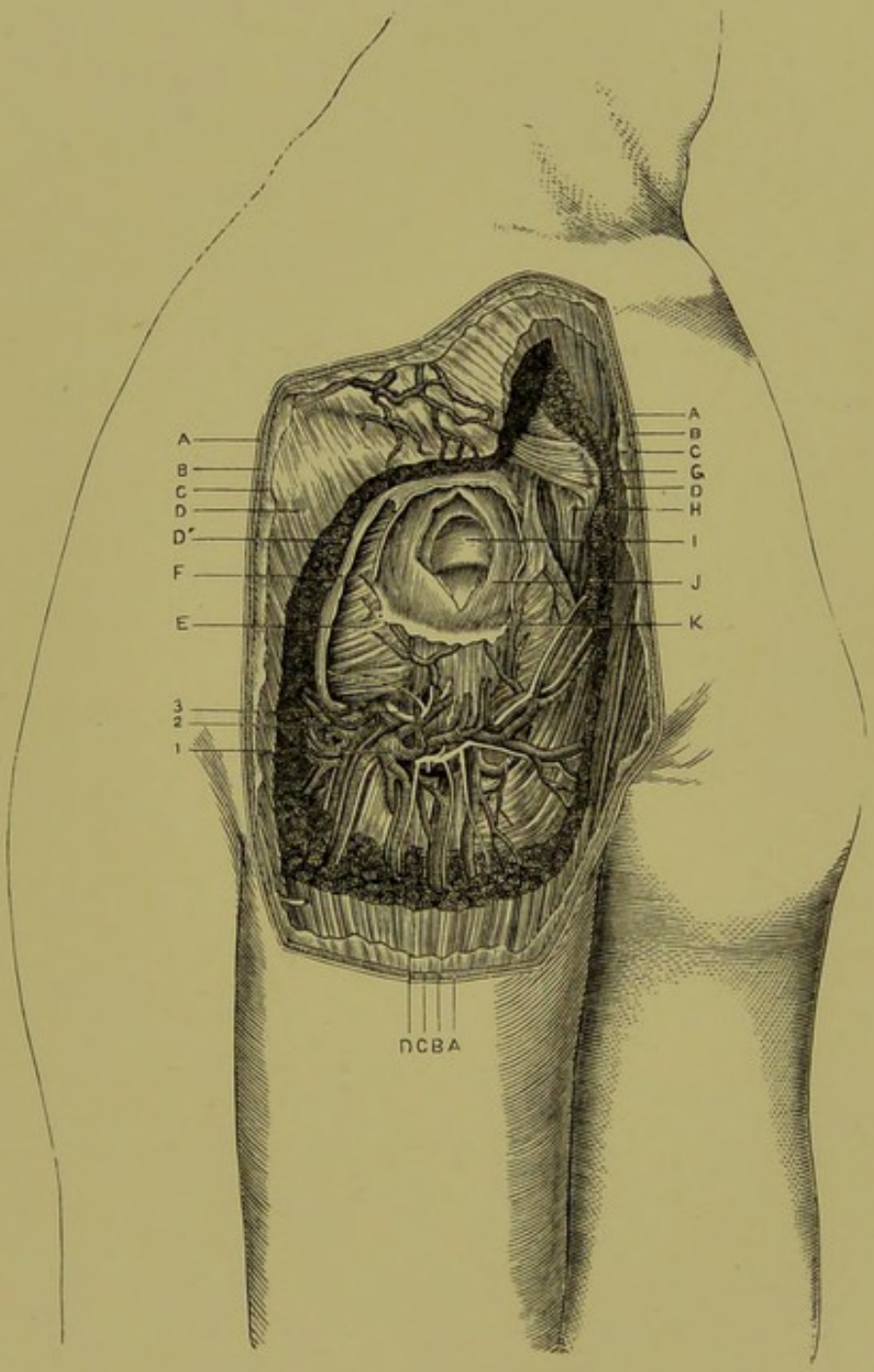
1. Circumflex artery.

2. Circumflex vein.

3. Circumflex nerve with its terminal branches.

PLATE X.

From Béraud, Anat. Chirurg.

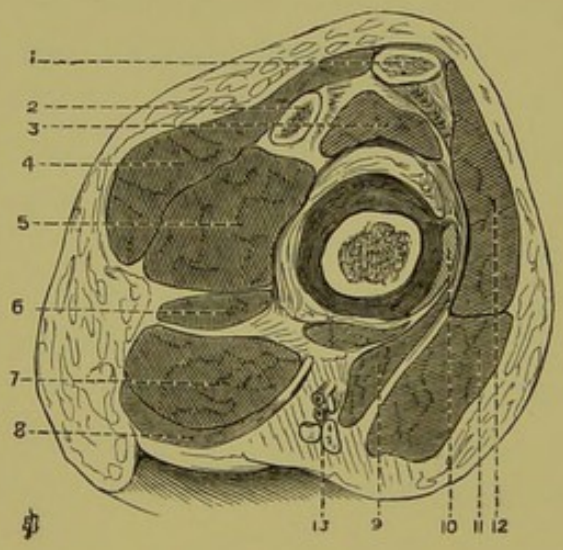


EXPLANATION OF PLATE XI.

SECTION OF THE SHOULDER-JOINT (Right).

1. Clavicle.
2. Acromion.
3. Supra-spinatus.
4. Trapezius.
5. Infra-spinatus.
6. Teres minor.
7. Teres major.
8. Latissimus dorsi.
9. Coraco-brachialis and short head of biceps.
10. Tendon of subscapularis blended with the capsular ligament.
11. Pectoralis major.
12. Deltoid.
13. Axillary vessels and nerves.

PLATE XI.



which includes the deltoid. Bellamy advises the incision first described. MacCormac employed the single anterior incision, and Chepault the same. Larry, Vigarou, and Jaeger made the incision through the middle of the deltoid. Langenbeck proposed to add to the last a small transverse incision above. He preferred the longitudinal cut. The incisions of Malgaigne and Robert resembled much that of Baudens. Franke and Ried added to the incision of Baudens a second cut, running along the acromion. Bouzairies made the Y-shaped incision, the lower portion of which began in the middle of the deltoid. Wattmann made the V-shaped incision, the base above, and the two branches parallel to the fibres of the deltoid. Moreau, Jr., made a square flap with base above, as did Percy, Textor, and Jaeger. Bell employed the semilunar incision, as did Guepratte. Hamilton advises a single incision when the excision is done for caries or necrosis, and when for gunshot injury an oval or V-shaped cut. Gross prefers the longitudinal incision in the middle of the deltoid. Bourgery made two vertical incisions in front and behind the joint. W. P. Moore prefers an incision parallel to the posterior border of the deltoid. Pancoast selects the curvilinear cut. Liston advises the longitudinal incision through the deltoid, or the method of Syme. Ashhurst prefers the incision first described. Fergusson prefers the semilunar incision, and Gant says the U-shaped incision is the best.

After the head of the bone has been extracted, the remains of all the diseased synovial membrane should be removed.

Treatment.—The wound dressed and filled with a long strip of lint saturated with a weak solution of carbolic acid, and the lower portion of the incision left open, the member is placed on a rectangular internal and well-padded splint, the limb having been previously bandaged; the patient is placed in bed, and the extremity laid upon a pillow covered with rubber cloth. Such dressings are then applied to the joint as are found necessary, using always disinfectants within and about the wound. When the inflammatory stage begins to subside, the patient may sit up, the limb being supported in a sling and brought a little across, and in front of the chest. This will prevent the upper end of the femur from being drawn in towards the chest by the latissimus and pectoralis major muscles, and the sling will serve to keep the head of the bone near the glenoid cavity. Passive motion should be instituted early, that anchylosis may not take place at the seat of the

former joint. Electricity should be employed, and further on in the treatment gradually increasing exercise of the joint should be practised. The record of many of these cases develops the fact that if we would have a movable joint, the result must be accomplished through active exercise of the limb. Often, however, no joint is reformed, and there is a flaccid state of the parts at the seat of the old articulation; and on the other hand, anchylosis at the articulation is not an infrequent result.

Erichsen advises the arm to be placed in a sling, and a pad in the axilla. Recent German authorities, as Langenbeck, advise that the sling be dispensed with as soon as possible, and the arm allowed free motion. It is possible that after this operation the patient unconsciously retracts the muscles of the arm when the limb is free; thus the upper end of the humerus is drawn upward, and the member developed. Furgusson advises to lay the arm on a pillow at first, and to remove the sling as soon as the returning strength of the member will permit.

It is not necessary to cite further authorities as to treatment. The reader is referred to standard works on this subject, and to the "Remarks," as to treatment of this joint.

The following works have been examined in this *résumé* of the treatment, and as to the operation of excision of the shoulder-joint.

Authorities.—Bèrand; Bernard and Huette; Heyfelder, O.; Velpeau; Gray, Anat.; Chepault, Fract. par Armes a Feu; McCormac, Notes and Recoll.; Bellamy; Fergusson; Liston, Surg.; Gross, Surg.; Ashhurst, Surg.; Hamilton, Surg.; Syme, by Maclean; Larrey, Mem.; Erichsen, Surg.; Guthrie, Comm.; Pancoast, Oper. Surg.; Esmarch, Resect.; Gant, Surg.; Smith, Oper. Surg.; Smith, S., Handbook; and other works and medical journals.

TABULAR STATEMENT

OF

EXCISION OF SHOULDER-JOINT.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
	Mémoirs de Chirurgie Militaire et Campagnes de D. J. Larrey, t. i. 76.	Larrey, D. J., France.	Camp'gne du Rhin.	France. Soldier.	M. ?	1793.	1793.	P.	Injury involving joint.
2	Surg. Memoirs, i. 330, 331.	Larrey, D. J., France.	Siege of Alexandria.	Ficher, John, Grenadier 69 Demi Brigade	M. ?	About July 1, 1798.	July 1, 1798.	S.	Fracture of humerus (left) below the tuberosities; by bullet.
3	Surg. Memoirs, i. 332, 398, 333.	Larrey, D. J., France.	Battle of Pyramids	Gavil, John, a drummer, 32d Demi Brigade.	M. 17	July 25, 1799.	July 25, 1799.	P.	Fracture of head of humerus; outer end of clavicle; the acromion and coracoid processes (right side); from 4 pound shot; soft parts much torn.
4	Surg. Memoirs, i. 330, 333.	Larrey, D. J., France.	Battle of Pyramids	Lefargue, 32d Demi Brigade	M. ?	About Mar. 20, 1799.	About Mar. 20, 1799.	P.	Fracture of humerus near upper end; by bullet.
5	Surg. Memoirs, i. 330, 333.	Larrey, D. J., France.	Camp'gn Egypt & Syria.	.....	M. ?	1798.	1798.	P.	Fracture of humerus near upper end.
6	Surg. Memoirs, i. 330, 333.	Larrey, D. J., France.	Camp'gn Egypt & Syria.	.....	M. ?	1798.	1798.	P.	Fracture of humerus near upper end.
7	Surg. Memoirs, i. 330, 333.	Larrey, D. J., France.	Camp'gn Egypt & Syria.	.....	M. ?	1798.	1798.	P.	Fracture of upper end of humerus.
8	Surg. Memoirs, i. 330, 333.	Larrey, D. J., France.	Camp'gn Egypt & Syria.	.....	M. ?	1798.	1798.	P.	Fracture of upper end of humerus.
9	Surg. Memoirs, i. 330, 333.	Larrey, D. J., France.	Camp'gn Egypt & Syria.	.....	M. ?	No later than Aug. 31, 1801.	No later than Aug. 31, 1801.	P.	Fracture of upper end of humerus.
10	Surg. Memoirs, i. 330, 333.	Larrey, D. J., France.	Camp'gn Egypt & Syria.	.....	M. ?	No later than Aug. 31, 1801.	No later than Aug. 31, 1801.	P.	Fracture of upper end of humerus.
11	Surg. Memoirs, i. 330, 333.	Larrey, D. J., France.	Camp'gn Egypt & Syria.	.....	M. ?	First battle Aboukir.	1799.	P.	Fracture of upper end of humerus.
12	Hodges' Exc., p. 24.	Sebatier, France.	France.	.....	?	.....	1812.	....	Gunshot injury.
13	Hodges' Exc., p. 24.	Bottin, France.	?	.....	?	.....	1812.	....	Gunshot injury.
14	Hodges' Exc., p. 24.	Ingalls, Wm., Boston, Mass.	U. S.	Soldier in U. S. Army.	M. ?	.....	Winter. 1812-13.	....	Gunshot injury.
15	Hodges' Exc., pp. 24, 28.	Brown.	After the Battle of Plattsburg.	United States Soldier.	M. ?	Sept. 11, 1814.	.....	P.	Gunshot injury.

f Shoulder-Joint for Gunshot Wounds.

	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	I	Head of humerus.	Recovered.	.....	"Probably successful."	.....	Charles Bell, in his Surgical Observations (see p. 237), advocates this operation and the long incision through the deltoid, but objects that Larrey only removed the fragments and head, without sawing off the upper end of the humerus.
2	I	Head and splinters of humerus.	Recovered, 60 days.	.....	The fractured portion of the humerus exfoliated, and the bone formed adhesions with the scapula; in good health, and good strength in hand and fore arm.	After 2	
3	Several	Acromion, humeral, end of clavicle, and head of humerus.	Recovered, 2 months.	.....	"Upper end of humerus; spine, scapula, and glenoid cavity exfoliated; arm grew to the shoulder; entirely recovered; good strength in hand and forearm."	After 2	
	I	Head and splinters of humerus.	Recovered, 60 days.	.....	"The humerus did not unite to scapula; joint permitted slight motions in various directions; strength in hand and forearm not so great as in cases where anchylosis of shoulder resulted."		
	I	Head and splinters of humerus.	Died, scurvy.				
	I	Head and splinters of humerus.	Died, scurvy.				
	I	Head and fragments of humerus.	Died, "hospital fever."				
	I	Head and fragments of humerus.	Recovered.	.....	Died of plague after he had recovered and returned to Syria.		
	I	Head and fragments of humerus.	Recovered.	.....	"Strength of hand and forearm good."	Several	
	I	Head and fragments of humerus.	Recovered.	.....	"Strength of hand and forearm good."	Several	
	I	Head and fragments of humerus.	Recovered.	.....	"Strength of hand and forearm good."	Several	
	V	Head of humerus.	Recovered.	.....	"Successful."		
	?	Head of humerus.	Recovered.	.....	"Successful."		
	?	Head of humerus.	Recovered.	.....	"Recovered with a tolerably useful limb."		
	?	Head of humerus.	Recovered.	.....	Not stated.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
16	Hodges' Exc., pp. 24, 28.	Walker.	After the Battle of Platts-burg.	United States Soldier.	M. ?	Sept. 11, 1814.	.....	P.	Gunshot injury.
17	Hodges' Exc., pp. 24, 28.	Mann, J.	After the Battle of Platts-burg.	United States Soldier.	M. ?	Sept. 11, 1814.	.....	P.	Gunshot injury.
18	Heyfeld. O. Res. p. 171.	Moreau, Son.	France.	?	?	.....	1812.	S.	Caries of head of humerus following gunshot wound.
19	Am. Med. Rec., Phila., 1818, i. 365.	Hunt, Henry, Burlington, Vermont.	Burlington, Vt.	Duncan, Lieutenant, U. S. Navy.	M. ?	Sept. 11, 1814. Pl'tsburg.	Several days after w'nd	S.	Destruction of large portion of deltoid; fracture of head of humerus; outer end of clavicle; acromion and coracoid process; from cannon ball or rocket.
20	Syme, Surg. by Maclean, p. 662; Cooper's Surg. Dict. i. 83; Mott's Velpeau, Surg. ii. 799; Medico-Chir. Trans. vol. vii.; Surg. Obser. C. Bell, p. 235.	Morel.	York Military Hospital, Chelsea.	Ellard, ——, English Soldier.	M. ad't	6 mos. before operation.	1815.	S.	Gunshot wound of joint; caries.
21	Hodges' Exc. p. 28, from Malgaigne Tr. des Luxations.	Gorré, France.	France.	?	?	?	?	P.	Gunshot injury.
22	Letter, 1872.	McCook, Geo., Pittsburg, Pa.	3 miles from New Lisbon, O.	Ward, Wm., New Lisbon, Ohio.	M. 14	.....	1822.	P.	Accidental gunshot wound of the right shoulder-joint.
23	Lancet, Eng. ed. Sept. 10, 1831, p. 741.	Bryce, Chas., Ireland.	Camp of Phalerus, Grecian War.	Soldier.	M. 20	May 4, 1827.	May 4, 1827.	P.	Comminuted fracture of the head, neck, and shaft extending into head of humerus; from bullet.
24	Am. Jour. Med. Sci. ii. 215, from Arch. Gén. de Med., Nov. 1827; Boston Med. & Surg. Jour., i. 349.	Reynaud, Naval Surg.	Toulon, France.	Good health.	M. ad't	.....	Probably April, 1827.	P.	Gunshot wound of shoulder from two balls; internal border of acromion carried away; head and portion of body of humerus crushed.
25	Heyfeld. O., p. 172.	Baudens, L., France.	Algerian Wars.	Soldier.	M. 21	.....	1833.	S.	Injury of head of humerus.
26	Heyfeld. O. Res., p. 164.	Baudens, L., France.	Algerian Wars.	Kadour, Ben, Arab.	M. 16	Jan. 16, 1836.	.....	S.	Gunshot injury of humerus by ball.
27	Hodges' Exc., p. 29.	Baudens, L., France.	Algerian Wars.	Not stated.	M. ?	.....	1836.	S.	Gunshot injury of humerus by ball.
28	Am. Jour. Med. Sci., July, 1855, p. 241.	Baudens, L., France.	Algerian Wars.	Not stated.	M.	.....	1836.	S.	Gunshot injury of humerus by ball.
29	Am. Jour. Med. Sci., July, 1855, p. 241.	Baudens, L., France.	Algerian Wars.	Not stated.	M. ?	.....	1836.	S.	Gunshot injury of humerus by ball.
30	Am. Jour. Med. Sci., July, 1855, p. 241.	Baudens, L., France.	Algerian Wars.	Not stated.	M. ?	.....	1836.	S.	Gunshot injury of humerus by ball.
31	Am. Jour. Med. Sci., July, 1855, p. 241.	Baudens, L., France.	Algerian Wars.	Not stated.	M. ?	.....	1836.	S.	Gunshot injury of humerus by ball.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
16	?	Head of humerus.	Recovered.	.....	Not stated.		
17	.....	Head of humerus.	Recovered.	.....	Not stated.		
18	⊔	3.93 inches, including head of humerus.	Recovered.	3	"When the upper extremity is fixed against the trunk, the forearm has all its uses."	?	When not in use, the member hangs its full length; when drawn up, the shortening of the arm is 3 inches.
19	None made.	The displaced acromion, coracoid, and outer end of clavicle dissected out, and the head of humerus sawed off.	Recovered, 7 months.	.....	Joined the frigate Guerrierre, and served on active duty during the war with Algiers; health good.	.....	After his return from the war with Algiers.
20	U Very large and long flap, rather upon the front of the joint.	Head of humerus.	Recovered.	?	When last heard from had abscess at inner side of upper arm; from pressure of upper end of humerus against skin, the bone being drawn inwards by the latissimus and pectoralis major muscles.	?	2 lbs. of blood lost in this operation; C. Bell decries this operation, as the insertion of the deltoid was divided in the case; recommends the longitudinal incision.
21	?	Head of humerus.	Died.				
22	Γ	5½ inches, including head of humerus.	Recovered, 40 days.	.....	Partial use of arm by keeping it close to side, and better control over the forearm.	36	Dr. McCook was assisted, in this operation, by Dr. R. Thompson, of Columbus, O.
23	T	Head and 2 inches of shaft.	Died, 6 weeks, enteritis.	.....	Wound nearly healed at 4 weeks; doing well; had use of forearm.	.....	Took cold from getting wet at night.
24	I	Head of humerus, and fragments of shaft.	Recovered, 9 months.	.....	A new joint formed at the glenoid cavity; can execute the usual movements with the arm.	9	
25	Γ	Head of humerus.	Recovered.	.....	"Continued in the service and was advanced to the grade of Col.; wounded his adversary in a pistol duel with the arm which had been excised."		
26	T Transverse part only divides deltoid.	The part of the head of humerus injured	Recovered.	.....	"The arm had all its vigor."	48	In 1840 a very firm false joint was formed.
27	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
28	T	Head of humerus.	Recovered.	.....	Survived with fistulous openings.		
29	T	Head of humerus.	Died, pyæmia.				
30	T	Head of humerus.	Died, pyæmia.				
	T	Head of humerus.	Died, pyæmia.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
32 to 36	Am. Jour. Med. Sci., July, 1855, p. 241. Am. Jour. Med. Sci., July, 1855, p 241.	Baudens, L., France. Baudens, L., France.	Algerian Wars. Algerian Wars.	2 cases not stated. 3 cases not stated.	M. M.	....	1836. 1836.	S. S.	Gunshot injury of humerus by ball. Gunshot injury of humerus by ball.
37	Am. Jour. Med. Sci., N. S., v. 467.	Baddely, P. T. H., Bengal Medical Service.	Candahar Affghanistan.	A Hindoo. Good health.	M. 21	6 w'ks' before operation.	April 10, 1840.	S.	Gunshot comminuted fracture of head of left humerus and acromion process.
38	Braith. Retro. Part xiii. p. 207.	Stratton, Canada.	Canada.	Indian boy, Canada.	M. 6	Aug. 16, 1845.	Aug. 17, 1845.	P.	Gunshot wound from swan shot, left side; upper part arm, soft parts, much injured; two inches shaft destroyed.
39	Hodges' Exc. p. 29, from N. Y. Jour. Med., May 1847, p. 318.	Waters.	U. S.	?	?	?	1847.	S.	Gunshot injury.
40	Arch. für Klin. Chir., 16, 2, p. 398; Esmarch's ta. 1, and Work, p. 58.	Langenbeck, B. Von, Berlin.	Schl'swig Holstein War.	Otto, Chas., Grenadier "King's Prussian Emperor Franz" Regt. "Health not broken; had fever."	M. 24	April 23, 1848. S'leswig.	May 10, 1848.	S.	Shot fracture of head of left humerus, with great splintering of the diaphysis; great phlegmonous swelling of the whole member, and a profuse discharge of thin matter; from Daenisch round ball; entered ¾ inch below coracoid process, fracturing the inner side of surgical neck, with extensive fissuring of head and diaphysis.
41	Lang. Arch. für Klin. Chir. 16, 2, p. 386; Esmarch's ta. 2.	Langenbeck, B. Von.	Schl'swig Holstein War, 1848, Hospital at Rendsburg.	Zastrow, Von, Lieut. 31st Infantry. Delicate formation; extreme weakness.	M. 20	April 23, 1848. S'leswig.	May 12, 1848.	S.	Shot wound of left shoulder by round ball; head of humerus perforated and necrosed.
42 to 44	Gross' statistics; Letter.	Reported by Baudens.	Paris.	Three cases.	....	.....	1848.	3 P.	Shot wound of joints.
45	Arch. für Klin. Chir., 16, 2, p. 399; Esmarch's ta. 6.	Langenbeck, B. Von.	Schl'swig Holstein War.	Hannson, Peter, from Tlybierglille. King's Daenisch 2d Jæger Corps, 4th Co. Strong built; chest contused from ball; difficult breathing and bloody expectoration; high fever, which increased in evening; greatly exhausted.	M. 27	April 23, 1848. S'leswig.	May 15, 1848.	S.	Shot fracture of head of left humerus; ball entered 1.17 inch below coracoid, and was removed 3 days after near angle of scapula; great splintering of neck of humerus; May 3, arm was greatly swollen; profuse and unhealthy suppuration; nearly all the upper ¼ of humerus fissured.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
32 to 36	T	Head of humerus. Head of humerus and three cases re-excised.	2 Died, pyæmia. 3 Recovered.				
37	Γ	Head and 20 splinters of the humerus.	Recovered, 10 months.	None	Can raise arm laterally to 70°, and bring it forward almost to the natural limits; has considerable power and use of limb; is healthy and robust.	10	
38	Bone removed thro' lacer'ed integ.	At first, 2 inches of shaft of humerus, and fragments; next day, 2 inches including head.	Recovered, 112 days.	Little	Could use this arm as well as other, but could not elevate it quite so high; can lift weights.	8	
39	?	Head of humerus.	Recovered.	.....	?		
40	Front I	Head of humerus (subperiosteal), and the diaphysis as far as splintered in all 4.71 inches.	Recovered, 2⅔ months up and about, wound closed.	1.17	Movement of hand and finger joints improved rapidly, even before patient was out of bed; movements of hand and fingers persistently; Aug. 1848, wound completely healed; health good; forearm very strong; voluntary motion hand, fingers, and elbow-joint complete; winter, 1849, muscles perfect and strong; end of humerus united to the glenoid fossa by fibrous bands; all motions of arm, excepting the horizontal, are free; can carry fingers to mouth; lifts a chair, and holds it for some time by flexing forearm.	98	Tendon of biceps preserved. Ball still remains, perhaps under shoulder-blade. Summer of 1850, it was cut out from the under surface of scapula. In 1856, operator saw patient, and he then could not voluntarily raise the arm to a horizontal position; back and forward motion good; can feed himself, put arm behind back, and lift 50 lbs; "saws wood."
41	I	Over 1½ inches; head and neck of humerus.	Recovered, 3½ months.	.....	Wound healed last of August; voluntary motion of hand and forearm complete; returned to active duty in summer of 1849; passive elevation to right angle of arm; voluntary elevation of arm to 40°; arm well nourished; grip very strong; can raise a weight of 50 lbs.	240	Strength restored in October. The supra and infra spinatus and teres minor completely atrophied. The deltoid is sound, but weaker than the right; shoulder flat.
42 to 44	?	Head of humerus.	3 Recovered.	.....	?		
45	Front I	Head and upper ¼ of humerus, subperiosteal, in all 3.93 inches.	Recovered, 3 months.	.....	Fever diminished the day after operation; by third day pulse normal and appetite restored; 14th day could walk around the garden; voluntary bending of elbow, with movement of hand and fingers, was instituted immediately after the operation at each dressing; in walking, carried his cane in left hand; Aug. 1848, voluntary movement of forearm, hand, and fingers; elevation of arm at shoulder-joint impossible; could only perform antero-posterior motion of arm.	About 3	Biceps tendon preserved; muscles of scapula divided; anterior circumflex tied; wound united with sutures, except lower end, where a tent was inserted.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
46	Arch. für Klin. Chir. 16, 2, p. 400; Esmarch's ta. 3.	Langenbeck, B. Von.	Rendsburg.	Scharfberg, King's Prussian 31st Regt Füsilier Batt.	M.	April 23, 1848.	May 18, 1848.	....	Shot fracture of head of left humerus with great splintering; ball entered beneath coracoid and emerged through the latissimus dorsi; shaft extensively comminuted beneath surgical neck.
47	Esmarch's Res. G. S. Inj. ta. 8.	Callisen.	Rec'd at Ulderup, Sleswick-Holstein.	St. ——, Hanover. Rifleman.	M. ?	April 6, 1849.	April 7, 1849.	P.	Comminuted gunshot fracture of head of right humerus; by bullet.
48	Esmarch's ta. 7.	Esmarch, Sr.	Rec'd at Sleswick-Holstein.	K——, Danish Private.	M. ?	April 23, 1849.	April 27, 1849.	S.	Comminuted gunshot fracture of head of left humerus; by bullet.
49	Esmarch's ta. 5; Arch. für Klin. Chir. Lang. B., 16, H. 2, S. 401.	Lauer, Holstein.	Rec'd at Sleswick-Holstein.	L——, Danish Dragoon.	M. ?	April 23, 1849.	May 10, 1849.	S.	Humerus comminuted; gunshot fracture (left) of head, and glenoid cavity.
50	Records N. Y. Hospital, by Surgeon Gray, U. S. Army.	Rodgers, J. K.	N. York Hospital.	Bengett, H., Civilian. In collapse when admitted.	M. 34	May 10, 1849.	May 10, 1849.	P.	Gunshot wound, involving joint.
51	Hodges' Exc. p. 28; Phila. Med. Examiner.	Hello.	?	?	?	?	?	P.	Gunshot injury.
52	Esmarch's ta. 4.	Langenbeck, B. Von, Berlin.	Rec'd at Dueppel.	G——, Hanover. Private.	M. ?	June 5, 1849.	June 7, 1849.	S.	Comminuted gunshot fracture of head of left humerus.
53	Esmarch's ta. 9.	Weber, O., Germany.	Rec'd at Fridericia.	S——, Sleswick-Holstein. Private.	M. ?	July 6, 1849.	July 7, 1849.	P.	"Right os humeri struck off; received at Fridericia."
54	Esmarch's ta. 10, and p. 59.	Goetze.	Hadershaben, Jutland.	B——, Sleswick-Holstein. Foot Soldier.	M. ?	July 6, 1849.	July 10, 1849.	S.	Grazing of os humeri and comminution of spine left scapula; by bullet; received at Fridericia.
55	Esmarch's ta. 11, and p. 60.	Francke.	Hadershaben, Jutland.	L——, Hans, Sleswick-Holstein. Rifleman. Violent fever; diarrhœa; great weakness.	M. ?	July 6, 1849.	Aug. 10, 1849.	S.	Grazing of right humerus, followed by partial necrosis of head; free suppuration; received at Fridericia.
56	Esmarch's ta. 12.	Schwartz, H.	Sleswick-Holstein.	E——, Sleswick-Holstein. Private.	M. ?	July 6, 1849.	Aug. 10, 1849.	S.	Grazing of left humerus, followed with partial necrosis; received at Fridericia.
57	Esmarch's ta. 14.	Francke.	Sleswick-Holstein.	H——, Danish Private.	M. ?	July 25, 1850.	Aug. 12, 1850.	S.	Comminution of humerus, with perforating wound of chest; bullet lodged in chest; received at Idstedt.
58	Esmarch's ta. 13.	Schwartz, H.	Sleswick-Holstein.	K——, Sleswick-Holstein. Private.	M. ?	July 25, 1850.	Aug. 18, 1850.	S.	Comminuted left os humeri; received at Idstedt.
59	Esmarch's ta. 15, and p. 63.	Esmarch, F.	Sleswick-Holstein.	L——, J., Sleswick-Holstein. Private.	M. ?	Sept. 12, 1850.	Sept. 13, 1850.	P.	Splintering off upper end of humerus (right); head comminuted and separated; received at Missunde.
60	Esmarch's ta. 16, and p. 65.	Herrich.	Sleswick-Holstein.	Sch., Sleswick-Holstein. Foot Soldier.	M. ?	Oct. 4, 1850.	Oct. 5, 1850.	P.	Shattered fracture of humerus (left); received at Friedrichstadt.
61	Esmarch's ta. 17, and p. 66.	Dohrn.	Sleswick-Holstein.	K——, Detlef, Sleswick-Holstein. Musketeer.	M. ?	Oct. 4, 1850.	Oct. 5, 1850.	P.	Comminuted fracture of head of right humerus; received at Friedrichstadt
62	Hodges' Exc. p. 29.	Hancock, H., 76 Harley St., W. London.	London.	?	?	?	1850.	....	Gunshot injury.

of Shoulder-Joint for Gunshot Wounds.—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
46	I	Head and shaft of humerus to 5½ in.	Recovered, 2½ months.	.....	End of July wound nearly healed; active movement of hand and fingers preserved; grip good; movement of elbow; shoulder not examined, as patient carried arm in sling.	2¼	Biceps of tendon saved.
47	I	3 inches, including head of humerus.	Died, 53 days, secondary hemorrhage	.....	?	.....	The axiliary and subclavian arteries ligated.
48	I	3 inches, including head of humerus.	Died, 2 days after operation, pyæmia.				
49	I	3 inches, including head of humerus; portion of neck of scapula.	Recovered.	.....	Cured.	12	
50	U	Head of humerus; amount not certainly stated.	Died, 12 days, secondary hemorrhage				
51	?	Head of humerus.	Recovered.	.....	?		
52	I	2½ inches, including head of humerus.	Recovered.	?	"Cured."	?	
53	I	2½ inches, including head of humerus.	Recovered.	?	"Cured."	?	
54	I	1½ inches of humerus, including head.	Died, 13 days, hemorrhage and pyæmia.				
55	⌣	3 inches of humerus, including head.	Recovered, 4 months.	?	"Cured; able to thrash."	12	
56	⌣	2 inches of humerus, including head.	Recovered.	?	"Cured."	?	
57	I	3 inches of humerus, including head.	Died, 13 days, hemorrhage				
58	⌣	3 inches of humerus, including head.	Died, about 1 month, hemorrhage				
59	⌜ out.	5 inches of humerus, including head.	Recovered, 4 months.	.....	Wound healed; abduction to 45°; lifts 4 lbs. with forearm to level of shoulder; flexion powerful.	6	"Callus forming about joint."
60	I	2½ inches humerus, including head.	Died, 27 days, pyæmia.	.....	"Did well at first."		
61	⌜ out.	4 inches of humerus, including head.	Recovered, 3 months.	.....	"Wound healed; abduction to 50°; lifts 3 lbs. with forearm to level of shoulder; no pain; some rotation."	3	
62	.....	Head of humerus.	Recovered.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
63	Esmarch's ta. 18, and p. 67.	Francke.	Sleswick-Holstein.	H——, John, Sleswick-Holstein. Musketeer.	M. ?	Oct. 4, 1850.	Oct. 5, 1850.	P.	Shattered fracture of head of right humerus; received at Friedrichstadt.
64	Esmarch's ta. 19, and p. 68.	Thiersch, Leipzig, Germany.	Sleswick-Holstein.	L——, Ernst, Sleswick-Holstein. Musketeer.	M. ?	Oct. 4, 1850.	Oct. 18, 1850.	S.	Shattered fracture of head of left humerus; received at Friedrichstadt; free suppuration.
65	Guth. Com. p. 571.	McAndrew, W. H., Surg. 57th Regt., England.	Crimea.	Purcell, John, 57th Regt., England.	M. 21	June 18, 1855.	June 22, 1855.	S.	Gunshot wound of head of humerus; Minié-ball perforated head.
66	Am. Jour. Med. Sci., N. S., xxxiii. 244; Macleod's Surg. Notes, p. 294.	Thornton, Surgeon 9th Regiment, England.	Crimea.	R——, T., Pr. 9th Regt., England.	M. 25	July 4, 1855.	July 5, 1855.	P.	Shell fracture of acromion, coronoid, neck, glenoid cavity, scapula, and head and neck of humerus.
67	Guth. Cam. p. 571.	McAndrew, W. H., Surg. 57th Regt., England.	Castle Hospital, Balaklava, Crimea.	Nadauld, Jas. Pr. 1st Batt. Rifle Brigade, England.	M. 21	July 11, 1855.	July 19, 1855.	S.	Gunshot wound of head of right humerus; ball lodged in head.
68	Lancet, i. 436, 1856; Am. Jour. Med. Sci. N. S. xxxi. 501.	Beith, Royal Navy, England.	Hospital Ship, Bellisle, Gulf Riga	K——, Thos., English Ship "Conflict." Strength good; pulse 100.	M. ab't 40	Oct. 1, 1855.	Nov. 1, 1855.	S.	Fracture of head of humerus by rifle bullet; joint perforated; free suppuration.
69	Guth. Com. pp. 128, 590.	Reported by Guthrie, G. J. England.	Scutari, Crimea.	Had ulcerat'n of colon and chronic diarrhœa, and tubercles in both lungs before wounded.	M. ?	About Nov. 12, 1855.	About Nov. 12, 1855.	P.	Fracture of head of right humerus; ball lodged in head.
70	Guth. Com. and Hodges' Exc., pp. 28, 29.	Reported by Guthrie, G. J.	Crimea.	Soldier.	M.	.....	1855.	P.	Shot wound of joint.
71	Surgery of the War in the Crimea, Macleod, p. 293.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
72	Surgery of the War in the Crimea, Macleod, p. 293.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
73	Surgery of the War in the Crimea, Macleod, p. 293.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
74	Surgery of the War in the Crimea, Macleod, p. 293.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
75	Surgery of the War in the Crimea, Macleod, p. 293.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
76	Surgery of the War in the Crimea, Macleod, p. 293.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
77	Surgery of the War in the Crimea, Macleod, p. 293.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
78	Surgery of the War in the Crimea, Macleod, p. 294.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	S.	Gunshot injury.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
63	⌐	2 inches of humerus including head.	Recovered, 3½ months.	.....	"Passive motion free: abduction to right angle; active motion of arm."	3¼	
64	⌣	5 inches of humerus including head.	Died, 9 days, pyæmia and hemorrhage.				
65	?	Head of humerus.	Recovered, 2 months.	.....	Discharged from hospital quite well, to go to England.	2	
66	Flap behind shoulder.	Head and fragments of upper end of humerus, and all loose fragments of scapula.	Died, 11 days, gangrene of member.				
67	?	Head of humerus.	Recovered, 38 days.	.....	"Discharged quite well to go to England."	1¼	
68	⌣	Head of humerus.	Recovered, 3½ months.	.....	Abscess formed in line of incision; small portion of bone exfoliated; after this, motion of arm improving daily.	3¼	
69	?	Head of humerus.	Died, 13 days, pneumonia and diarrhœa.	.....	"The wound did well until the lung disease came up."	.....	Specimen sent to Dr. Guthrie by Deputy Inspector, Gen. Macgregor.
70	?	Head of humerus.	Recovered.	.....	?	.....	For the 4 secondary cases reported by Guthrie, see table of removal of fragments from shoulder-joint.
71	?	Head of humerus.	Recovered.				
72	?	Head of humerus.	Recovered.				
73	?	Head of humerus.	Recovered.				
74	?	Head of humerus.	Recovered.				
75	?	Head of humerus.	Recovered.				
76	?	Head of humerus.	Recovered.				
77	?	Head of humerus.	Recovered.				
78	?	Head of humerus.	Recovered.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
79	Surgery of the War in the Crimea, Macleod, p. 294.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	S.	Gunshot injury.
80	Surgery of the War in the Crimea, Macleod, p. 294.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	S.	Gunshot injury.
81	Surgery of the War in the Crimea, Macleod, p. 294.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	S.	Gunshot injury.
82	Surgery of the War in the Crimea, Macleod, p 294.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	S.	Gunshot injury.
83	Surg. War Crimea, Macleod, p. 294.	Reported by Macleod, G. H. B.	Crimean War.	Soldier.	M. ?	.....	1855.	S.	Gunshot wound of head and part of scapula.
84	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Fracture of head of humerus, glenoid cavity, acromion process, and all spine scapula.
85	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Head of humerus fractured, and shaft splintered.
86	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Head of humerus fractured, and shaft splintered.
87	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Head of humerus fractured, and shaft splintered.
88	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Head of humerus fractured, and shaft splintered.
89	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
90	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
91	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
92	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
93	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
94	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
95	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	S.	Gunshot injury.
96	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	S.	Gunshot injury.
97	Am. Jour. Med. Sci., July, 1855, p. 240.	Baudens, L., France.	Crimea.	Soldier.	M. ?	.....	1855.	S.	Gunshot injury.
98	Med.-Chir. Hist. Guerre de Crimée, by Adolph Armand, 1858, p. 155.	Reported by Vallete, France, Surg.-Major 1st Class.	Crimean War, French Army.	French Soldier.	M. ?	9 days before oper. rec'd at battle Alma, or Ink'rmann	1854 to 1855.	S.	Injury of head of humerus

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
79	?	Head of humerus.	Recovered.				
80	?	Head of humerus.	Recovered.				
81	?	Head of humerus.	Recovered.				
82	?	Head of humerus.	Recovered.				
83	?	Head of humerus, part of scapula.	Died.				
84	T Transverse part only divides muscle.	Head of humerus, glenoid cavity, acromion process, and all spine scapula.	Recovered.	.....	Not stated.	.....	For his incision, see Guthrie's Commentaries, p. 133.
85	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
86	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
87	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
88	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
89	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
90	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
91	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
92	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
93	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
94	T	Head of humerus.	Died.				
95	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
96	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
97	T	Head of humerus.	Recovered.	.....	"Motions of the arm restored."		
98	?	Partial of head of humerus.	Died, purulent infection.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
99	Med.-Chir. Hist. Guerre de Crimée, by Adolph Armand, 1858, p. 155.	Reported by Vallete, France, Surg.-Major 1st Class.	Crimean War, French Army.	French Soldier.	M. ?	Received at battle Alma or Ink'rmann	1854 or 1855.	P.	Injury of head of humerus.
100	Surg. Crimean War, Macleod, p. 293.	Legouest, L., France.	Hospital at Constantinople.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
101	Surg. Crimean War, Macleod, p. 293.	Legouest, L., France.	Hospital at Constantinople.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
102	Surg. Crimean War, Macleod, p. 293.	Legouest, L., France.	Hospital at Constantinople.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
103	Surg. Crimean War, Macleod, p. 293.	Legouest, L., France.	Hospital at Constantinople.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
104	Surg. Crimean War, Macleod, p. 293.	Legouest, L., France.	Hospital at Constantinople.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
105	Surg. Crimean War, Macleod, p. 293.	Legouest, L., France.	Hospital at Constantinople.	Soldier.	M. ?	.....	1855.	P.	Gunshot injury.
106	Hodges' Exc., p. 28.	Williamson, Ireland.	?	?	....	.....	1859.	P.	Shot wound of joint.
107	Hodges' Exc., p. 29.	Williamson, Ireland.	?	?	....	.....	1859.	S.	Shot wound of joint.
108	Hodges' Exc., p. 29.	Williamson, Ireland.	?	?	....	.....	1859.	S.	Shot wound of joint.
109 to 134	Gross, S. W., Statistics, Letter, and Arch. für Klin. Chir. Lang. 16, 2, 417.	Reported by Demme, H., Berne, Switzerland.	Italian War.	26 cases.	M. 26	.....	1859.	?	Shot wound of joint.
135	Hodges' Exc., p. 28; Am. Med. Times, July 21, 1860.	Eve, P. F., Nashville, Tennessee.	U. S.	.....	....	.....	1860.	P.	Shot wound of joint.
136	Letter, 1872.	Humphry, George H., Surg. Huss. Zouaves.	Roanoke Island.	Husskins, Pr. N.Y. Zouaves	M. boy	Feb. 8, 1862.	Feb. 8, 1862.	P.	Fracture of head of humerus.
137	Letter, 1872.	Bonticou, R. B., Troy, N. Y.	Hygeia Hospital, Fortress Monroe, Va.	Lewis, Daniel G.	M. 18	July 1861.	Feb. 1862.	S.	Fracture of head and neck of left humerus.
138	Cat. Surg. Sec. A. M. M. p. 104.	Suckley, Geo., Brig. Surg.	Hospital, Cumberland, Md.	O'B——, J.F., Gen. Lander's Staff.	M. ad't	Feb. 20, 1862. Bl'mery Furnace, Va.	Mar. 20, 1862.	S.	Shattered fracture of head of left humerus; from pistol ball.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
99	?	Head of humerus.	Died.				
100	?	Head of humerus.	Recovered.	.....	?	.....	States in his work, Traité de Chirurgie d' Armée, p. 746, when the fracture extends so far upon the diaphysis as to compel the sawing off of the humerus below the insertions of the rhomboideus major, latissimus dorsi, and pectoralis major, he would prefer amputation to excision here. Recommends a bandage to support forearm, and another over this around body.
101	?	Head of humerus.	Recovered.	.....	?		
102	?	Head of humerus.	Died.				
103	?	Head of humerus.	Died.				
104	?	Head of humerus.	Died.				
105	?	Head of humerus.	Died.				
106	?	Head of humerus.	Recovered.	.....	?		
107	.....	Head of humerus.	Recovered.	.....	?		
108	.....	Head of humerus.	Recovered.	.....	?		
109 to 134	.....	Head of humerus.	9 Died, 17 Recovered.	.....	?	.....	Langenbeck remarks, of 43 treated conservatively in this war, 29 died.
135	.....	Head of humerus.	Died.				
136	I	Head of humerus.	Recovered.	?	"Good arm."	?	
137	V	3 inches of humerus, including head.	Recovered.	.....	"Perfect use of joint, and works at his trade as a machinist.'	48	
138	?	Head and 1½ inches of shaft of humerus.	Died, 12 days, tetanus.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
139	Letter, 1872.	Bonticou, R. B., Troy, N. Y.	Hygeia Hospital, Fortress Monroe, Va.	Parker, Ed., U. S. Soldier.	M. 24	April 16, 1862.	April 28, 1862.	S.	Fracture of head and neck of humerus.
140	Letter, 1872.	Green, Samuel L., Boston, Mass.	Newbern, N. Ca.	Horton, Wm. L., Soldier.	M. 22	Mar. 14, 1862.	April 1862.	S.	Fracture of head and neck of humerus.
141	Letter, 1872.	Bonticou, R. B., Troy, N. Y.	Hygeia Hospital, Fortress Monroe, Va.	Wilber, Jas., Soldier.	M. 25	May 4, 1862.	May 16, 1862.	S.	Fracture of head and neck of humerus.
142	Letter, 1872.	Bonticou, R. B., Troy, N. Y.	Hygeia Hospital, Fortress Monroe, Va.	Slade, W. B., Soldier.	M. 20	?	May 28, 1862.	S.	Fracture of head and neck of left humerus.
143	Letter, 1872.	Dickerson, D. Estaing, Kansas City.	Liberty Hall Field Hospital, Va.	Private, C. S. A.	M. 30	?	May 1862.	P.	Compound comminuted fracture, involving joint.
144	Letter, 1872.	Dickerson, D. Estaing, Kansas City.	Liberty Hall Field Hospital, Va.	Private, C. S. A.	M. 30	?	May 1862.	P.	Compound comminuted fracture, involving joint.
145	Letter, 1872.	Dickerson, D. Estaing, Kansas City.	Liberty Hall Field Hospital, Va.	Private, C. S. A.	M. 30	?	May 1862.	P.	Compound comminuted fracture, involving joint.
146	Letter, 1872.	Gill, Z. H., St. Louis, Mo.	Raleigh Court House, W. Va.	A German of 37th O. Vols.	M. 40	?	June 1862.	S.	Fracture of head and neck of left humerus.
147	Cat. Surg. Sec. A. M. M. p. 101.	Coolidge, R. H., Surgeon U. S. Army.	Hospital, Washington.	V——, W., Pr. E. Co., 9th Mass.	M. 22	July 1, 1862. Malvern Hill.	July 18, 1862.	S.	Inner portion of head carried away; articular surface eroded; fracture of coracoid process and outer end of clavicle.
148	Cat. Surg. Sec. A. M. M. p. 106.	Rankin, D.N., A. A. Surg. U. S. A.	Hospital, Washington.	M——, R. B., Pr. I Co., 7th Mich.	M. ?	June 30, 1862. W'ite Oak Swmp	July 19, 1862.	S.	Shattered fracture of surgical neck, and extensive fissuring of articular surface.
149	Letter, 1872.	Bonticou, R. B., Troy, N. Y.	Hygeia Hospital, Fortress Monroe, Va.	Ward, C. R.	M. 28	June 27, 1862.	July 20, 1862.	S.	Fracture of head and neck of left humerus.
150	Cat. Surg. Sec. A. M. M. p. 110.	Gross, S. D., A. A. Surg. U. S. Army, Philadelphia.	Hospital, Philada.	S——, F., 37th New York.	M. 21	June 30, 1862. W'ite Oak Swmp	Aug. 1, 1862.	S.	Comminution of surgical neck of right humerus; from round ball; articular surface not injured.
151	Cat. Surg. Sec. A. M. M. p. 98.	Gross, S. D., A. A. Surg. U. S. Army, Philadelphia.	Hospital, Philada.	W——, J., Pr. 37th New York.	M. 18	June 30, 1862. W'ite Oak Swmp	Aug. 1, 1862.	S.	Caries; result of shattered fracture of head, with fissures extending into shaft of right humerus; from round ball and buckshot.
152	Letter, 1872.	Gill, Z. H., St. Louis, Mo.	Richmond, Ky	Hutchinson.	M. ab't 40	.....	Aug. 1862.	S.	Fracture of head and neck of humerus.
153	Cat. Surg. Sec. A. M. M. p. 100.	Keefer, F. A., A. A. Surgeon U. S. Army.	Hospital, Philada.	W——, F. W., Pr. F, 4th New Jersey.	M. 19	June 27, G'nes Mill.	Sept. 1, 1862.	S.	Spongy condition of head, with necrosis of portion of shaft of left humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
139	I	4 inches of humerus, including head.	Died, 39 days, septicæmia.				
140	T	4½ inches of humerus, including head.	Recovered.	.....	"Very fair."	120	
141	U	3 inches of humerus, including head.	Died, 19 days, diarrhœa.				
142	I	3 inches of humerus, including head.	Died, pyæmia.				
143	U	Upper third, including head of humerus.	Recovered.	.....	"When last seen there was a fair prospect of a useful limb."	1	
144	U	Upper third, including head of humerus.	Recovered.	.....	"When last seen there was a fair prospect of a useful limb."	1	
145	U	Upper third, including head of humerus.	Recovered.	.....	"When last seen there was a fair prospect of a useful limb."	1	
146	L	Head and 2 inches of humerus.	Recovered.	.....	"Operator does not remember the extent of usefulness."	Several	
147	?	Head and 1½ inches of humerus.	Recovered, 5 months.	.....	"Arm very useful in ordinary out-door employment; local and general health excellent."	41	
148	?	Head and 2 inches of shaft of humerus.	Recovered.	.....	Wound nearly healed when he returned home.	3	
149	I	3 inches of humerus, including head.	Died, 10 days, pyæmia.				
150	?	Head and outer portion of shaft; 3½ in.	Recovered.	.....	"Discharged with good use of limb."		
151	?	Head of humerus.	Died, 20 days.				
152	L	2¾ to 3 inches of head and shaft of humerus.	Died, dysentery.	.....	.....	.....	Died at Ward's Hospital, Cincinnati, O.
153	?	Head through surgical neck of humerus.	Recovered.	.....	"Loss of use of left arm."	29	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
154	Cat. Surg. Sec. A. M. M. p. 111.	Brinton, John H., Philadelphia.	Hospital, Alexandria.	B——, F., B, 68th N. York.	M. ?	Prob. Aug. 30, 1862. 2d Bull Run.	Sept. 5, 1862.	S.	Comminuted fracture of shaft of left humerus; the epiphysis intact.
155	Cat. Surg. Sec. A. M. M. p. 103.	Pancoast, Jos. Philadelphia.	Hospital, Alexandria.	B——, W., Pr. G, 20th N. Y. S. M.	M. ?	Aug. 30, 1862. 2d Bull Run.	Sept. 13, 1862.	S.	Shattered fracture of head of right humerus.
156	Cat. Surg. Sec. A. M. M. p. 106.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	S——, G. L., Pr. I, 17th New York.	M. 26	Aug. 30, 1862. 2d Bull Run.	Sept. 14, 1862.	S.	Comminuted fracture of remains of upper epiphysis of left humerus; its upper ⅔ carried away.
157	Boston Med. & Surg. Jour., lxviii. 359.	Derby, Geo., Surg. 23 Mass.	?	Dunham, Jno. Soldier.	M. ?	Aug. 20, 1862.	Sept. 18, 1862.	S.	Fracture of head, neck of left humerus, and glenoid cavity.
158	Cat. Surg. Sec. A. M. M. p. 111.	Unknown.	Douglas Hospital, Washington.	N——, N., Pr. 54th N. York.	M. ?	Aug. 30, 1862. 2d Bull Run.	Sept. 25.	S.	Comminution and necrosis of shaft of left humerus, probably from shell; the epiphysis uninjured.
159	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Antietam.	Dolan, John, Pr. D, 63d New York.	M. 40	Sept. 17, 1862.	8 or 9 days after w'nd.	S.	Fracture of humerus; ball entered mouth, fractured jaw, and passing through shoulder-joint fractured humerus.
160	Cat. Surg. Sec. A. M. M. p. 110.	Bartholf, J. H., A. A. Surg. U. S. A.	Hospital, Frederick	B——, E., Pr. 69th N. York.	M. 32	Sept. 17, 1862. Antietam,	Sept. 28, 1862.	S.	Comminution below surgical neck of right humerus; articular surface intact.
161	Cat. Surg. Sec. A. M. M. p. 110.	Smith, A. H., Asst. Surgeon U. S. Army.	Hospital, Frederick	F——, M., Pr. 88th Penna.	M. ?	Sept. 17, 1862. Antietam.	Sept. 28, 1862.	S.	Comminuted fracture of upper ⅓ of shaft of right humerus; by conoidal ball, which lodged in chest; epiphysis intact.
162	Cat. Surg. Sec. A. M. M. p. 103.	Reported by Peabody, J. H., A. A. Surg. U. S. A.	Hospital, Frederick	H——, J. L., Pr. I, 29 Ind.	M. ?	Sept. 17, 1862. Antietam.	Oct. 4, 1862.	S.	Comminuted fracture of head of right humerus; inner half of head carried away.
163	Cat. Surg. Sec. A. M. M. p. 102.	Lewis, J. B., Surg. U. S. V.	Hospital, Washington.	H——, G., Sergt. E, 35th Mass.	M. ?	Sept. 17, 1862. Antietam.	Oct. 21, 1862.	S.	Anterior part of surgical neck carried away; caries and erosion of articular surface; left humerus.
164	Cat. Surg. Sec. A. M. M. p. 105.	Bill, J. H., Asst. Surgeon U. S. Army.	Hospital, Frederick	Q——, Pr. 69 New York.	M. 62	Sept. 17, 1862. Antietam.	Oct. 26, 1862.	S.	Necrosis of head, and portion of shaft of left humerus; two parallel fractures.
165	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 98.	Bonticou, R. B., Troy, New York.	General Hospital No. 1, Beaufort, S. Ca.	Wilson, Robt. D, 6th Conn.	M. 24	Oct. 22, 1862.	Nov. 1, 1862.	S.	Fracture of head of left humerus.
166	Letter, 1872, Reported by A. B. Stewart, Winona, Minn	Butts, J. H., Surg. 4th Mo. Inf'ty, C.S.A.	Confed't Hospital, Iuka, Miss.	Scott, B. F., D, 3d Mo. Cav. C. S. A.	M. 30	Oct. 3, 1862.	Nov. 1, 1862.	S.	Fracture of head and neck of left humerus.
167	Letter, 1872.	Hodgen, J. T., St. Louis, Mo.	City General Hospital, St. Louis.	Soldier.	M. ?	?	Fall, 1862.	S.	Gunshot injury.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
154	?	Head and 4 inches of shaft of humerus.	Recovered.	.....	"Discharged service."	2	
155	?	Head and 1 inch of humerus.	Recovered, 2 months.	.....	"Partial use of arm."	2	
156	?	Head and 2 inches of shaft of humerus.	Recovered.	.....	"Discharged with a useful arm."	1½	
157	I	Fragments of glenoid cavity, and upper third of humerus.	Recovered.	4¼	Slight motion of shoulder; tolerably free and improving motion of elbow; perfect use of hand.	8	
158	?	Head and six inches of shaft.	Recovered.	.....	?	.....	Specimen received from Douglas Hospital, Washington.
159	?	2 inches, including head; 2 portions of necrosed bone; July, 1863, at Bellevue Hospital, New York.	Recovered.	2	"Wound healed soon after last operation; considerable pain of member, but no loss of innervation; uses fingers freely, but not powerfully; no use of muscles above elbow."	36	Transferred to V. R. C.
160	?	Head and 3½ inches of shaft.	Died, 1 month, pleuro-pneumonia.				
161	?	Head and 4 inches of shaft.	Died, 11 days, pneumonia, from wound of lung.				
162	?	Head and 1 inch of shaft.	Recovered.	.....	"Tolerable use of arm and forearm."	2	
163	?	Head and half-inch of shaft.	Died, 13 days, pyæmia.				
164	.....	Head and 2 inches below surgical neck.	Recovered.	.....	?		
165	T	1½ inches of head of humerus.	Recovered.	.....	"Perfect use of joint; can work at his trade."	84	
166	V	Head and 1½ inches of shaft of humerus.	Recovered.	.....	"Reasonable use of forearm, with every prospect of an average restoration of the joint."	4	Reporter saw the operation.
167	V	2 inches, including head of humerus.	Recovered.	.....	"Recovered, and had a useful arm, but much less so than in 16 or 17 cases in which operator did not resect."	?	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
168	Cat. Surg. Sec. A. M. M. p. 98.	Conover, W. A., A. Surg. U. S. Vols.	Hospital, Alexandria.	H——, H., Pr. A, 8th Michigan.	M. 39	Sept. 1, 1862. Chantilly, Va.	Dec. 14, 1862.	S	Fracture of extremity of acromion and head of left humerus; parts necrosed and nearly detached.
	Cat. Surg. Sec. A. M. M. p. 108.	Bryant, H., Surg. U. S. V.	Hospital, Washington.	B——, A., Pr. A, 37th N. Carolina. (Rebel.)	M. ?	Dec. 13, 1862. Fred'ricksburg.	Dec. 21, 1862.	S.	Shattered fracture of shaft of right humerus; fissures extend into head to articular surface; caries of head.
	Med. and Surg. Reporter, Phila. xiv. 372.	Hamilton, F. H., New York.	Not stated.	Soldier.	M. ?	Dec. 13, 1862.	?	S.	Necrosis of scapula; from gunshot wound received at Fredericksburg.
171	Letter, 1872.	Muscroft, C., Cincinnati, O.	In field, Stone River.	Soldier. "Health perfect."	M. 25	.....	About Jan. 1, 1863.	P.	Compound fracture of head and neck of humerus.
172	Cat. Surg. Sec. A. M. M. p. 107.	Wilson, John, Surg. U. S. V.	Hospital, Washington.	C——, J. K., Pr. E, 10 Pa. Reserves.	M. ?	Dec. 13, 1862. Fred'ricksburg.	Jan. 7, 1863.	S	Fracture of head and neck; portion of carried away; part of head necrosed; articular surface eroded and fissured; right side.
173	Letter, 1872.	Melcher, S.H., St. Louis, Mo.	At his Quarters, Springfield, Mo.	Brown, E. B., Brig. General U. S. Vols.	M. ab't 45	Jan. 8, 1863.	Jan. 9, 1863.	P.	Gunshot injury.
174	Boston Med. & Surg. Jour., lxviii. 252; Am. Jour. Med. Sci., N. S., xlvi. 39.	Wagner, C., Asst. Surgeon U. S. Army.	Hammond General Hospital, Point Lookout, Md.	Campbell, R., Pr. 4th New York Vols.	M. 28	Dec. 13, 1862. Fred'ricksburg.	Jan. 17, 1863.	S.	Fracture of left humerus; head grooved.
175	Cat. Surg. Sec. A. M. M. p. 105.	Reported by Hall, L. K.	Hospital, Philada.	K——, R., Pr. D, 7th Wis.	M.	Aug. 29, 1862. 2d Bull Run.	Jan. 29, 1863.	S.	Fracture of head and upper portion of shaft; head probably absorbed, necrosis; a sequestrum in head of left side.
176	Am. Jour. Med. Sci., N. S., xlvi. 40; Boston Med. & Surg. Jour., lxviii. 252; Cat. Surg. Sec. A. M. M. p. 105.	Stearns, I., Jr. A. A. Surgeon U. S. Army.	Hammond General Hospital, Point Lookout, Md.	Dolan, Mich., 1st Sergt. 2d U. S. Inf'ty. "Much debilitated."	M. 25	Dec. 13, 1862.	Mar. 6, 1863.	S.	Caries; splintering of head and portion of shaft of left humerus; from bullet; received at Fredericksburg; glenoid cavity somewhat ulcerated; ball lodged in head.
177	Boston Med. & Surg. Jour., lxviii. 304.	Coolidge, Algernon.	Portsm'th Grove Hospital.	Soldier. "Gen'l state excellent."	M. ?	Dec. 13, 1862.	April. 1863.	S.	Antero-posterior fissuring of neck of humerus (half divided) by bullet; some necrosis.
178	Cat. Surg. Sec. A. M. M. p. 109.	Packard, J. H., Philadelphia.	Hospital, Philada.	P——, T., Pr. A, 3d Mich.	M. 20	May 31, 1862. Fair Oaks.	April 9, 1863.	S.	Perforated wound of surgical neck; necrosis of callus.
179	Cat. Surg. Sec. A. M. M. p. 109.	McCall, C. A., Asst. Surg. U. S. Army.	Hospital, Washington.	W——, E. H., Pr. G, 6th Me.	M. 24	May 3, 1863. 2d Fred'ricksburg.	Near May 8, 1863.	S.	Fracture of head and shaft of right humerus; anterior face of shaft and posterior portion of head carried away; vertical splitting of articular surface.
180	Cat. Surg. Sec. A. M. M. p. 89.	Bryant, H., Surg. U. S. V.	Hospital, Washington.	H——, A. M., Pr. H, 12th N. Hampshire	M. 24	May 3, 1863. Chancell'rville.	May 8, 1863.	Int.	Comminution of surgical neck of right humerus; articular surfaces uninjured.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
168	?	Excised above the greater tuberosity.	Recovered, 4½ months.	.....	"Discharged with ability to raise arm 45°."	4½	
169	?	Head and 2½ inches of shaft.	?	.....	?		
170	?	Excision of scapula entire.	Recovered.	.....	Use of the coraco-brach. and biceps muscles, and tolerable use of deltoid and triceps; can carry arm without sling.	40	
171	I	Head and 2 inches of shaft of humerus.	Recovered.	.....	"Joint feeble, but improving."	12	
172	?	Head and portion (2 inches) of shaft.	Recovered.	.....	?		
173	V	Head and surgical neck of humerus.	Recovered.	.....	"Drives, chops wood, plays billiards, supports a gun; is farming."	96	
174	⌣	Head of humerus to below tuberosities.	Recovered, 2½ months.	.....	"All motions good except rotation; voluntary motion increasing daily; full and free use of forearm."	2½	
175	?	Remains of head and portion of shaft 2 inches in length.	Recovered.	.....	?		
176	V	Head and 1½ inches of shaft of humerus.	Recovered.	.....	"Doing well; was commissioned in U. S. Army, subsequently."		
177	?	Head of humerus.	Doing well.	.....	"Doing well."	Few days.	
178	?	Head and 3½ inches of shaft.	Died, 13 days, pneumonia.				
179	?	Head and 3½ inches of shaft.	Recovered, 6 months.	.....	"Discharged; recovered."	6	
180	?	Head and 3½ inches of shaft.	Died, 7 days, pleuro-pneumonia.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
181	Cat. Surg. Sec. A. M. M. p. 109.	McCall, C. A., Asst. Surgeon U. S. Army.	Hospital, Washington.	R——, D., Pr. I, 8th N. J.	M. 18	May 3, 1863. 2d Fred'ricksburg.	May 16, 1863.	S.	Extreme shattering of shaft of left humerus by musket ball; articular surface uninjured.
182	Cat. Surg. Sec. A. M. M. p. 106.	Reported by Judson, O.A., Surg. U. S. V.	Hospital, Washington.	T——, H., Pr K, 18thMass.	M. 24	May 3, 1863. Fred'ricksburg.	May 25, 1863.	S	Longitudinal fracture of head and shaft of left humerus with caries; outer ¼ of head destroyed.
183	Cat. Surg. Sec. A. M. M. p. 107.	McCall, C. A., A. A. Surg. U. S. Army.	Hospital, Washington.	R——, G., Pr. E, 12th N. J.	M. 40	May 3, 1863. Chancell'r. ville.	May 25, 1863.	S.	Compound fracture of head and neck of right humerus; wound through surgical neck.
184	Cat. Surg. Sec. A. M. M. p. 100.	Page, Chas., Surg. U. S. A.	Hospital, Alexandria.	H——, G., Pr. A, 75th Ohio.	M. 32	May 2, 1863. Chancell'r. ville.	May 27, 1863.	S.	Vertical fracture of head of right humerus; ball embedded at upper part of anatomical neck.
185	Cat. Surg. Sec. A. M. M. p. 109.	Dean, H. M., A. A. Surg. U. S. Army.	Hospital, Washington.	H——, W., Pr. D, 64th N. Y.	M. ?	May 12, 1863. Spottsylvania	May 27, 1863.	S.	Complete comminuted fracture of surgical neck of right humerus; by conoidal ball.
186	Cat. Surg. Sec. A. M. M. p. 102.	Reported by Munroe, W.F. A. A. Surg. U. S. Army.	Hospital, Washington.	A——, H., Pr. H, 14th Ind.	M. 22	May 3, 1863. 2d Fred'ricksburg.	May 27, 1863.	S.	Fracture of upper half of left scapula and shattered fracture of head and fissuring of shaft of left humerus by conoidal ball.
187	Phila. Med. & Surg. Reporter, ii. 280; Cat. Surg. Sec. A. M. M. p. 87.	Reported by Bauer, Med. Cadet, Operation by Hassenburg, F., A. A. Surg. U. S. A.	Univ. Hospital, New Orleans.	S——, J., Pr. H, 4th Wis. Cav'y.	M. 26	May 27, 1863. Port Hudson.	Adm'ted May 30, 1863.	P.	Fracture of left humerus; lower part of head and inner side of surgical neck shot away; fracture through anatomical neck.
188	Letter, 1872.	Ledlie, J. H.	Hospital 1st Div. 13 Army Corps.	Gray, Wm., Soldier.	M. 44	May, 1863.	May, 1863.	P.	Gunshot injury.
189	Letter, 1872.	Reported by Bontecou, R. B., Troy, New York.	On field.	Newell, Thomas G., Soldier.	M. 36	June 1, 1863.	June 1, 1863.	P.	Fracture of upper third of left humerus.
190	Cat. Surg. Sec. A. M. M. p. 98.	Gray, C. C., Asst. Surgeon U. S. Army.	Not stated.	T——, S., Corp. G, 2d Mich. Cavy.	M. ?	Mar. 24, 1863. Near Fr'nklin, Tenn.	June 11, 1863.	S.	Head of left humerus carious and partially absorbed; from grooving by bullet.
191	Letter, 1872.	Smith, T. Curtis, Middleport, O	Winchester Hospital, Virginia.	Inf'ty soldier. "Young, healthy, and spare."	M. 21	Prob. June 13 to 15, 1863.	June 18, 1863.	S.	Gunshot injury of right humerus.
192	Letter, 1872.	Reported by Bontecou, R. B.	Hospital No. 1, Louisville, Ky.	Tucker, W.A.	M. 22	April 15, 1863.	June, 1863.	S.	Fracture of right humerus.
193	Cat. Surg. Sec. A. M. M. p. 103.	Greenleaf, C. R., Asst. Surg. U. S. A.	Hospital, Philada.	Van T——, E. Pr. A, 120th New York.	M. ?	May 3, 1863. Chancell'rville.	June 24, 1863.	S.	Nearly vertical fracture of head, extending obliquely down shaft; posterior ½ of head carried away; from bullet.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
181	?	Head and 3½ inches of shaft.	Recovered.	.....	"Recovered without use of the arm."	?	
182	?	Head and ¾ inch of shaft.	Died, 16 days, pyæmia.				
183	?	Head and 2 inches of shaft.	Recovered.	.....	?		
184	?	Head at surgical neck.	Died, 11 days.				
185	?	Head and 3½ inches of shaft.	Died, 11 days, pyæmia.				
186	?	Upper half of scapula, head, and 1 inch of shaft of humerus.	Died, 5 days, pyæmia.				
187	?	Head and 2½ inches of humerus.	Recovered.	.....	"Considerable use of hand and forearm, with a little motion at shoulder."	8	
188	U	Head to surgical neck of humerus.	Died, 10 days, erysipelas.				
189	I	Upper ½ of humerus, including head.	Recovered.	.....	"No bony repair."	.....	Heard from 1864, no date stated.
190	?	Head at surgical neck.	Recovered.				
191	I	1¾ inches of head of humerus.	Recovered.	.....	"Prospect good."	1½	
192	I	3½ inches humerus, including head.	Recovered.	.....	"Good arm; bony union at joint."	36	
193	?	Head and 1 inch of shaft.	Recovered.	.....	"Has a good and strong arm."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
194	Cat. Surg. Sec. A. M. M. p. 86.	Moses, I., Surg. U. S. V.	Hospital, Murfreesborough.	F——, J., Sergt. K, 17th Ind.	M. ?	June 25, 1863. Liberty Gap.	June 26, 1863.	P.	Splintered fracture of shaft of right humerus; by conoidal ball.
195	Letter, 1872.	Green, Wm. A. Americus, Ga.	On field at Gettysburg.	Hammonds, M., Sergt. C. S. A., Purcell's Bat.	M. 30	July 3, 1863.	July 3, 1863.	P.	Fracture of head extending down humerus 4 inches.
196	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	May, H., D, 10th La. Cav. C. S. A.	M. 23	July 3, 1863.	July 3, 1863.	P.	Wound involving joint.
197	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Hollowman, N. P., H, 3d N. Ca., C. S. A.	M. 26	July 3, 1863.	July 3, 1863.	P.	Fracture of head and shaft of humerus.
198	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Bush, J. A., D, 151st N. Y.	M. 30	July 3, 1863.	July 3, 1863	P.	Fracture of head and shaft of humerus.
199	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Hyde, Wm., D, 2d Mass.	M. 26	July 3, 1863.	July 3, 1863.	P.	Fracture of head and shaft of humerus.
200	Cat. Surg. Sec. A. M. M. p. 87.	Howard, B., Asst. Surgeon U. S. Army.	Gettysburg.	O'R——, Pr. B, 3d U. S. Infantry.	M.	July 2, 1863. G'tysburg.	July 3, 1863.	P.	Shattered fracture of surgical neck with fissuring of articular surface, and perforation below tuberosities of left humerus; by conoidal ball.
201	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Box, G. T., A, 17th Miss., C. S. A.	M. ?	July 4, 1863.	July 4, 1863.	P.	Fracture of right humerus; ball then passed through right axilla and out below inferior angle of scapula.
202	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Burns, J., A, 22d Mass.	M. 21	July 4, 1863.	July 4, 1863.	P.	Fracture of humerus.
203	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Decker, J. M., A. 7th New York Inf'ty.	M. 31	July 4, 1863.	July 4, 1863.	P.	Fracture of head of humerus.
204	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Sherman, E. G., 55th Ohio.	M. 19	July 3, 1863.	July 4, 1863.	P.	Fracture of head of humerus.
205	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Davis, G. M., C, 15th Ga., C. S. A.	M. 19	July 4, 1863.	July 4, 1863.	P.	Fracture of head of humerus.
206	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Miles, M. C., G, 48th Va., C. S. A.	M. 22	July 2, 1863.	July 5, 1863.	S.	Gunshot injury of humerus.
207	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Rector, T. S., A, 11th Va., C. S. A.	M. 22	July, 1863.	July 5, 1863.	P.	Gunshot injury of humerus.
208	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Shofelt, L., C, 157th Pa.	M. 39	?	July 7, 1863.	P.	Fracture of head and upper ¼ of humerus.
209	Cat. Surg. Sec. A. M. M. p. 100.	Kennon, J. G., Surg. U. S. V.	Hospital, Memphis.	M——, J., Pr. 37th Ohio.	M. 18	June 4, 1863. Vicksburg.	July 12, 1863.	S.	Excavation of the external part of head and anatomical neck of right humerus, with caries and spongy walls.
210	Cat. Surg. Sec. A. M. M. p. 87.	Hayes, Wm., Surg. U. S. V.	Harper's Ferry.	Y——, J. J., Capt. 1st Md. Potomac Home Brigd.	M.	July 18, 1863. Harper's Ferry	July 18, 1863.	P.	Accidental shattering of surgical neck and lower part of head, and splitting off ¼ of the articular surface of left humerus.

Shoulder-Joint for Gunshot Wounds—continued.

	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
4	?	Head and 2 inches of shaft.	Died, 2 days.				
5	L	4 inches of humerus including head.	Recovered.	.....	Perfect use of forearm and hand; arm little smaller than other; shoulder little shrunken.	24	Returned in 1865.
6	?	?	"Convalescing."	.....	"Recovering."	3	
7	?	Including head 4 inches of humerus.	Recovered.	.....	Not stated.		
8	?	Head and 4 inches shaft of humerus.	Recovered.	.....	Good use of hand and forearm, but none of arm.	4	
9	?	Head and shaft of humerus.	Recovered.	.....	"Little use of arm; free motion of forearm."	3	
10	.....	Head and 2½ inches of shaft.	Recovered, 9 months.	.....	?	9	
11	?	3 inches of humerus, including head.	Died, 48 days, pyæmia.	.....	"Wound of operation healed, but that of thorax became unhealthy; pus burrowed in surrounding parts."	.....	Had irritable stomach and diarrhœa.
12	?	Head and 2½ inches shaft of humerus.	Recovered.	.....	"Not stated."	3	
13	?	2½ inches of upper end of humerus.	Recovered.	.....	"Convalescing."	3	
14	?	Head and neck of humerus.	Recovered.	.....	Not stated.	3	
15	?	Head of humerus.	Not stated.	.....	Not stated.		
16	?	Head and neck of humerus.	Recovered.	.....	Not stated.	3	
17	?	Head of humerus.	Recovered.	.....	Not stated.	2	
18	?	Head and upper third of humerus.	Recovered.	.....	Not stated.	3	
19	?	Head at surgical neck.	Died, 11 days, pyæmia.				
20	?	Head and nearly 2 inches of shaft.	Recovered.	.....	"Sanguine of having a useful limb."	7½	

Tabular Statement of Excisio

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
211	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg.	Bergis, F. A., D, 8th Va., C. S. A.	M. 25	July 3, 1863.	July 21, 1863.	S.	Gunshot injury of humerus.
212	Cat. Surg. Sec. A. M. M. p. 101.	McClellan, J. H., A. A. Surg. U. S. A.	Hospital, Philada.	F——, J., Pr. C, 72d Pa.	M.	July 3, 1863. G'tysburg.	July 22, 1863.	S.	Destruction or absorptio of greater portion of he of left humerus; remai of head carious; ball e bedded at extremity diaphysis.
213	Cat. Surg. Sec. A. M. M. p. 98.	Thomson, Wm Philada., Pa.	Douglas Hospital, Washington.	McC——, T., Corp'l B, 62d Penna.	M. ?	May 3, 1863. Chancell'rville.	July 29, 1863.	S.	Necrosis of head of rig humerus; from fractu by conoidal ball.
214	Cat. Surg. Sec. A. M. M. p. 99.	McLean, C.R. A. A. Surg. U. S. Army.	Hospital, Philada.	J——, M., Pr. C, 5th U. S. Art'y.	M.	July 1, 1863. G'tysburg.	Aug. 1, 1863.	S.	Excavation at base of gre tuberosity of right hume us; from, and the size o a conoidal ball.
215	Letter, 1872.	Janes, Henry, Vermont.	Gettysburg.	Bozeman, Henry, F, 8th S. Ca.	M. 32	July 2, 1863.	Aug. 7, 1863.	S.	Fracture of head and sha of humerus.
216	Cat. Surg. Sec. A. M. M. p. 88.	Bliss, D.W., Surg. U. S. V.	Hospital, Washington.	McC——, T., F, 2d New York Cav'y.	M. 38	Sept. 13, 1863. Culpeper	Sept. 17, 1863.	S.	Fracture of surgical nec (almost entirely carrie away), with fracture shaft of left humerus; b conoidal ball.
217	Cat. Surg. Sec. A. M. M. p. 88.	Hard, A., Surg. 8th Ill. Cavalry.	Culpeper Virginia.	F——, M., Pr. I, 8th Ill. Cavalry.	M. 20	Sept. 22, 1863. Jacks Shop.	Sept. 23, 1863.	P.	Comminution of surgic neck (perforated), wit fissuring of head and an tomical neck of left hu merus; by conoidal ball.
218	Letter, 1872.	Hoyt, Otis, Hudson, Wis.	Camp Randall, Madison, Wis.	Loucks, Geo. S., Soldier.	M. 23	?	Sept. 23, 1863.	P.	Penetrating wound o joint.
219	Cat. Surg. Sec. A. M. M. p. 101.	Greenleaf, C. R., Asst. Surg. U. S. A.	Hospital, Philada.	McC——, E., B, 69th N. Y.	M. ?	Dec. 13, 1863. Fr'dericksburg	Sept. 1863.	S.	Oblique wound of head o left humerus, with necro sis and caries.
220	Cat. Surg. Sec. A. M. M. pp. 90, 539.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	R——, J. F., Pr. C, 6th N. York Cav.	M. 22	Oct. 11, 1863. Culpeper	Oct. 12, 1863.	P.	Comminution of upper fou inches of shaft of righ humerus (head not involv ed); by fragment of shel which lodged in bone.
221	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 111.	Reported by Janes, Henry, Waterbury, Vt. Operation probably by Townsend, E. P.	Gettysburg.	Buck, P., K, 28th Mass.	M. 21	July 2, 1863.	Oct. 20, 1863.	S.	Fracture of head and shaf of humerus (right).
222	Letter, 1872.	Keen, W. W., Philada., Pa.	Hospital No. 1, Fredericksburg.	Soldier.	M. ad't	.....	Oct. 1863.	S.	Gunshot injury of humerus.
223	Cat. Surg. Sec. A. M. M. p. 105.	Morton, T. G., A. A. Surg. U. S. Army.	Hospital, Philada.	K——, J., Pr. B, 1st Cal. (probably 72d Penna).	M.	July 3, 1863. G'tysburg.	Oct. 21, 1863.	S.	Necrosis of diaphysis and fracture of lesser tuberosity of left humerus; from shattered fracture at point of excision; by shell.
224	Letter, Operator and Patient, February, 1874.	Cabell, J. L., University of Virginia.	General Hospital, Charlottsville, Va.	Haywood, T. F., Pr. 44th N. Ca. Regt. Mt. Gilead, Montgomery Co., N. C.	M.	Oct. 14, 1863. Bristol Stat'n O.&A. R.R.	Oct. 20, 1863.	Int.	Fracture of head and shaft of right humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
211	?	Head and neck of humerus.	Recovered.	.....	Not stated.	3	
212	?	Remains of head to just below surgical neck.	Died, 67 days, pyæmia.				
213	?	10 necrosed fragments of head; about one-sixth of epiphysis.	Recovered.	.....	"Excellent use of the limb."		
214	?	Head of humerus.	Probably Recovered.	.....	Doing well Sept. 23, 1863.	1⅔	
215	?	Head and 4 inches shaft of humerus.	Recovered.	.....	Not stated.	1	
216	?	Head and 3 inches of shaft.	Died, 6 days.				
217	.....	Head and 3 inches of shaft.	Recovered, 3 months.	.....	Wound healed December 21, 1863; discharged April 6, 1864.	5½	
218	I	3 inches of humerus, including head and neck of scapula.	Recovered.	.....	"Perfect use of forearm, and some motion at shoulder-joint."	12	
219	?	Head through surgical neck.	Recovered.	.....	"Transferred to Vet. Res. Corps, Feb. 25, 1865."	18	
220	?	Head and 5½ inches of shaft.	Recovered.	Shortening	"Feeds himself, and is able to use arm with tolerable facility; can lift and carry very heavy weights without apparatus; wound healed."	38⅔	
221	?	Head and 5 inches shaft of humerus.	Recovered.	.....	Not stated.	1	Specimen contributed by A. A. Surgeon Townsend.
222	I	2 inches, including head of humerus.	Not stated.	.....	Not stated.		
223	?	Head and 2 inches of shaft.	Recovered.	.....	Recovered with good use of arm.		
224	?	4 inches, including head.	Recovered, 11 months.	.....	"Arm (member) as well as the other, only weaker; wound healed after 11 months."	123	Case complicated with erysipelas; air of ward and surroundings bad.

Tabular Statement of Excisio

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
225	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 89.	Beck, E. W. H. Delphi, Ind.	In field.	E——, J. L., Pr. L, 8th Ill. Cavalry. Wounded on Skirmish.	M. ab't 30	Nov. 8, 1863. Muddy Run.	Nov. 8, 1863.	P.	Comminuted fracture of head and shaft of le humerus; by conoidal ba
226	Cat. Surg. Sec. A. M. M. p. 102.	Reported by Kipp, C. J., Asst. Surgeon U. S. Vols.	Hospital, Nashville	S——, J., Sergt. K, 2d Missouri.	M. 35	Sept. 19, 1863. Chickamauga.	Nov. 9, 1863.	S.	Comminuted fracture of head of right humeru portion of head gone; inn half of shaft opposi tuberosities absorbed.
227	Cat. Surg. Sec. A. M. M. p. 88.	Reported by Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	J——, G. H., Lieut. G, 6th Maine.	M. 18	Nov. 7, 1863. Rap'a hannock Stat'n	Nov. 10, 1863.	P.	Comminution of head an surgical neck, with ob lique fracture of shaft of left humerus; by conoid ball.
228	Cat. Surg. Sec. A. M. M. p. 99.	Hackenburg, G. P., A. A. Surg. U. S. A.	Hospital, Memphis.	F——, B., Corp'l G, 73d Ohio.	M. 23	Oct. 29, 1863. Br'ns Ferry	Nov. 13, 1863.	S.	Shattered fracture of grea er tuberosity of right hu merus, with caries; fro conoidal ball.
229	Cat. Surg. Sec. A. M. M. p. 105.	Kipp, C. J., Asst. Surgeon U. S. Vols.	Hospital, Nashville	C——, A., Pr. I, 4th U. S. Arty.	M. 21	Sept. 19, 1863. Ch'kamauga.	Nov. 15, 1863.	S.	Absorption (nearly) of hea with caries of shaft of lef humerus.
230	Letter, 1872.	Gardner, Perrin, Porter, O.	Hartwood's Church, Virginia.	Soldier, 3d Pa. Cavalry.	M. 25	Nov. 28, 1863.	Nov. 28, 1863.	P.	Gunshot injury of head an neck of left humerus.
231	Am. Jour. Med. Sci., N. S., li. 139.	Clark, Surgeon; 2d, Cutter, Jas. B. Newark, N.J.	In field and General Hospital, Newark, N. Jersey.	Cleghorn, J. E. F., Pr. 1st N. J. Cav.	M. ?	Nov. 27, 1863.	1st, Nov. 30, 1863. 2d, July 21, 1864.	1st, S. 2d, S.	Fracture of neck and hea of humerus.
232	Cat. Surg. Sec. A. M. M. p. 105.	Smith, D. P., Surg. U. S. V.	(Near) Alexandria.	L——, F. J., Pr. A, 5th Michigan.	M. ?	Nov. 27, 1863. Mine Run.	Dec. 14, 1863.	S.	Partial fracture of externa part of neck of left hu merus.
233	Cat. Surg. Sec. A. M. M. p. 100.	Smith, D. P., Surg. U. S. V.	(Near) Alexandria.	McL——, R., Corp'l C, 1st U. S. Sharpshooter's Vol.	M. ?	Nov. 27, 1863. Mine Run.	Dec. 20, 1863.	S.	Partial fracture at posterio part of anatomical neck of right humerus; by conoidal ball, which lodged.
234	Cat. Surg. Sec. A. M. M. p. 102.	Smith, D. P., Surg. U. S. V.	Not stated.	G——, J., Sergt. F, 69th Penna.	M.	Nov. 27, 1863. In action, Va.	Dec. 25, 1863.	S.	Fracture near greater tuberosity of left humerus, with ulceration of articular cartilage.
235	Letter, 1872.	Shaffner, J. F. Salem, N. C.	In field.	Clark, Henry, Soldier.	M. 31	?	1863.	P.	Fracture of head of humerus and acromion process.
236	Letter, 1872.	Porcher, Peyer F., Charleston, S. Carolina.	S. C. Hospital, Petersburg, Va.	Pressley, Col. California.	M. 45	2 days before operation.	1863.	S.	Fracture of head of humerus.
237	Letter, 1872. Operator and Patient.	Porcher, Peyer F., Charleston, S. Carolina.	C. S. Hospital, Petersburg, Va.	Hill, James, Major C. S. A. Scottsville, Va., 46th Va. Regt. Soldier.	M. 50	2 days before operation.	1863.	S.	Fracture of head of humerus.
238	Letter, 1872.	Keen, W. W., Philada., Pa.	Ascens'n Hospital, Washington, D. C.		M. ad't	?	1863.	S.	Gunshot injury of head of humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
225	I	Head and 4½ inches of shaft.	Recovered, 10 months.	.....	"Wound healed; has good use of his arm save in pushing or lifting; good use of forearm."	19	After wounded, transported to Washington, 22 miles by ambulance and 70 by rail.
226	?	Portion of head and 1 inch of shaft.	Recovered.	.....	?		
227	?	Head and 3 inches of shaft.	Recovered.	Several.	"Quite useful limb."	20	
228	?	Head of humerus.	Died, 8 days.				
229	?	Head and 2 inches of shaft.	Recovered.				
230	V	Head and surgical neck of humerus.	Recovered.	.....	"A useful arm."	After recovery.	
231	I	1st. Head and neck of humerus. 2d. Remainder of humerus, and heads of ulna and radius.	Recovered.	.....	"With appliances, flexes forearm; grip good; can swing a chair around; arm at 45°; some paresis of extensor digitorum."	24	
232	?	Head and 1½ inches of shaft.	Died, 20 days, pneumonia.				
233	?	Head through surgical neck.	Recovered, 64 days.	.....	"Discharged."	2	
234	?	Head; 1 inch.	Recovered.				
235	U	3½ inches humerus, including head.	Recovered.	.....	"Nearly normal."	18	
236	I	2 inches of head of humerus.	Recovered.	.....	"Excellent; can employ hand in reading, writing, etc.; would not take $20,000 for his arm."	96	
237	I	1½ inches of head of humerus.	Recovered, 2 years.	.....	"In 2 years recovered his health, but entirely lost the use of his arm."	108	Member of Weiss Brigade; must have been some injury to nerves in this case.
238	I	2 inches of humerus (head).	Recovered.	.....	"Doing well."	1½	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
239	Letter, 1872.	Thompson, S. M., Shelbyville, Kentucky.	Field Hospital, Mission Ridge.	Smiley, H. C., Soldier C.S.A.	M. 24	.....	1863.	P.	Gunshot injury of head of humerus.
240	Med. Record, New York, vi. 178.	Gillmore, J.T. Mobile, Ala.	?	Confederate Soldier.	?	.....	1862 to 1864.	....	Fracture of head and shaft of humerus.
241	Cat. Surg. Sec. A. M. M. p. 86.	Dwinelle, J., Surg. 106 Pa.	?	G——, J. H., Corp'l F, 108 New York.	M. 22	Feb. 6, 1864. Morton's Ford.	Feb. 9, 1864.	P.	Complete oblique fracture of surgical neck of right humerus; by conoidal ball.
242	Cat. Surg. Sec. A. M. M. p. 108.	Reported by Judson, O. A., Surg. U. S. V.	Hospital, Washington.	S——, L. H., Pr. G, 9th Mass.	M. 21	Jan. 10, 1864. (accidental.)	Feb. 16, 1864.	S.	Comminution of upper ⅓ of left humerus; epiphysis uninjured.
243	Cat. Surg. Sec. A. M. M. p. 90.	Burritt, H. L. W., Surg. U. S. V.	?	M——, N., Pr. L, 3d Ind. Cavalry.	M.	Feb. 20,'64. Sevierville. Road	Feb. 20, 1864.	P.	Extensive longitudinal fracture below surgical neck of right humerus; epiphysis intact.
244	Cat. Surg. Sec. A. M. M. p. 89.	Wilder, A.M., Surg. U. S. V.	?	C——, G. F., Sergt. L, 3d Ind. Cavalry.	M. 27	Feb. 20, 1864. Near Kn'x-ville, Tenn.	Feb. 20, 1864.	P.	Severe fracture of the neck (surgical) of the left humerus; with splitting of shaft; from conoidal ball, which lodged in head of bone.
245	Cat. Surg. Sec. A. M. M. p. 89.	Reported by Jewett, L., A. A. Surg. U. S. Army.	Petersburg.	M——, T., Pr. C, 25th New York.	M.	April 1, 1864. Pet'r-burg.	April 1, 1864.	P.	Gunshot injury of upper ⅓ of left humerus.
246	Cat. Surg. Sec. A. M. M. p. 111.	Bacon, Francis, Surg. U. S. V.	Hospital, New Orleans.	B——, G. H., Capt. D, 29th Wisconsin.	M. ?	April 7, 1864. Pleasant Hill.	April 17, 1864.	S.	Perforated wound through greater tuberosity; epiphysis and shaft shattered on right side.
247	Cat. Surg. Sec. A. M. M. p. 109.	Wardner, H., Surg. U. S. V.	Mound City, Ill., Hospital.	H——, D. W., Pr. D, 13th Tenn. Cavy.	M. ?	April 12, 1864. Fort Pillow.	April 22, 1864.	S.	Shattered fracture of neck and splintering of shaft of left humerus.
248	Letter, 1872.	Unknown.	On field.	Trombly, Jno. Co. H, 1st Mich., New Baltimore, Michigan.	M. 24	May 4, 1864.	May 4, 1864.	P.	Shattered fracture of upper half of left humerus.
249	Letter, 1872.	Lyster, H. F., Detroit, Mich.	Field Hospital.	H——, R. C., Pr. I, 57 Pa., Sandy Lake, Mercer Co., Pennsylvania	M. 22	May 5, 1864.	May 5, 1864.	P.	Fracture of head of humerus by bullet; received at Wilderness.
250	Med. Record, New York, vi. 178.	Schmidt, N. Orleans, Louisiana.	Field, Wilderness.	Soldier, Confederate.	M. ?	May 5 to 7, 1864.	May 5 to 7, 1864.	P.	Fracture of head and shaft of humerus.
251	Letter, 1872.	Baylor, J. C., Norfolk, Va.	Chimborazo Hospital, Richmond, Va.	Hawkins, H. C., Pr. 38th Va. Regt., C. S. A.	M. 23	May 5, 1864.	May 9, 1864.	S.	Compound comminuted fracture of head and shaft of humerus.
252	Letter, 1872.	Ledlie, J. H., (Possibly.)	General Hospital, Charlottsville.	Crumbaker, S. A, 35th Va., C. S. A.	M. 44	May 6, 1864.	May 11, 1864.	S.	Compound comminuted fracture of head and neck of humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
239	?	Head and tuberosities of the humerus.	Recovered.	.....	"Able to do almost any kind of manual labor."	84	
240	?	5½ inches, including head of humerus.	Recovered.	3½	"No bony union; limb quite useful."	?	
241	.....	Head and 2 inches of shaft.	Recovered, 7½ months.	.....	?	7½	
242	?	Head and nearly 3 inches of shaft.	Died, 11 days, pyæmia.				
243	.....	Head and nearly 6 inches of shaft.	Died, 5 days.				
244	?	Head and nearly 4 inches of shaft.	Died, 20 days.				
245	?	Head and upper ⅓ of shaft.	Died, 47 days.	.....	"The specimen shows extremity of humerus necrosed."		
246	?	Head and 2½ inches of shaft.	Recovered.	1	No control over shoulder-joint; uses elbow, wrist, and hand; writes; has comparatively little strength of member.	24	
247	?	Head and 3½ inches of shaft.	Died, 12 days, from exhaustion.	.....	.....	.....	Death caused by two other severe wounds.
248	I	5 inches of humerus, including head.	Recovered.	Considerable.	"No motion in shoulder-joint; elbow motions with aid of skeleton arm for support; good use of hand, raise it to mouth; lifts 40 lbs. when arm to side, nothing when arm at right angles."	96	Operation done by a Dr. of a New York Reg. of Sharpshooters
249	I	Head and tuberosities of humerus.	Recovered.	.....	"Arm and hand of great use to him; can raise 25 lbs. without hurting him; arm improving."	10	
250	?	5 inches, including head of humerus.	Recovered.	3¾	"No bony union; can write with it and use knife."	?	
251	I	Head and 3 inches shaft of humerus.	Died, 7 days, "from effects of operation."				
252	V	Head and surgical neck of humerus.	Died, 6 days, exhaustion, from chloroform and shock.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
253	Cat. Surg. Sec. A. M. M. p. 85.	Thomson, Wm Philadelphia.	Hospital, Washington.	R——, C., Pr. 90th Pa.	M. 19	May 10, 1864. Spottsylvania	May 14, 1864.	S.	Fracture of head of humerus and surgical neck.
254	Cat. Surg. Sec. A. M. M. p. 99.	Allen, H., Asst. Surgeon U. S. Army.	Hospital, Washington.	Y——, J., Pr. F, 50th Pa.	M. 22	About May 14, 1864.	May 16, 1864.	S.	Shattered fracture of head of right humerus.
255	Cat. Surg. Sec. A. M. M. p. 104.	Judson, O. A., Surg. U. S. V.	Hospital, Washington.	J——, R., Pr. D, 67th N. Y.	M. 22	May 12, 1864. Spottsylvania	May 17, 1864.	S.	Fracture of head of left humerus; outer part carried away; coracoid process fractured.
256	Letter, 1872.	(Possibly) Ledlie, J. H.	General Hospital, Charlottsville, Va.	Jones, J. R., D, 12th Ga., C. S. A.	M. 17	May 5, 1864.	May 17, 1864.	S.	Fracture of head and neck of humerus.
257	Cat. Surg. Sec. A. M. M. p. 105.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	B——, A. C., Lieut. I, 64th New York.	M. 21	May 12, 1864. Spottsylvania	May 18, 1864.	S.	Head of left humerus perforated obliquely downwards by conoidal bullet; articular surface badly fractured.
258	Cat. Surg. Sec. A. M. M. p. 107.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	S——, J., Pr. G, 115th Pa.	M. 30	May 12, 1864. Spottsylvania	May 19, 1864.	S.	Fracture of surgical neck of left humerus; by conoidal bullet.
259	Letter, 1872.	Vroutman, C. T., A. A. Surg. U. S. A.	?	Bryant, David H., Soldier.	M. 35	May 8, 1864.	May 20, 1864.	S.	Gunshot injury of head of right humerus.
260	Cat. Surg. Sec. A. M. M. p. 99.	Lewis, J. B., Surg. U. S. V.	Hospital, Cumberland, Md.	C——, W. H., Pr. E, 34th Mass.	M. 24	May 15, 1864. New Market.	May 22, 1864.	S.	Injury of head of left humerus (deeply grooved), with fracture of posterior edge of glenoid cavity, from bullet.
261	Cat. Surg. Sec. A. M. M. p. 104.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	W——, B. D., Pr. E, 1st Me. Heavy Arty.	M. 33	May 19, 1864. North Anna Va.	May 23, 1864.	S.	Fracture of greater tuberosity (the laminated structure split off) of right humerus; ball lodged.
262	Cat. Surg. Sec. A. M. M. p. 103.	Smith, D. P., Surg. U. S. V.	Hospital near Alexandria, Va.	T——, M., Pr. K, 40th N. Y.	M. 24	May 5, Wilderness	May 26, 1864.	S.	Fracture of greater tuberosity, and adjoining part of head of right humerus.
263	Cat. Surg. Sec. A. M. M. p. 111.	Ensign, H. H., A. A. Surg. U. S. Army.	Hospital, Washington.	B——, L., Pr. E, 7th Maine.	M. ?	?	May 26, 1864.	S.	Comminuted fracture of upper ⅓ of right humerus; outer half of anatomical neck involved at that point.
264	Letter, 1872.	Bontecou, R. B., Troy, New York.	Harwood General Hospital, Washington, D. C.	Dailey, Robt., Pr. G, 63 Pa.	M. 29	May 5, 1864.	May 26, 1864.	S.	Gunshot injury of head of left humerus.
265	Cat. Surg. Sec. A. M. M. p. 109.	Dean, H. M., A. A. Surg. U. S. Army.	Hospital, Washington.	H——, W., Pr. D, 64th New York.	M. ?	May 12, 1864. Spottsylvania	May 27, 1864.	S.	Complete comminuted fracture of neck of right humerus.
266	Cat. Surg. Sec. A. M. M. p. 110.	Pancoast, G. L., Surgeon U. S. Vols.	Hospital, Washington.	C——, H. W., Sergt. H, 116th Penna.	M.	May 12, 1864, Spottsylvania	May 29, 1864.	S.	Shattered fracture of surgical neck, and lower part of epiphysis of right humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
253	?	Head and fragments of surgical neck.	Recovered.	.....	"A very useful arm."	?	
254	?	Remaining portion of head.	Recovered, 6 months.	.....	Returned to duty (probably for discharge) Oct. 12, 1866.	6	
255		Head and 1½ inches of shaft.	Recovered, 7 months.	.....	"Limb quite serviceable at date of discharge."	7	
256	V	Head and upper half of surgical neck of humerus.	Recovered.	.....	"Promised to be a good limb."	2	
257	?	Head and 1½ inches of shaft.	(Probably) Recovered.	.....	"Doing well; given leave of absence July 8, 1864."	1⅔	
258	?	Head and 2 inches of shaft.	Died, 42 days. ?				
259	I	2 inches, including head of humerus.	Died, 45 days, exhaustion.				
260	?	Head at surgical neck.	Recovered, 9½ months.	.....	"Discharged with moderate usefulness of limb."	9½	
261	?	Head and 1½ inches of shaft.	Died, 16 days. ?				
262	?	Head and 1 inch of shaft.	Died, 8 days. ?				
263	?	Head and 4½ inches of shaft.	Died, 13 days. ?				
264	I	Head of humerus.	Recovered.	.....	Not stated.	?	
265	?	Head and 3½ inches of shaft.	Died, 11 days, pyæmia.				
266	?	Head and 4 inches of shaft.	Died, 75 days. ?				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
267	Cat. Surg. Sec. A. M. M. p. 108.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	W——, F., Capt. E, 49th Penna.	M. ?	May 12, 1864. Spottsylvania	May 31, 1864.	S.	Shattered fracture of surgical neck of right humerus, with several longitudinal fractures; by conoidal ball.
268	Letter, 1872.	Dugan, D. H., Little Rock, Arkansas.	Confed. Field Hospital, near New Hope Church, Georgia.	Bennett.	N. 27	?	May, 1864.	P.	Fracture of head and neck of humerus.
269	Cat. Surg. Sec. A. M. M. p. 107.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	L——, D., Capt. I, 4 Vt.	M. 26	May 5, 1864. Wilderness.	June 1, 1864.	S.	Destruction of head and oblique fracture of surgical neck of left humerus.
270	Letter, 1872.	Green, W. A., Americus, Ga.	Field near Richmond, Va.	Brown, J. R., Sergt. Rogers' Batt. Arty, A. N. Va.	M. 25	.....	June 3, 1864.	P.	Fracture of head and shaft of humerus.
271	Med. Record, New York, iii. 414.	McGuire, Surg. 1st Tenn. Regt., Confederate.	Cold Harbor.	B——, H. Wm. Con. Soldier.	M.	June 3, 1864.	?	P.	Fracture of head and shaft of humerus.
272	Letter, 1872.	Green, W. A., Americus, Ga.	Field near Richmond, Va.	Higgins, Ignatius, Pr. Richarosin's Arty. Batt. 3d Army Corps, A. N. Va. "Scorbutic."	M. 23	June 7, 1864.	June 7, 1864.	P.	Fracture of head of humerus, and neck of scapula.
273	Letter, 1872.	Reported by Miller, John J., St. Louis, Mo.	Field, Gaines' Farm, Va.	Bell, Eli, Pr. H, 21st N. Ca. Regt. C. S. A.	M. 37	June 7, 1864.	June 7, 1864.	P.	Wound, involving joint.
274	Letter, 1872.	Reported by Miller, John J., St. Louis, Mo.	Field, Gaines' Farm, Va.	Pack, Wm., I, 54th N. Ca., C. S. A.	M. 18	June 7, 1864.	June 7, 1864.	P.	Gunshot injury of head of humerus.
275	Cat. Surg. Sec. A. M. M. p. 101.	Reported by Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	R——, S. R., Capt. A. A. Adj.-General 2d Brigade 2d Div. 18 Corps.	M.	June 3, 1864. Cold Harbor.	June 8, 1864.	S.	Longitudinal fracture of head and shaft, with gouging of head of left humerus; by conoidal ball.
276	Letter, 1872.	Bontecou, R. B., Troy, New York.	Harwood General Hospital, Washington, D. C.	Haughey, Jno H. 116th Pa. Volunteers.	M. 22	June 3, 1864.	June 10, 1864.	S.	Fracture of head and neck of right humerus.
277	Cat. Surg. Sec. A. M. M. p. 100.	Reported by Smith, D. P., Surg. U. S. V.	Near Alexandria.	G——, A., Pr. A, 188th Pa.	M. ?	June 1, 1864. Cold Harbor.	June 13, 1864.	S.	Shattered fracture of neck of left humerus.
278	Cat. Surg. Sec. A. M. M., p. 103.	Thomson, W., Philada., Pa.	Hospital, Washington.	M——, J., Pr. E, 155th Pa. Admitted to hospital with acute bronchitis May 13, '64	M. 26	May 5, 1864. Wilderness.	June 15, 1864.	S.	Fracture of greater tuberosity of right humerus; articular surface spongy and eroded; fissure down shaft.
279	Letter, 1872.	Possibly Ledlie, J. H.	General Hospital, Charlottsville, Va.	Clements, J. L., K, 6th S.C. Cavy, C. S. A.	M. 24	June 12, 1864.	June 16, 1864.	S.	Fracture of head and neck of humerus.
280	Am. Jour. Med. Sci., N. S., 1. 363: Letter, 1872.	Lyster, H. F., Detroit, Mich.	Field Hospital, Petersburg, Va.	Decracker, Morris, Pr. 5th Michigan. Holland, Mich	M. 32	June 17, 1864.	June 17, 1864.	P.	Compound comminuted fracture of head of right humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
267	?	Head and 3 inches of shaft.	Recovered, 3 months.	.....	"Granted leave of absence."	3	
268	I	4 inches of upper end of humerus.	Recovered.	.....	"Reported to be a very useful limb."	60	
269	?	Head and 2½ inches of shaft.	Died, 6 days.				
270	<	All of the humerus, with head down to within 2 inches of the elbow.	Recovered.	.....	"Recovered rapidly; good use of hand and forearm; partial use of arm; improving; decidedly better than no arm."	12	
271	?	3¼ inches, including head.	Recovered.	.....	"Arm as serviceable as it ever was, except can't raise it above head."	48	
272	<	3 inches of humerus, including head.	Recovered.	.....	"Fair use of forearm and hand; use of arm impaired from injury and destruction of tissue thereabouts, and effects of scurvy and suppuration."	12	
273	U	Not stated.	Recovered.	.....	"Partial."	1⅓	
274	U	2 inches, including head of humerus.	Recovered.	.....	"Good recovery."	2	
275	?	Head and ¾ inch of shaft.	Died, Aug. 1864.	.....	.....	.....	"Died at home."
276	I	3 inches of humerus, including head.	Recovered.	.....	"Made a good recovery; limb promises to be of use; some bony restoration."	Fall 1864.	When discharged service.
277	?	Head through surgical neck.	Died, 28 days.				
278	?	Head and 1 inch of shaft.	Died, 29 days, double pleuritis.				
279	V	Head and 2 inches shaft of humerus.	Recovered.	.....	"Promised well."	4	
280	I	"Head and 1 inch below surgical neck."	Recovered.	.....	Wound healed; writes; feeds self; touches chin and lifts 25 lbs. in right hand.	10	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
281	Letter, 1872.	Squire, Freeman H., Surg. 89th N. York Vols.	Before Petersburg, Va.	Soldier 89th N. Y. Vols.	M. ad't	June 18, 1864.	June 18, 1864	P.	Gunshot injury of head of humerus.
282	Cat. Surg. Sec. A. M. M. p. 85.	Reported by Dean, H. M., A. A. Surg. U. S. Army.	Before Petersburg, Va.	D——, H., Corp'l K, 106th Penna.	M. 40	June 18, 1864.	June 18, 1864.	P.	Fracture of the scapula and right humerus.
283	Letter, 1872.	Bontecou, R. B., Troy, New York.	Harwood General Hospital, Washington.	Dow, Seth G., E, 31st Me.	M. 19	June 11, 1864.	June 19, 1864.	S.	Inner half of neck, and part of head of right humerus carried away.
284	Cat. Surg. Sec. A. M. M. p. 109.	Judson, O.A., Surg. U. S. V.	Hospital, Washington.	B——, J. S., Pr. G, 45 Pa.	M. ?	June 3, 1864. Cold Harbor.	June 20, 1864.	S.	Fracture of surgical neck and shaft of right humerus; from conoidal ball, which lodged in neck; epiphysis uninjured.
285	Operator, and Cat. Surg. Sec. A. M. M. p. 103.	Culbertson, H Zanesville, O.	Harvey U. S. A. Hospital, Madison, Wis.	Williams, Wm. B., Pr. A, 2d Wis. Infantry. Good; system beginning to feel the large drain from suppuration. Big Bend, Cottonwood Co., Minn.	M. 21	May 4, 1864.	June 20, 1864.	S.	Fracture, with dislocation and necrosis of head of right humerus; received at Wilderness; some osteophytes thrown out.
286	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 104.	Bontecou, R. B., Troy, New York.	Harwood General Hospital, Washington.	Haukin, John Soldier H, 1st Michigan.	M. 17	June 17, 1864.	June 21, 1864.	S.	Fracture of head of right humerus; vertical ball lodged in anatomical neck
287	Cat. Surg. Sec. A. M. M. p. 106.	Reported by Fay, G. W., A. A. Surg. U. S. Army.	Hospital, Baltimore	C——, S. J., Pr. C, 111th New York.	M. ?	May 5, 1864. Wilderness.	June 21, 1864.	S.	Grooving of head of right humerus, which is carious; also longitudinal fissure of shaft.
288	Cat. Surg. Sec. A. M. M. p. 107.	Judson, O.A., Surg. U. S. V.	Hospital, Washington.	McC——, B., Pr. D, 63d New York.	M. 30	June 16, 1864. Pet'rsburg.	June 23, 1864.	S.	Fracture of lower part of head, the surgical neck, the tuberosities, and comminution of shaft of left humerus; by bullet.
289	Cat. Surg. Sec. A. M. M. p. 103.	Ottman, A. A. Surg. U. S. A.	Hospital, Washington.	J——, J., Pr. 11th Conn.	M. ?	June 11, 1864. G'nes Mills.	June 23, 1864.	S.	Fracture of head of left humerus, scapula, and coracoid process; by musket ball, which passed out through body of scapula.
290	Cat. Surg. Sec. A. M. M. p. 109.	McKee, J. C., Asst. Surgeon U. S. Army.	Hospital, Washington.	K——, F., Pr. 14th U. S. Infty.	M. ?	May 12, 1864. Prob. Spottsylvania ?	June 24, 1864.	S.	Fracture below surgical neck of right humerus, with necrosis at seat of wound.
291	Cat. Surg. Sec. A. M. M. p. 87.	Reported by Graham, S., A. A. Surg. U. S. Army.	Probably in field.	S——, J. G., Sergeant I, 2d Michigan.	M. 21	?	Admitt'd Hosp. W'shington, June 24, 1864.	P.	Fracture of the acromion, with injury of the glenoid cavity, and injury of left humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
281	(	Head of humerus.	"Probably died in a day or two."				
282	?	Head of humerus.	Died, 26 days, gangrene of wound.	.....	"No reparative effort."		
283	V	Head and 2 inches of humerus.	Died, 18 days, exhaustion and secondary hemorrhage				
284	?	Head and 3 inches of shaft.	Died, 57 days, chronic diarrhœa.				
285	I	Head of humerus and 1 inch of shaft.	Recovered, 6 months.	.....	Wound healed; good use of hand; raises hand to top of head with much difficulty; not much strength in arm; can raise 10 lbs. laterally; motion in shoulder; says arm is lame most of the time, so that he can hardly use it.	96	Attachments of tendons of pectoralis major and biceps (long) preserved.
286	U	Head and 1½ inches shaft of humerus.	Died, 33 days, exhaustion, from secondary hemorrhage				
287	?	Head and 2 inches of shaft.	Recovered.	.....	?		
288	?	Head and 2½ inches of shaft.	Died, 15 days, exhaustion, from hemorrhage				
289	?	Head and 1 inch of shaft of humerus, the extremity of coracoid process, and head of scapula.	Died, 3 days.				
290	?	Head and 3½ inches of shaft.	Died, 6 days, pyæmia.				
291	?	Head and 2 inches of shaft.	Died, 63 days after admission. ?	.....	The specimen shows that the wound did not do well.	.....	Probably died of the wound.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
292	Med. and Surg. Reporter, Phila. xii. 201.	Cooper, G. E., Surg. U. S. A.	Hospital 2d Div. 14 Army Corps, Kenesaw Mt.	M——, Pr. G, 10th Ill. Vet. Vols.	M. ?	June 27, 1864.	June 27, 1864.	P.	Fracture of head, neck, and glenoid cavity.
293	Letter, 1872.	Baylor, J. C., Norfolk, Va.	Chimborazo Hospital, Richmond, Va.	Weller, Jos., Pr. G, 12th Va C. S. A.	M. 21	June 11, 1864.	June 29, 1864.	S.	Fracture of head of humerus and scapula.
294	Cat. Surg. Sec. A. M. M. p. 98.	Bradford, F. G. H., A. A. Surg. U. S. A.	Hospital, Washington.	T——, C., Pr. G, 21st Conn.	M. 22	June 4, 1864. Cold Harbor.	June 29, 1864.	S.	Superficial fracture of head of left humerus, with caries.
295	Letter, 1872.	(Possibly) Ledlie, J. H.	General Hospital, Charlottsville.	Johnston, W. A., I, 44th Ga. C. S. A.	M. 24	May 15, 1864.	June 29, 1864.	S.	Fracture of head and neck of humerus, and glenoid cavity (shattered).
296	Letter, 1872.	Baruch, S., Camden, S.C.	Boonesborough, Md.	Soldier of 20th S. Ca. C. S. A.	M. 25	.....	Last of June, 1864.	P.	Fracture of head and shaft of humerus and of scapula.
297	Letter, 1872.	Baruch, S., Camden, S.C.	Boonesborough, Md.	Soldier of 20th S. Ca. C. S. A.	M. 30	.....	June 30, 1864.	P.	Gunshot injury of head of humerus.
298	Cat. Surg. Sec. A. M. M. p. 101.	Bontecou, R. B., Troy, New York.	Hospital in Washington.	B——, D. H., Pr. C, 7th Wis.	M. 35	May 8, 1864.	June 30, 1864.	S.	Fracture of head of right humerus; caries.
299	Cat. Surg. Sec. A. M. M. p. 89.	Squire, T. H., Surg. 89 N. Y.	Field Hospital 18 Army Corps.	G——, H. G., Pr. G, 9th Me.	M. 20	June 30, 1864. Pet'rsburg.	June 30, 1864.	P.	Complete comminution of head and shaft (3½ inches) of right humerus; by musket ball.
300	Letter, 1872.	Brock, J. W., Leavenworth Kansas.	Field, near Kenesaw Mt., Ga.	Yagle, Saml.	M. 21	.....	June 1864.	P.	Fracture of head of humerus.
301	Am. Jour. Med. Sci., N. S., 1. 85	Moon, W. P., A. A. Surg. U. S. Army.	?	Turner, Lawrence, A, 5th Pa. Cav	M. 30	June 15, 1864. Wilderness.	July 1, 1864.	S.	Fracture of neck of left humerus; necrosis.
302	Letter, 1872.	Sayler, W., Talladega, Alabama.	Gettysburg.	Forney, W.H. Gen'l C. S. A.	M. 42	July 3, 1864.	July 3, 1864.	P.	Gunshot injury of head and neck of right humerus.
303	Cat. Surg. Sec. A. M. M. p. 89.	Not stated, Specimen received from Hospital, Broad and Cherry Sts., Philadelphia.	Petersburg. (Field.)	K——, J., Pr. H, 2d Penna. Heavy Arty.	M. 18	July 5, 1864. Pet'rsburg.	July 5, 1864.	P.	Fracture of upper half of right humerus.
304	Letter, 1872.	Bontecou, R. B., Troy, New York.	Harwood General Hospital, Washington.	Morris, Wm., Pr. 1st Va. Volunteers.	M. 23	May 12, 1864.	July 7, 1864.	S.	Gunshot injury of humerus

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
292	I	3 inches of upper end of humerus, and spicula of glenoid cavity.	Recovered.	.....	Gained a good and useful hand.	?	
293	I	Head and neck of humerus, half of glenoid cavity, quarter of scapula.	Died, some months after operation, of chronic dysentery, contracted in army.	.....	"Made a good recovery; wound nearly healed; had but little use of arm."		
294	?	Head through surgical neck.	Died, 24 days, typhoid pneumonia.				
295	U	Head, 3 inches shaft of humerus, detached portions of glenoid cavity.	Recovered.	.....	"Promised useful limb."	1	
296	I	Humerus down to 1 inch above insertion of deltoid; some loose portions of scapula.	Recovered.	.....	"Useful arm with aid of shoulder cap; can use hand and forearm."	96	
297	I	Head of humerus.	Recovered.	.....	"Useful forearm by wearing shoulder cap."	96	
298	?	Through surgical neck.	Died, 35 days, exhaustion, from secondary hemorrhage				
299	?	Head and 3½ inches of shaft.	Died, 40 days.				
300	I	Head of humerus.	Recovered.	.....	"Has good use of joint and arm."	84	
301	)	Head and 2½ inches	Died, 14 days, exhaustion.				
302	I	3 inches of humerus, including head.	Recovered.	.....	"Has full use of the arm."	72	
303	?	Upper half of humerus.	Died, 37 days from operation, and 2 days after amputation of exhaustion from secondary hemorrhage	.....	Specimen shows two fissures below line of excision, and necrosis of the upper end of lower half of humerus for 2 inches; some callus; 2 sequestra; Hosp. Philada., Aug. 9, 1864, limb amputated for secondary hemorrhage.		
304	V	Head and 1 inch of humerus.	Recovered.	.....	Not stated.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
305	Cat. Surg. Sec. A. M. M. p. 86.	Weir, R. F., Asst. Surgeon U. S. Army.	Hospital, Frederick	C——, S., Pr. G, 106th N. Y.	M. 19	Prob. Monocacy.	July 11, 1864.	P.	Shattered fracture of the surgical neck of left humerus.
306	Cat. Surg. Sec. A. M. M. p. 108.	Bradford, F. G. H., A. A. Surg. U. S. A.	.....	M——, W., Pr. 1st Me. Heavy Art'y.	....	June 21, 1864. Pet'rsburg.	July 17, 1864.	S.	Shattered fracture of head and shaft of left humerus; by conoidal ball through the epiphyseal junction.
307	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 100.	Bontecou, R. B., Troy, New York.	Hospital, Frederick	Harvy, John, F, 29th Mass.	M. 19	June 15, 1864.	July 17, 1864.	S.	Fracture of head and neck of left humerus, necrosis of clavicle, and remains of head.
308	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 104.	Bontecou, R. B., Troy, New York.	Harwood General Hospital, Washington.	Lisceombe, John M., C, 1st Maine Heavy Art'y.	M. 18	June 18, 1864.	July 18, 1864.	S.	Fracture of head of humerus (right) by excavation; ulceration of articular surfaces.
309	Cat. Surg. Sec. A. M. M. p. 110.	Reported by Stanford, R. L., Surgeon U. S. Vols.	Hospital, Nashville	S——, S., Pr. H, 49th Ohio.	M. 29	May 27, 1864. Dallas, Ga.	July 19, 1864.	S.	Shattered fracture just below surgical neck of left humerus; joint not opened; by conoidal ball, which lodged in chest.
310	Cat. Surg. Sec. A. M. M. p. 102.	Lewis, J. B., Surg. U. S. V.	Not stated.	C——, R. A., Pr. E, 14th W. Va.	M. ?	July 20, 1864. Winchester, Va.	?	S.	Fracture of outer half of surgical neck of left humerus, with superficial fracture of head: articular surface eroded; by bullet.
311	Letter, 1872.	Brock, J. W., Leavenworth, Kansas.	Field, Peach Tree Creek, Ga.	Arnold, John.	M. 32	July 22, 1864.	July 22, 1864.	P.	Fracture of head and neck of humerus.
312	Cat. Surg. Sec. A. M. M. p. 86.	Broone, J., Surg. 1st Md. Potomac Brig.	?	B——, P., Pr. D, 34th Mass.	M. ?	?	July 23, 1864.	P.	Fissuring of the left upper epiphysis of humerus; ball impacted in it.
313	Letter, 1872; Am. Jour. Med. Sci., Oct. 1865.	Lyster, H. C., Detroit, Mich.	Petersburg, Va.	Hammond, Wm., K, 120th New York. Lancy St., New York.	M. 32	July 30, 1864.	July 30, 1864.	P.	Fracture of head of humerus.
314	Cat. Surg. Sec. A. M. M. p. 88.	Comfort, J. J., Surg. 1st Pa.	?	G——, R. M., Pr. H, 1st Pa.	M. 20	?	July 1864.	P.	Comminution of surgical neck of left humerus (head uninjured).
315	Collected by Thompson, J. W., Paduca, Ky Med. Record, N. York, iii. 29.	Clardy, S. F.	In field.	S——, L, 3d Ky. Mounted Infantry.	M. ?	.....	Summer, 1864.	P.	Fracture of head and neck of humerus.
316	Cat. Surg. Sec. A. M. M. p. 88.	Sheldon, A. F., Surg. U. S. V.	Hospital, Washington.	C——, M., Pr. G, 57th Mass.	M. 30	July 30, 1864. Pet'rsburg.	Aug. 4, 1864.	S.	Comminution of surgical neck and shaft of right humerus (head uninjured) by conoidal ball.
317	Letter, 1872; Cat. Surg. Sec. A. M. M.	Seldon, A. F., Pultneyville, New Jersey.	Campbell Hospital, Washington, D. C.	Cadigan, Mich G, 57th Mass.	M. 30	July 30, 1864.	Aug. 4, 1864.	S.	Fracture of head and neck of humerus.
318	Cat. Surg. Sec. A. M. M. p. 101.	McClellan, J. H., A. A. Surg. U. S. A.	Hospital, Philada.	N——, C., Pr. I, 11th N. J.	M. ?	May 3, 1864. Wilderness.	Aug. 16, 1864.	S.	Caries of remainder of head and epiphysis of the left humerus.
319	Cat. Surg. Sec. A. M. M. p. 87.	Burritt, H. L. W., Surg. U. S. V.	Hospital, Knoxville, Tenn.	H——, G., Pr. 10 Mich. Cav.	M. 19	Aug. 24, 1864. Flat Creek Br'ge	Aug. 26, 1864.	P.	Comminuted fracture of shaft of left humerus; head uninjured.

f Shoulder-Joint for Gunshot Wounds.—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
05	?	Head and 1½ inches of shaft.	Recovered.	.....	"Recovered well."		
06	?	Head and 3 inches of shaft.	Died, 7 days.				
07	V	Head, 1½ inches of shaft of humerus, and 3 inches of outer end of clavicle.	Recovered.	.....	"Useful."	In 1864.	
08	I	3 inches of humerus, including head.	Died, exhaustion.	.....	.....	.....	Time of death uncertain.
09	.....	Head and 4 inches of shaft.	Died, 7 days.				
10	?	Head and 1 inch of shaft.	Recovered.				
11	I	Head, neck, and 3 inches of shaft of humerus.	Uncertain.	.....	Not stated.	?	
12	?	Head through surgical neck.	Died, 12 days, diarrhœa.				
13	(	Head through surgical neck.	Recovered.	.....	"Complete; writes; feeds himself; and lifts child 2 years old with that hand."	9	
14	?	Head and 3 inches of shaft.	Died, July 11, 1864, exhaustion.				
15	?	3 inches of humerus, including head.	Recovered.	.....	"Can raise weighty bodies without assistance of other arm; can do light work."	36	
16	?	Head and 3 inches of shaft.	Died, 2 days.				
17	I	Head and 3 inches shaft of humerus.	Died, 2 days, gangrene.	.....	.....	.....	Probably injury done to vessels or nerves caused gangrene.
18	?	Remains of head through surgical neck.	Recovered, 6 months.	.....	"Transferred to Vet. Res. Corps Feb. 25, 1865."	6	
19	?	Head and 2½ inches of shaft.	Recovered, 8 months.	.....	?	8¼	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
320	Am. Jour. Med. Sci. N. S. l. 85; Cat. Surg. Sec. A. M. M. p. 102.	Moon, W. P., A. A. Surg. U. S. Army.	Philada. Hospital.	Welch, John, Pr. C, 61st New York.	M. 22	May 5, 1864.	Aug. 27, 1864.	S.	Fracture of head of left humerus; head deeply grooved; received at Wilderness.
321	Cat. Surg. Sec. A. M. M. p. 104.	Reported by Dodge, L. C., A. A. Surg. U. S. Army.	Hospital, Washington.	W——, C. M., Corp'l C, 5th New Hamp.	M. ?	Aug. 25, 1864. R'nes Station.	Aug. 30, 1864.	S.	Shattered fracture of surgical neck, with fissuring of articular surface of left humerus; by conoidal ball.
322	Cat. Surg. Sec. A. M. M. p. 101.	Reported by Dean, H. M., A. A. Surg. U. S. Army.	Hospital, Washington.	L——, A., Pr. E, 4th Md.	M. 45	Aug. 20, 1864. Weldon R. R.	Aug. 30, 1864.	S.	Fracture of head and shaft of right humerus; anterior and inner portion carried away; slight fissure of shaft.
323	Cat. Surg. Sec. A. M. M. p. 108.	Reported by Frantz, J. H., Asst. Surgeon U. S. Army.	Portsmouth, Va	W——, W. J., Pr. E, 13th N. Hampshire.	M. 19	Aug. 16, 1864. Deep Bottom.	Aug. 30, 1864.	S.	Shattered fracture of head and shaft of right humerus.
324	Med. & Surg. Reporter, Phila. xii. 201.	Reported by Botwell, Ed., Surgeon 14th Michigan.	Hospital 2d Div. 14 Army Corps.	H——, J., E, 17th N. York Vet. Vols.	M. ?	Sept. 1, 1864.	?	P.	Fracture of humerus.
325	Med. & Surg. Reporter, xii. 201.	Reported by Botwell, Ed., Surgeon 14th Michigan.	Hospital 2d Div. 14 Army Corps.	W——, C., 78 Ill. Vols.	M. ?	Sept. 1, 1864.	.....	P.	Fracture of head of humerus and glenoid cavity.
326	Med. & Surg. Reporter, xii. 201.	Reported by Botwell, Ed., Surgeon 14th Michigan.	Hospital 2d Div. 14 Army Corps.	G——, J., D, 78th Illinois.	M. ?	Sept. 1, 1864.	?	P.	Fracture of humerus.
327	Cat. Surg. Sec. A. M. M. p. 105.	Reported by Gove, J. R., Surg. 127 Ill.	15 Corps Hospital, Marietta, Georgia.	C——, L. C., Lieut. A, 15th Michigan.	M. 32	Aug. 19, 1864. Atlanta.	Sept. 4, 1864.	S.	Fracture of head and neck (inner part carried away) of left humerus; oblique fracture down shaft; secondary hemorrhage.
328	Am. Jour. Med. Sci., N. S., l. 84; Cat. Surg. Sec. A. M. M. p. 106.	Moon, W. P., A. A. Surg. U. S. Army.	Mower General Hospital.	Hughes, Jessé F, 1 Pa. Cav.	M. 25	Aug. 23, 1864.	Sept. 5, 1864.	S.	Fracture of right humerus at neck, extending into head.
329	Am. Jour. Med. Sci. N. S. l. 84; Cat. Surg. Sec. A. M. M. p. 106.	Moon, W. P., A. A. Surg. U. S. Army.	?	Eckelberger, J. M., Pr. 4th Penna. Cav.	M. 20	Aug. 16, 1864.	Sept. 18, 1864.	S.	Fracture near head of humerus.
330	Cat. Surg. Sec. A. M. M. p. 88.	Curtis, Ed., Asst. Surgeon U. S. Army.	?	C——, G. O., Pr. G, 37th Mass.	M. 20	Sept. 19, 1864. Winchester.	Sept. 22, 1864.	P.	Fracture of head and surgical neck, extending down shaft (by fragment of shell) of right humerus.
331	Letter, 1872.	Smith, T. Curtis, Middleport, O.	Sandy Hook Military Hospital.	A Cav'lryman Very large, fleshy man.	M. ab't 26	.....	Sept. 26, 1864.	....	Gunshot injury of humerus (left).
332	Cat. Surg. Sec. A. M. M. p. 101.	Rush, D. G., Surg. 101 Pa.	Hospital, Fortress Monroe.	F——, F. J., Capt. H, 22d U. S. Colored Troops.	M.	Sept. 30, 1864. Chapin's Farm	Oct. 2, 1864.	S.	Fracture of head of left humerus, with loss of external fourth.
333	Cat. Surg. Sec. A. M. M. p. 111.	Rush, D. G., Surg. 101 Pa.	Hospital, Fortress Monroe.	R——, D. G., Capt. E, 9th U. S. Colored Troops.	M. 28	Sept. 29, 1864. Deep Bottom.	Oct. 3, 1864.	S.	Comminuted fracture of shaft of right humerus; the epiphysis uninjured.
334	Cat. Surg. Sec. A. M. M. p. 111.	Bently, Ed., Surg. U. S. V.	Hospital, Alexandria.	S——, G. D., Pr. F, 17th Vermont.	M. ?	Sept. 30, 1864. Petersburg.	Oct. 14, 1864.	S.	Shattered fracture of the shaft of left humerus, with fissure also near the bicipital groove; articular surface eroded; ball impacted below head.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
20	I	Head and 1½ inches shaft of humerus.	Recovered.	.....	"Made a good recovery."	?	Died of pneumonia March 4, 1865.
21	.....	Head and 1½ inches of shaft.	Recovered, 3½ months.	.....	?	3½	
22	?	Head and ½ inch of shaft.	Died, 6 days, exhaustion.				
23	?	Head and 3 inches of shaft.	Died, 15 days, exhaustion, from secondary hemorrhage				
24	I	Head and 2½ inches shaft of humerus.	Recovered.	.....	"Fingers and forearm perfect in all their functions."	1½	
25	I	Head of humerus and fragments of glenoid cavity.	Recovered.	.....	"Fingers and forearm perfect in their functions."	1½	
26	I	Head and 4 inches shaft of humerus.	Recovered.	.....	"Fingers and forearm perfect in their functions."	1½	
27	?	Head and 1½ inches of shaft.	Recovered, 40 days.	.....	Discharged from the hospital recovered.	1½	
28	⌣	Head and 2 inches shaft of humerus.	Died, 22 days, pyæmia.				
29	I	Head and 3½ inches shaft of humerus.	Recovered.	.....	"Made a good recovery."	?	
30	?	Head and 3½ inches of shaft.	Recovered, 7 months.	.....	?	7	
31	I	2½ inches, including head.	Died, 4 days, erysipelas.				
32	?	Head through surgical neck.	Recovered, 3 months.	.....	"Left hospital 3 months after operation with a very useful limb, and will continue his duties in the service."	3	
33	?	Head and 5 inches of shaft.	Recovered.	.....	"Made a good recovery."		
34	?	Nearly the upper half of humerus.	Died, 5 days, secondary hemorrhage				

Tabular Statement of Excisio

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
335	Cat. Surg. Sec. A. M. M.	McGrath, J. M., A. A. Surg. U. S. A.	Hospital, Philada.	P——, J., Pr. B, Prunell's Legion Md. Volunteers.	M. ?	Aug. 21, 1864. 6 mile Ho'se	Oct. 15. 1864.	S.	Necrosis and fracture head of right humerus.
336	Letter, 1872.	Morris, R., Mt. Carmel, Illinois.	Field near Ships Gap, Ga.	Soldier (Rebel) 29th Mo. Infty.	M. 25	Oct. 16, 1864.	Oct. 16, 1864.	P.	Gunshot injury by musk ball, which lodged in hea of left humerus, splittin bone.
337	Cat. Surg. Sec. A. M. M. p. 99.	Brainard, T. C., A. A. Surg. U. S. A.	Hospital, Philada.	G——, S. S., Sergeant B, 9th W. Va.	M. 26	Sept. 22, 1864. Fisher's Hill.	Oct. 17, 1864.	S.	Fracture of inner face head of left humerus.
338	Letter, 1872.	Anderson, W. C., Stapleton, Staten Island, New York.	Stapleton N. York.	Hicks, John. (In civil life.)	M. 25	Oct. 20, 1864.	Oct. 21, 1864.	P.	Fracture of humerus (gu shot).
339	Cat. Surg. Sec. A. M. M. p. 108.	Reported by Frants, J. G., Asst. Surgeon U. S. Army.	Hospital, Portsm'th Virginia.	J——, G., Pr. I, 9th U. S. Col'd Troops.	M. 17	Sept. 29, 1864. Deep Bottom.	Oct. 27, 1864.	S.	Comminution and necros of surgical neck of righ humerus; epiphysis uni jured.
340	Letter, 1872.	Carpenter, H. W., Oneida, N. Y.	Petersburg, Va.	Ruddock, Corporal.	M. 24	Oct. 28.	Oct. 28, 1864.	P.	Fracture of humerus (left
341	Cat. Surg. Sec. A. M. M. p. 86; Letter, 1872.	Rush, D. G., Surg. 101 Pa., Philada., Pa.	Fortress Monroe.	Lewis, W. N., Lieut.-Col. 89th N. York.	M. 23	Oct. 27, 1864. 2d Fair Oak.	Oct. 29, 1864.	P.	Fracture of external pa of head and greater tube osity of right humerus.
342	Cat. Surg. Sec. A. M. M. p. 90.	Rush, D. G., Surg. 101 Pa.	Fortress Monroe.	K——, A. F., Lieut. A, 8th Maine.	M. ?	Oct. 27, 1864. 2d Fair Oak.	Oct. 29, 1864.	P.	Fracture of upper third d right humerus, with stri ping of the periosteum capsular ligament; t grape-shot.
343	Cat. Surg. Sec. A. M. M. p. 107.	Reported by Frantz, J. G., Asst. Surgeon U. S. Army.	Hospital, Portsm'th Virginia.	P——, W., Pr. B, 92d New York.	M. 24	Oct. 27, 1864. 2d Fair Oak.	Nov. 3, 1864.	S.	Perforation at the epiph seal junction of right h merus; vertical fractu through head, oblique or down shaft.
344	Cat. Surg. Sec. A. M. M. p. 106.	Reported by Frantz, J. G., Asst. Surgeon U. S. Army.	Hospital, Portsm'th Virginia.	R——, L., Pr. E, 4th U. S. Col'd Troops.	M. 29	Sept. 29, 1864. Deep Bottom.	Nov. 10, 1864.	S.	Necrosis and oblique fra ture of surgical neck (pe forated) of left humerus
345	Cat. Surg. Sec. A. M. M. p. 86.	Reported by Nims, E. B., Asst. Surgeon 1st Vet. Cav.	Winchester, Va.	L——, W., Sergt. G, 25th N. York Cav.	M. 35	Nov. 12, 1864. Cedar Creek	Nov. 14, 1864.	P.	Fracture, with destructio of anterior third of hea of left humerus.
346	Letter, 1872.	Sayre, L. A., New York.	795 Broadw'y N. York.	Pyke, ——, N. York City.	M. ad't	May, 1864.	Dec. 1864.	S.	Fracture of head of hume us; sinuses and suppura tion.
347	Letter, 1872.	Prince, David Jacksonville, Illinois.	?	Dugger, Simon, Pr. C, — Ill. Regt. Much exhausted from diarrhœa.	M. 28	1864.	1864.	P.	Wound of upper end o humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
335	?	Head through surgical neck.	Recovered, 3½ months.	.....	"Discharged, wound healed."	3½	
336	I	Head and 4 inches shaft of humerus.	Recovered.	.....	"Had good use of arm."	Over 1	
337	?	Head at surgical neck.	Died, 8 days, exhaustion.				
338	I	Head and 2 inches of humerus.	Recovered.	.....	"Very fair."	90	
339	?	Head and 3 inches of shaft.	Recovered.				
340	I	Head and 2 inches neck of humerus.	Recovered.	.....	"Good use of arm by wearing a shoulder splint."	91	
341	⌣ ?	Head at surgical neck.	Recovered.	.....	?		
342	?	Head and 7 inches of shaft.	Died, 17 days, pyæmia.				
343	?	Head and 2½ inches of shaft.	Died, 19 days, exhaustion, from secondary hemorrhage				
344	.....	Head and 2 inches of shaft.	Died, 4 days, exhaustion.				
345	?	Head and 1 inch of shaft.	Recovered.	.....	"Discharged from service."		
346	Irregular, connecting sinuses.	Head and half-inch neck of humerus.	Recovered.	.....	"Is a conductor on a street car; no one could detect deformity or awkwardness; operator says this is the best result he has seen."	88	
347	I from acromion.	Upper end of humerus.	Died, pyæmia.	.....	Died from effects of journey home after apparent near approach to recovery.	.....	In Am. Journ. Med. Sci., April, 1865, p. 304, advises in operation to save biceps tendon, to preserve the periosteum: uses the chain saw; would not project the head and saw it off with a common saw, as this is more liable to injure muscular attachments.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
348	Letter, 1872.	Whitehead, P. F., Vicksburg, Mississippi.	Camp'gn 1864.	Soldier C. S. A.	M. ?	1864.	1864.	P.	Fracture of head and neck of humerus.
349	Letter, 1872.	Sloan, John, New Albany, Indiana.	Hospital No. 4, N. Albany Indiana.	Soldier.	M. ?	.....	1861 to 1865.	S.	Wound involving joint.
350	Letter, 1872.	Sloan, John, New Albany, Indiana.	Hospital No. 4, N. Albany Indiana.	Soldier.	M. ?	.....	1861 to 1865.	S.	Wound involving joint.
351	Letter, 1872.	Sloan, John, New Albany, Indiana.	Hospital No. 4, N. Albany Indiana.	Morrison, Thomas G., Soldier.	M. ?	.....	1861 to 1865.	S.	Wound involving joint.
352	Letter, 1872.	Shaffner, J. F., Salem, N. C.	Field Infirmary	Soldier.	M. 23	.....	1864.	P.	Gunshot injury of neck and shaft of humerus.
353 to 385	Gross, statistics;	Reported by Loeffler, F., Germany.	German-Danish War.	26 cases.	M.	.....	1864.	26 S.	Shot wounds of joint.
385	Gross, statistics.	Reported by Loeffler, F., Germany.	German-Danish War.	7 cases.	M.	.....	1864.	7 P.	Shot wound of joint.
386	Gross, statistics; Koblylie.	Bertherand, France.	France.	France.	?	.....	?	P.	Shot wound of joint.
387	Med. Record, N. Y., iii. 414; Reported by Thompson, J. W. Paduca, Ky.	Brambach, McMinnville, Tennessee.	In field.	A——, ——, Confederate Soldier.	M. ad't	?	1861 to 1865.	P.	Fracture of upper end of humerus.
388	Letter, 1872, and from patient.	Fauntleroy, A. M., Winchester, Va.	Confed't Hospital, in Stanton, Va.	Morris, A. A., Lieut. 10 Ga., C. S. A.	M. 27	Oct. 19, 1864.	Feb. 6, 1865.	S.	Fracture of humerus.
389	Cincinnati Lancet & Observer, May 1865	McGavaran, W. B., Mastersville, Harrison Co., Indiana.	Camp Douglas, Chicago, Illinois.	Ryckman, George, Soldier.	M. 25	June 20, 1864.	Mar. 11, 1865.	S.	Fracture of upper end of humerus.
390	Cat. Surg. Sec. A. M. M. p. 102.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	C——, R. G., Pr. D, 133 Pa.	M. ?	Mar. 25, 1865. Petersburg.	After Mar. 28, 1865.	S.	Shattered fracture of anterior surface of head of right humerus.
391	Cat. Surg. Sec. A. M. M. p. 103.	Pancoast, G. L., Surg. U. S. V.	Hospital, Washington.	B——, S., Pr. K, 20th Pa.	M. ?	Mar. 25, 1865. Petersburg.	April 1, 1865.	S.	Fracture of inner fifth (broken off) of head of right humerus.
392	Letter, 1872.	Watson, B. A., Jersey City, New Jersey.	Hospital 1st Div. 6th Army Corps.	Ellis, Sergt. E, 4th N. J.	M. 24	April 2, 1865.	April 2, 1865.	P.	Fracture of humerus.
393	Cat. Surg. Sec. A. M. M. p. 106.	Allen, H., Asst. Surgeon U. S. Army.	Hospital, Washington.	P——, W. J., Pr. E, 85 N. Y.	M. 34	Mar. 29, 1865. Boydton Pl'nk Road.	April 5, 1865.	S.	Comminuted fracture of head and shaft of right humerus.
394	Cat. Surg. Sec. A. M. M. p. 87.	McDonald, W. O., Surg. U. S. V.	City Point.	P——, J. M., Lieut. C, 211th Pa.	M. 26	April 2, 1865. Petersburg.	April 5, 1865.	P.	Oblique fracture of surgical neck of left humerus, with splitting of head into three fragments.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
348	I	3½ inches upper end of humerus.	?	?	Not stated.	.....	Sent to General Hospital at once.
349	U	Not stated.	Died, "exhaustion" (probably).				
350	U	Not stated.	Died, exhaustion (probably).				
351	I	Not stated.	Recovered.	.....	Not stated.	12	
352	U	5 inches, including head of humerus.	Recovered.	.....	"Very useful."	6	
353 to 385	?	Head of humerus.	12 Died, 14 Recovered.				
	7	Head of humerus.	4 Died, 3 Recovered.				
386	?	Head of humerus.	Recovered.				
387	?	5 inches of upper end of humerus.	Recovered.	.....	"Arm healthy; some want of directing power in limb, though it is of great advantage."	Over 24	
388	I	Head and 2½ inches of humerus.	Recovered.	.....	"Can raise hand to chin; uses his arm very well in eating, etc."	2	
389	V	3 inches of humerus, including head.	Recovered.	.....	"Is able to plough and do any ordinary labor on farm."	24	
390	?	Head and 1 inch of shaft.	Recovered, 2½ months.	.....	"Discharged from service."	2½	
391	?	Head and 1 inch of shaft.	Died, 10 days, pyæmia.				
392	I	Nearly 4 inches of upper end of humerus.	Recovered.	.....	"Complete use of fingers, wrist, and elbow; brings fingers to face; can raise a weight from the ground one-half."	8	
393	?	Head and 2 inches of shaft.	Recovered, 2 months.	.....	"Discharged from service."	2	
394	?	Head and 2 inches of shaft.	Died.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
395	Cat. Surg. Sec. A. M. M. p. 109.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	K——, L., Pr. G, 211th Pa.	M. ?	April 3, 1865. Petersburg.	April 14, 1865.	S.	Fracture of inner par (carried away) of surgica neck, and longitudinal fracture of shaft; articu lar surface destroyed by ulceration; lower portion of glenoid cavity carried away, and infra-spinous process shattered by ball.
396	Cat. Surg. Sec. A. M. M. p. 102.	Rush, D. G., Surg. 101 Pa.	Fortress Monroe.	W——, B., Pr. A, 12th Miss.	M. ?	April 2, 1865. Petersburg.	April 18, 1865.	S.	Fracture of lesser tuberosity of right humerus, with penetration of cancellated structure.
397	Reported by Bonticou, R. B., Troy, N. Y.	Adams, Asst. Surg. U. S. V.	Field Hospital near Fredericksburg, Md.	Yourall, Thomas.	M. 20	April 2[illegible], 1865.	April 20, 1865.	P.	Fracture of neck and head of humerus.
398	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Harwood Hospital, Washington, D. C.	Stewart, Wm.	M. 20	Mar. 26, 1865.	April 26, 1865.	S.	Gunshot injury of head of humerus (right).
399	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 97.	Bontecou, R. B., Troy, N. Y.	Harwood Hospital, Washington, D. C.	Hatfield, Harrison, B, 14th N. York Heavy Arty.	M. 23	Mar. 25, 1865.	May 8, 1865.	S.	Gunshot injury of head of right humerus.
400	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 106.	Bontecou, R. B., Troy, N. Y.	Harwood Hospital, Washington, D. C.	Middleton, Jas., 205th Pa. Vols.	M. 31	April 2, 1865.	May 9, 1865.	S.	Fracture of head of left humerus, with necrosis in six fragments.
401	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	?	Larock, J. H., E, 9th Vt. Regt., Verginius, Vt.	M. 40	May 10, 1865.	May 13, 1865.	S.	Fracture of head and neck of right humerus; by Minié-ball, which entered right breast.
402	Letter, 1872.	Walter, A.G., 66 and 68 6th Avenue, Pittsburg, Pa.	Private patient.	Haney, John, Butler Co. Pa.	M. 19	2 years before.	May 21, 1865.	S.	Caries of head and osteomyelitis of upper part of shaft, from wound (left).
403	Med. and Surg. Reporter, xiv. 270.	Krackowizer, E., 16 W. 12th St., N. York.	?	Soldier.	M. ?	.....	June, 1865.	S.	Fracture of head of humerus; caries.
404	Reported by Bontecou, R. B., Troy, N. Y.; Cat. Surg. Sec. A. M. M. p. 10.	Griswold, E., Surg. U. S. V.	Douglas Hospital, Washington, D. C.	McCarthy, Wm., L, 24th N. York Cav.	M. 28	Mar. 3, 1865. Dinwiddie C. H., Va.	June 8, 1865.	S.	Fracture of neck of right humerus; portion of head shot away.
405	Operator.	Culbertson, H., Surgeon U. S. Vols., Zanesville, O.	Harvey U. S. A. Hospital, Madison, Wis.	McMannus, Sylvester, Corp'l K, 22d Wisconsin. Monroe, Green Co., Wis. Fair state.	M. 21	June 20, 1864. Peach Tree Creek	Aug. 20, 1865.	S.	Comminuted fracture of right head; softening of shaft for several inches; upper part carious; glenoid cavity injured; osteophytes.
406	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Harwood General Hospital, Washington.	Delihan, Bennett, was a Confederate prisoner, Lived in Texas.	M. 28	April 2, 1865.	Oct. 1865.	S.	Necrosis of head and neck of humerus.
407	Letter, 1872.	Alwood, A.W. Clinton, Mich.	At patient's home.	Briggs, Luther.	M. 23	Feb. 1, 1866.	Feb. 13, 1865.	S.	Fracture of head and shaft of humerus.
408	Alabama Newspaper; Letter, 1872.	Guild, Jas., Jr.	Patient's home in country.	Ward.	M. 35	?	May 1866.	P.	Comminuted fracture of head and clavicle.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
395	?	Head and 3 inches of shaft.	Died, 3 days.				
396	?	Head and 1 inch of shaft.	Recovered.	.....	?		
397	I	3½ inches of humerus, including head.	Recovered.	.....	"Good use of limb; arm movable; no bony restoration."	?	
398	⌣	Head of humerus.	Died, 14 days, exhaustion.				
399	⌣	Portion of head of humerus.	Recovered.	.....	"Useful arm."	2½	
400	⌣	Head and 2 inches shaft of humerus.	Recovered.	.....	"Useful arm."	4½	
401	?	Head and 4 inches of humerus.	Recovered.	.....	"Wound nearly healed; good use of hand and forearm; can raise hand to chin."	3½	
402	I	Head and 2 inches shaft of humerus.	Recovered.	.....	Amputation 13th day, for secondary hemorrhage, and after the previous ligation of axillary artery.		
403	?	Head of humerus.	Recovered.	.....	"Has done well since."	8	
404	U	3 inches shaft of humerus, including remains of head.	Recovered.	.....	"Made a good recovery; good use of limb."	Nov. 9, 1865.	
05	I	Head and 4 inches of shaft; portion of glenoid cavity and neck of scapula.	Recovered, 7 months.	.....	Can't feed himself with hand very well, or raise hand to mouth easily; uses knife in hand in cutting when eating; can use hand and grip as good as ever; can't abduct arm; lifts 25 lbs. when arm by side.	90	Dr. C. A. Rice, late Surgeon C. S. A., now Dallas, Texas, recommends the operation and straight incision, to avoid the division of the biceps, and to cut off, not tear, the insertions of the tendons.
	I	Head and portion of neck.	Recovered.	.....	"Useful arm."	When discharged	
	V	5 inches of humerus, including head.	Died, in 2½ hours, shock of operation.				
	I	Head, 2½ inches humerus, and outer ⅓ of clavicle.	Recovered, 3 months.	.....	"Good use of limb; able to plough in 3 months."	60	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
409	Arch. für Klin. Chir. Langenbeck, 16, 2, 388, and Fig. 14.	Langenbeck, B. Von, Berlin.	Austrio-Prussian War, Horic.	Borcke, Von, 67 Landwehr Regt. Infty. Delicate; often has light chills.	M.	July 3, 1866. Koeniggraetz.	July 29, 1866.	S.	Shot wound of right joint; an Austrian Minie-ball entered at junction of spine scapula and acromion process, and emerged near outer side of coracoid process; July 21, spontaneous luxation of head in axilla, when pain ceased; free suppuration through "shot openings;" surface fracture of head; longitudinal fracture near tuberosities; glenoid cavity grooved below.
410	Letter, 1872.	Beech, J. H., Cold Water, Branch Co., Michigan.	Private house, Branch Co., Mich.	Foster, Wm., Batavia, Branch Co., Michigan.	M. 10	Aug. 4, 1866.	Aug. 4, 1866.	P	Wound of joint by pistol ball (right).
411	Lang. Arch. für Klin. Chir. 16, 2, 382.	Langenbeck, B. Von, Berlin.	Austrio-Prussian War, 1866, Field Laza eth, Koeniginhof.	Petersdorf, Von, Lieut. 1st Guard Regiment.	M.	July 3, 1866.	Aug. 13, 1866.	S.	Grenade shot wound, with fracture of head of right humerus; the acromion process broken off; the pectoralis major carried away, and soft parts of shoulder carried away to the infra-spinatus fossa.
412	Letter, 1872.	Woolcott, E. B., Milwaukee, Wis., and Reynolds, Geneva, Wis.	Bloomfield, Wis.	Olden, ——, Bloomfield, Wisconsin.	M. 22	3 days before operation.	Sept. 1866.	S.	Wound involving joint; from shot.
413	Letter, 1872.	Dean, A. C., Greenfield, Mass.	Father's house.	Mernan, Jno., Charlemont, Mass.	M. 13	Oct. 15, 1866.	Oct. 16, 1866.	P.	Fracture of head and neck of humerus.
414	Letter, 1872.	Hoyt, Otis, Hudson, Wis.	St. Croix Co., Wis., private practice.	Egbert, Wm.	M. 27	?	Nov. 27, 1866.	P.	Fracture of head of humerus.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
409	T	Subperiosteal; head and shaft, in all 3.93 inches.	Recovered, 1 month.	¾	Suffered from pyæmia; was at once removed to a healthy locality, which operator thinks secured his recovery; wound nearly healed last of Aug. 1866; Aug. 14, 1868, new bone formed at joint, and complete articulation; new joint sets inward, which causes shoulder to be flattened; whole extremity in good state, and as strong as the left; muscles of shoulder blade are only less developed; all movements of arm are completely free; can raise arm to vertical position; puts hand on and back of his head, and uses hand as well as before operation; gives hearty shake of hand, and don't tire in writing; can do any work; only defect is on sudden elevation of hand	84	Wound sewed, and tent passed through the shot openings; sanitary condition of town Horic not good, cholera and gangrene prevalent; Nov. 6, 1873, the power of arm in the vertical position still remains weak; no electricity used in this case.
410	I	2 inches of upper end of humerus.	Recovered.	.....	"Performs all the duties of a farmer's son; writes and uses pencil well."	60	
411	.....	About 4 inches of upper end of humerus, including head; the acromion and coracoid processes, and fragments of the glenoid cavity.	Recovered, 2½ months.	.....	Wound healed at 2½ mos.; had perfect voluntary movement of hands and fingers, and also motion of the elbow-joint; writes well with right hand at 7 months; in July, 1870, entered the army again; carries sword in right arm by pressing arm against body; cannot elevate arm, as so many of the muscles about the shoulder-joint were destroyed by the missile.	84	Had, also, shot wound of lower part of abdomen on right side; bowels not injured; also another wound on upper part of thigh (right); wore an apparatus for a time; treated with electricity after 7 months.
412	I	2¾ inches of humerus, including head.	Recovered, 5 months.	.....	"Wound healed; some spicula bone came away after operation; nearly perfect for any purpose except when elevated; can't raise elbow much above a line with shoulder."		
413	I	4 inches, including head of humerus.	Recovered.	.....	"A very useful arm and joint; can hoe, chop wood, and lift a weight of 200 lbs. from the floor with the arm."	66	
414	V	2 inches of humerus, and at neck scapula.	Recovered.	.....	"Perfect use of forearm; lateral and antero-posterior motion, but cannot elevate arm."	62	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
415	Arch. für Klin. Chir. 16, 1, Langenbeck.	Not stated.	Austrio-Prussian War, 1866.	Maretschnigg Frederick.	M. 20	.....	1866.	....	Shot wound of the left joint, with fracture of the upper extremity of humerus.
416	Arch. für Klin. Chir Lang. 16, 2, p. 390.	Langenbeck, B. Von.	Austrio-Prussian War, Koenig'l Klinic.	Koppenfels, 1st Lieut., now commanding 67th Infantry. Strong, hearty man.	M.	June 27, 1866. Langensalza.	Jan. 16, 1867.	S.	Shot wound through right joint; ball entered outer part of coracoid process, and emerged just under posterior border of acromion; later, suppuration; portions of bone discharging from time to time; arm close to side of chest; only slight anterior and posterior motion; member considerably atrophied; subluxation of head; muscles of shoulder-blade greatly atrophied; hand useful, but not so strong as before; head fractured, and firm osseous union of head to glenoid cavity.
417	Letter, 1872.	Beech, J. H., Coldwater, Branch Co., Michigan.	Private residence	Sumner, McKinzie, Capt. U. S. V. Algansea, Branch Co., Michigan.	M. 30	3 years before.	Dec. 27, 1867.	S.	Caries of head of humerus; from bullet wound; right side; suppuration; anchylosis; could not raise arm from side; fistula.
418 to 421	Gross, statistics; Letter.	Reported by Beck, B., Germany.	Austrio-Prussian War, 1866	Soldier.	M.	.....	1866.	P.	Shot wound.
	Gross, statistics; Letter.	Reported by Beck, B., Germany.	Austrio-Prussian War, 1866.	3 Soldiers.	M.	.....	1866.	S.	Shot wounds.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
415	I	Nearly the upper ⅓ of the humerus.	Recovered.	4.30	At first could use the joint, afterwards the joint loose and member worthless, as no bone was reformed from the extensive removal of the humerus.	60	Was drowned in 1871; dissection disclosed the following conditions: a large fibrous band 1.57 inches long, about 2 inches wide, and 4 to 5 millimetres thick, attached above to the glenoid cavity and near to this on the anterior border of the scapula, and below to the end of the humerus; the insertions of the supra- and infra-spinatus, the teres minor, and the long head of the biceps, were into this band; the insertion of the teres major lower down and beneath this band; triceps united to the band at upper end of the stump; deltoid has normal insertion; the tendon of pectoralis major inserted into the fibrous mass; all the muscles well developed, but partly degenerated into fat; scarcely any bone formation.
416	I	Subperiosteal attachments of muscles to periosteum preserved; remains of head and bone to 2.33 inches beneath tuberosities.	Recovered, 3½ months.	½	End of April, free passive motion of joint; Jan. 12, 1868, wrote in fine hand that his arm was as useful as before the wounding; had good circular movements of the arm; could perform them with a 10 lb. weight in his hand; arm strong and muscular; shoulder regained its roundness; muscles of shoulder somewhat weakened, but perform their functions; end of humerus expanded into a tolerably large head, and forms a complete joint with the scapula; no slipping out of head on rapid movement of arm; can raise arm horizontally slowly, and to vertical position perfectly; right arm as sound as other, and can perform all its functions.	82	Head of bone difficult to reach; had to break up the anchylosis by force; wound closed, and drainage tube introduced; later, electricity and active movements of joint; ceased to use electricity after last of Jan. 1868; during the Franco-Prussian War did hard active service, and was greatly exposed, and arm did not give out; last heard from, uses arm just as well as other; can lift 120 lbs. from the floor.
417	L	2¾ inches upper end of humerus.	Recovered.	.....	"Soon acquired remarkable power and facility of motion."	48	
418 to 421	.....	Head of humerus.	Died.	....	.....	.....	See the other four cases reported in detail.
	.....	Head of humerus.	3 Died.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
422	Letter, 1872.	Hodgen, John T., St. Louis, Mo.	Private practice, St. Louis, Missouri.	James, Harvy St. Louis, Mo.	M. 30	Nov. 19, 1869.	Nov. 19, 1869.	P.	Wound of head of humerus.
423	Letter, 1872.	Miner, J. F., Buffalo, N. Y.	Private practice.	Packard, J., Buffalo, N. Y.	M. 22	June 27, 1870.	June 27, 1870.	P.	Fracture of head of shaft of humerus.
424	Arch. für Klin. Chir. 16, 2, 396.	Basch, W. Prof., Bonn, Germany.	Hospital at St. John, Franco-Prussian War.	Greiff, Lieut. 2d Hanover Regt. No. 77.	M.	Aug. 6, 1870. Saarbrucken.	Aug. 15, 1870.	S.	Large shot fracture of right humerus, immediately below the head.
425	Arch. für Klin. Chir. 16, 2, 396.	Not stated.	Lazareth of Reserve, Dessau.	Rixfelder, Bernhard, Rifleman 6th Westphael Infty. Regt. No. 55.	M.	Aug. 18, 1870. Gr've-lotte.	After Aug. 26, 1870.	S.	Shot wound of left shoulder.
426	Notes & Rec. Amb. Surg. 102.	MacCormac, Wm., 13 Harley St., W. London.	Caserne d'Asfeld, Franco-Prussian War.	Gaugeard, sub-Lieut. 53d Regt. Line.	M. y'g m'n	Sept. 1, 1870. Near Balan	Sept. 1, 1870.	P.	Perforation of head of right humerus; from bullet.
427	Letter, 1872.	Barrell, Henry C., Springfield, Illinois.	Private residence	Latrell, Wm., Springfield, Illinois.	M. 23	Sept. 2, 1870.	Sept. 3, 1870.	P.	Fracture of head and shaft of humerus.
428	Arch. für Klin. Chir. 16, 2, 395.	Esmarch, Fred., Prof., Berlin.	Barrack Lazareth No. 1, Berlin, Franco-Prussian War.	Knorr, F., Student, 2d Guard Regt. Vols. Z. F.	M.	Aug. 18, 1870.	Sept. 13, 1870.	S.	Grenade splinter shot of left joint.
429	Am. Jour. Med. Sci. April, 1873, p. 474; Lancet, 1872, p. 370; Recol. Amb. Surg., p. 106.	MacCormac, Wm., London, see Case 426.	Franco-Prussian War.	Aubin, St. Louis, 3d Chaussers d'Afrique.	M. 23	Sept. 1, 1870. Sedan	Sept. 14, 1870.	S.	Wound of the elbow and shoulder joints, from shell which destroyed the deltoid; soft parts much lacerated; bones much comminuted (right side).
430	Notes & Recol. Amb. Surg. 102.	MacCormac, William, see Case 426.	Caserne d'Asfeld, Franco-Prussian War.	Gallerand, Maréchal du Logis, 7th Arty. Corps.	M. ad't	Sept. 1, 1870.	Sept. 14, 1870.	S.	Head of left humerus "smashed."

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
422	I	2 inches head of humerus.	Recovered.	.....	Recovered only by his robust constitution.	24	
423	Made by the injury.	Head and upper ⅓ shaft of humerus.	Recovered.	.....	"Can use member without difficulty."	21	
424	.....	Head of humerus and 2¼ inches of shaft.	Recovered, 6½ months.	.....	Sent to the Springs for treatment, at Wiesbaden; later, muscles of right arm as strong as the left; movements of shoulder-joint completely free; free active motion of arm backwards and forwards voluntary elevation of arm, only a little horizontal; writes that he dresses himself.	At least 8¼	
425	?	Head of humerus.	Recovered. about 7 months, dating from Aug. 26.	Great	January 24, 1873, the head and tuberosities much developed; arm thin, and deltoid atrophied; active motion of arm antero-posterior only; passive motion free, and also elevation only to horizontal position; very strong muscular forearm; strong grip.	29	
426	I	Head and 2 inches shaft of humerus.	Died, 22 days, pyæmia.	.....	"Wound did well for 15 days; was thought to be convalescent until then."	.....	Pyæmia probably came from the bad surroundings of all the wounded.
427	I	4 inches of humerus, including head.	Recovered.	.....	"Performs his ordinary duties as a teamster."	20	
428	?	Portion of the neck of the scapula, and a fragment of head of humerus.	Recovered.	.....	"Joint excellent; Langenbeck says useful elbow and hand, and dangling member."		
429	?	4 inches of upper end of humerus, and at elbow thin slice of condyles and head radius, and 4 inches ulna simultaneously.	Recovered.	.....	"Elbow thoroughly healed; ulna reproduced; extension, flexion, pronation, and supination of forearm; power of hand being rapidly regained; sinus at shoulder-joint leading to dead bone; forward and backward motion of arm; can't raise arm laterally (deltoid injured)."	18	"As far as possible periosteum was preserved."
430	I	Head of humerus.	Recovered.	.....	He left the hospital October 6, convalescent; made an excellent recovery.	.....	"The symptoms of pyæmia abated."

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
431	Arch. für Klin. Chirg. 16, 2, 402.	Langenbeck, B. Von, Berlin.	Gorze, at the residence of Dr. Petitgand	Roell Freih, Von, 2d Lieut. 35th Infantry Reg. Great pain, fever, and swelling of arm, Aug. 26, 1870; Sept 14, chill.	M.	Aug. 16, 1870. Mars la Tours	Sept. 16, 1870.	S.	1st. Shot fracture of upper part of right humerus; by Chassépot ball, which entered near insertion of deltoid in front, and passed through the triceps; comminution of the humerus; fragments of bone driven into soft parts; very offensive and profuse sanguineous discharge from wound; Sept. 16, free suppuration from upper part of humerus, and suppuration of joint; head of humerus not injured
	Shoulder elbow excision.	2d. Schoenborn, Prof., Berlin—then, now of Koenigsberg.	.....	.....	....	Same	End Nov. 1870.	S.	2d. Synovitis and suppuration of elbow-joint, and necrosis of remaining part of humerus.
432	Arch. für Klin. Chir. 16, 2, 405.	Langenbeck, B. Von, Berlin.	Pithiviers Field, Lazareth 3d Army Corps.	Dibelius, 2d Lieut. Res. 64th Infantry Regiment. Post Secretary.	M.	Nov. 30, 1870. Nancroy.	Dec. 1, 1870.	S.	Shot wound; a Chassépot ball entered in front 2 inches below acromion on left side, and passed out through the latissimus, fracturing the upper end of humerus greatly; head and upper third of shaft comminuted.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
431	Front I	Aug. 26, 1870, seven fragments removed from middle of diaphysis; Sept. 16, 1870, eight more splinters from upper part of shaft, and head of humerus; attachments of tendons preserved to periosteum (subperiosteal); in all 6¼ inches of upper part of shaft and the head.	Recovered, 12 months.	.....	In fall of 1871, patient seen in Berlin, and found the whole humerus reformed, the shaft of which was strong and firm; the elbow-joint in form and function is so completely reproduced that it is difficult to believe this joint had been resected; hand and forearm useful for all purposes (after this see remarks); May 24, 1873, right member somewhat smaller; right forearm and hand stronger than other; new joint formed at shoulder; active antero-posterior motion of arm good; brings hand to head and mouth, and eats with it; ties cravat; puts hand on back; use of fingers perfect; strong grip of forearm between pronation and supination and cannot be supinated; voluntary motion of elbow-joint strong and normal; outward raising of arm very slight, and can't be done without moving shoulder-blade.	38 from first operation.	Biceps of tendon preserved; reaction was favorable; suppuration diminished; the wound at upper part healed by 1st intent'n, later limb became infiltrated and swollen at its lower part; hard and very sensitive, and the wound at the orifice of entry assumed a diphtheritic appearance; this continued until October, 1870, when he was removed to Berlin; electricity recommended in the fall of 1871, but not applied; patient fell and fractured the new formed humerus in November, 1871; dressed with plaster of Paris bandage; united in 5 weeks; he suffered from this to the spring of 1872; 3 more fractures of this bone, always at different parts and transverse; same dressings.
....	.....	2d. Remains of humerus entire, entering elbow-joint; radius and ulna not touched.					
432	I	6½ inches of upper end of humerus, including head; periosteum not wholly preserved, as a portion of this was destroyed.	Recovered.	2½	July 8, loose joint; lower ⅓ of the resected bone regenerated; arm wasted; Sept. 1872, can't raise arm from shoulder-joint; loose joint; between upper end of humerus and glenoid cavity 2 inches; incomplete flexion of forearm, incomplete only to an angle of 145°; in May, 1873, wound opened, and small portion of bone thrown out; wound refused to heal; carried arm in splint for months; in summer, 1872, began to use his hand, and gained incomplete use of it; shoulder-blade muscles atrophied; deltoid greatly developed; shoulder full; whole arm thin; loose shoulder-joint; Nov. 1873, is a private secretary; can raise arm to the front, hand to mouth, and fingers as high as eyes; shoulder-joint more firm; forearm quite strong and useful; flexion and extension of elbow, and pronation and supination can be performed to a considerable extent; hand and fingers completely useful, and have become very strong; lifts 10 lbs. from floor; this improvement was due to the use of electricity and gymnastics.	35	Tendon biceps preserved; this patient had no subsequent treatment, neither electricity nor systematized exercise for a time; always carried arm in sling; long fibrous union between joint and end of humerus; passive motion of elbow; active motion of elbow very imperfect; wrist and fingers have passive and active motion; grip imperfect. These remarks relate to the early history of this case.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
433	Notes and Recollections Ambulance Surgeon, p. 130.	MacCormac, see Case 426.	Caserne, d'Asfeld.	Soldier.	M. ?	.....	1870.	S.	Gunshot injury.
434	Notes and Recollections Ambulance Surgeon, p. 130.	MacCormac, see Case 426.	Caserne, d'Asfeld.	Soldier.	M. ?	.....	1870.	S.	Gunshot injury.
435	Kriegs-Chirur. Erinnerungen, Von Fischer, G. S. 35, p. 51.	Reported by Von Fischer, G., Hanover, Germany.	Franco-Prussian War.	Baehr, Fr., 2d Nassau Reg't Inf'ty, No. 88.	M. ?	.....	1870.	P.	Fracture of head and anatomical neck of humerus.
436	Kriegs-Chirur. Erinnerungen. Von Fischer, G. S. 35, p. 51.	Reported by Von Fischer, G., Hanover, Ger.	Franco-Prussian War.	German Soldier.	M. ?	.....	1870.	P.	Fracture of head and anatomical neck of humerus.
437	Kriegs-Chirur. Erinnerungen, Von Fischer, G. S. 35, p. 52.	Reported by Von Fischer, G., Hanover, Ger.	Hospital, Castle, Versailles.	German Soldier.	M. ?	20 to 40 hours before operation.	1870.	P.	Fracture of anatomical and surgical neck, with fissures of head of humerus.
438	Kriegs.Chirur. Erinnerungen, Von Fischer, G. S. 35, p. 52.	Reported by Von Fischer, G., Hanover, Ger.	Hospital, Castle, Versailles.	German Soldier.	M. ?	20–40 hours before oper.	1870.	P.	Fracture of head and neck of humerus.
439	Kriegs-Chirur. Erinnerungen, Von Fischer, G. S. 35, p. 52.	Reported by Von Fischer, G., Hanover, Ger.	Hospital, Castle, Versailles.	German Soldier.	M. ?	20–40 hours before oper.	1870.	P.	Fracture of head and neck of humerus.
440	Kriegs-Chirur. Erinnerungen, Von Fischer, G. S. 35, p. 52.	Reported by Von Fischer, G., Hanover, Ger.	Hospital, Castle, Versailles.	German Soldier.	M. ?	20–40 hours before oper.	1870.	P.	Fracture of head and neck of humerus.
441	Kriegs-Chirur. Erinnerungen, Von Fischer, G. S. 35, p. 52.	Reported by Von Fischer, G., Hanover, Ger.	Hospital, Castle, Versailles.	German Soldier.	M.	42 days before oper.	1870.	S.	Fracture of surgical neck of humerus; ball entered beneath acromion, and came out of middle scapula; abscess about joint resulted, and joint became inflamed (said to be) from too much motion.
442	Kriegs-Chirur. Erinnerungen, Von Fischer, G. S. 35, p. 52.	Reported by Von Fischer, G., Hanover, Ger.	Hospital, Castle, Versailles.	German Soldier.	M. ?	13 days before oper.	1870.	S.	Fracture of neck of humerus.
443	Kriegs-Chirur. Erinnerungen, Von Fischer, G. S. 65, p. 52.	Reported by Von Fischer, G., Hanover, Ger.	Hospital, Castle, Versailles.	German Soldier.	M.	26 days before.	1870.	S.	Fracture of neck of humerus.
444	Kriegs-Chirur. Erinnerungen, Von Fischer, G. S. 35, p. 52.	Reported by Von Fischer, G., Hanover, Ger.	Hospital, Castle, Versailles.	German Soldier.	M.	13–42 days before.	1870.	S.	Fracture of neck of humerus.
445	Fractures par Armés à Feu, p. 107.	Chipault, A., Orleans, France.	Near Orleans, France, Franco-Prussian War.	Bureau, Robt, 5th Co. 1st Bat. 2d Regt. Zouaves (French) Limoges. "Losing strength daily, from fever and suppuration.	M. 20	Dec. 3, 1870.	Jan. 25, 1871.	S.	Fracture of head, with splintering of neck and shaft of left humerus; by bullet; head denuded of cartilage.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
433	1	Head of humerus.	Recovered.	.....	?		
434	1	Head of humerus.	Died, pyæmia.				
435	1	Head and 2 inches shaft of humerus.	Recovered, 5 months.	.....	"Wound healed at 5 mos., and arm can be moved in front, but not raised; Langenbeck says useful elbow and hand."	5	
436	1	Head and 2 inches shaft of humerus.	Not stated.	.....	Not stated.		
437	1	Below surgical neck.	Recovered.	.....	Useful elbow and hand, and dangling member; see Langenbeck.		
438	1	Below anatomical neck.	Died, pyæmia.				
439	1	Below anatomical neck.	Died, pyæmia.				
440	1	Below anatomical neck.	Died, 5 days, pyæmia.	.....	.....	.....	Case complicated with gunshot wound of chest; ball lodged.
441	1	Head and anatomical neck of humerus.	Recovered, 6 weeks.	.....	"Almost healed in six weeks; Langenbeck says useful hand and elbow, and dangling member."	1½	Dr. Fischer, in the work referred to, states that Sédillot now advocates the operation; he also states that bandages to support the elbow are of little value; states that fractures of the head and surgical neck form the basis of indication for this operation; see work, loc. cit., p. 51.
442	1	Below anatomical neck.	Recovered, 6 weeks.	.....	"Wound nearly healed; see, also, case above."	1½	
443	1	Below anatomical neck.	Recovered, 6 weeks.	.....	"Wound nearly healed; see, also, case above."	1½	
444	1	Below anatomical neck.	Recovered, 6 weeks.	.....	"Wound nearly healed; see, also, case above."	1½	
445	1	4.71 inches of head and shaft; glenoid cavity not interfered with.	Recovered, 7 months.	.....	"Wound healed; is able to carry the arm from the chest 3.93 inches, and to elevate, in this manner, the hand to the top of the head; but in this last movement, the arm is shortened, its superior part thickened, and projects at the expense of the deltoid; result very satisfactory."	7	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
446	Arch. für Klin. Chir. Lang. 16, 2, 394.	Müller, Dr. Max, Surgeon in charge Marien Hospital, Coeln, Germany.	Marien Hospital, Coeln.	Wagner, Julius, Sub Officer 7th East Prussian Regiment, No. 44.	M.	Jan. 19, 1871, at St. Quentin.	Feb. 7, 1871.	S.	Shot fracture of head of left humerus; ball entered near coracoid process, and passed out behind at the same level; the glenoid cavity not injured; posterior part of capsular ligament destroyed; free suppuration; biceps tendon not injured.
447	Fractures par Armés à Feu, p. 114.	Chipault, A., Orleans, France.	Near Orleans, France, Franco-Prussian War.	Lordey (Jean-Marie), Saint-Léger, France, Soldier 37th Regt. of the Line, 1 Bat. 2 Co. (French). State very bad; extreme pallor; prostration.	M. 21	Dec. 16, 1870.	Mar. 15, 1871.	S.	Comminuted fracture of the head of the right humerus; entire head diseased; ball passed through the neck; cartilage nearly all destroyed.
448	Letter, 1872.	Murphey & Whorton, St. Pauls, Minn.	St. Pauls, Minn.	Grogan, Mortimer.	M. 40	?	Nov. 5, 1871.	P.	Wound of joint; fracture of humerus.
449	Nouveau Dict. de Méd. et de Chir. Pratique, t. 13, p. 509.	Nélaton, Paris.	France.	Chasseur de Blois, France.	M. ?	.....	?	?	Gunshot injury.

Sorrel's Statistics added

450 to	Sorrel's Statistics;	C. S. Army.	War Rebellion	41 cases.	M. 29	.....	1861 to 1865.	P.	Shot wounds.
519	Sorrel's Statistics.	C. S. Army.	War Rebellion	29 cases.	M. 29	.....	1861 to 1865.	S.	Shot wounds.

Add also balance of the Table of Asst. Surg. Otis, U. S. A.,

520 to 680	Circular No. 6, p. 55.	Tabulated by G. A. Otis, Asst. Surgeon U. S. Army.	War, 1861.	161 cases.	M.	.....	1861 to 1865.	S.	Shot wounds involving joint.
681 to 837	Circular No. 6, p. 55.	Tabulated by G. A. Otis, Asst. Surgeon U. S. Army.	War, 1861.	157 cases.	M.	.....	1861 to 1865.	P.	Shot wounds involving joint.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
446	1	Subperiosteal, bone removed at upper part of surgical neck.	Recovered, 8 weeks.	.....	Wound closed in 8 weeks; at end of 10 weeks could swing a 15 lb. weight; the hand could be brought to face, and behind his neck and back; discharged May 9, 1871; October 6, 1871, can lift 25 lbs.; arm extended, can only hold 3 lbs. for a moment; can bring arm up behind back and neck; tie cravat, eat, comb hair, cut his meat, dress himself, and write a great deal.	27	Cut in front; treatment, several drainage tubes; wound dressed with carbolized oil; orifices of entrance and exit kept open; elbow kept bent; quin. sul. given for suppurative and surgical fever; patient neglected active motions, and use of arm became less; April 10, 1873, active motions and electricity (induced) employed, rapid improvement; and in about a month's treatment could raise arm horizontally, and in five more sittings could raise arm vertically.
447	1	4.32 inches of head and shaft; glenoid cavity not interfered with.	Died, 22 days, gangrene of thoracic walls.	.....	.....	.....	There was also a superficial wound of the left shoulder.
448	1	Head and 3 inches shaft of humerus.	Recovered, 2 months.	.....	"Very good."	2	
449	.....	Head of humerus.	Recovered.	.....	"The use of the arm totally re-established, even the function of abduction."		

o these Tables.

50 to 19	?	Head of humerus. Head of humerus.	13 Died, 28 Recovered. 7 Died, 22 Recovered.				

ot included in the previous cases.

20 to 50	?	?	58 Died, 103 Recovered.				
51 to 87	?	?	35 Died, 122 Recovered.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
838 to 856	Med. Record, New York, ix. 236.	Reported by Beck, B., Freiburg.	Franco-Prussian War.	8 German Soldiers 14th Prussian Army Corps. 3 had symptoms of septicæmia before operation.	8 M.	About 60 hours before operation.	1870 to 1871.	P.	Shot wound of joint; in 2 cases great laceration of scapula from shells.
	Med. Record, New York, ix. 236.	Reported by Beck, B., Freiburg.	Franco-Prussian War.	14th Prussian Army Corps. Found in the most deplorable condition.	1 M.	.....	1870 to 1871.	Int.	Shot wound.
	Med. Record, New York, ix. 236.	Reported by Beck, B., Freiburg.	Franco-Prussian War.	9 cases, 14th Prussian Army Corps. 3 had pyæmia at time of operation.	9 M.	.....	1870 to 1871.	S.	Shot wound.

Remarks.—We do not tabulate the remaining eleven cases of excision of this joint, which were done among the Germans, to avoid duplication. [☞ The last number in the Table of Gunshot Excisions should have been 855, not 856; for there are 18 cases only at the close

Tabular Statement of Excision

Remarks.—The following numbers of cases represent excisions for injuries and wounds, other than gunshot, viz., Nos. 13, 14, 24, 27, 53, 69, 72, 81, 97, 111, 112, 120. The other cases are examples of excision for disease.

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Syme, Princ. Surg., p. 658; Gant's Surgery, p. 656.	White, Chas., Manchester, England.	Manchester Infirmary England.	Pollit, Edmund, Sterling, England. "Had night-sweats, diarrhœa, quick pulse, anorexia, extreme emaciation."	M.	Abo't 2 w'ks before.	April 14, 1768.	....	Acute necrosis of upper part of humerus, with inflammation and abscess of joint; free suppuration; arm and hand swelled to twice their natural size; no cause stated; suddenly taken; left side.
2	Gant's Surgery, p. 656; Hodges, p. 22.	Ridewald.	Germany.	Germany. In a wretched state of health.	M. 50	.....	April. 1770.	....	Rheumatic arthritis.

of Shoulder-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
838 to 856	.....	Head of humerus; never more than 3 inches of humerus.	3 Died, 5 Recovered.	.....	In the 5 who recovered the final results were good; Langenbeck says had useful elbows and hands, and dangling shoulder-joints.	.....	3 probably died of septicæmia; Langenbeck says in his Arch. für Klin. Chir., B. 16, H. 2, S. 305, of the 44 gunshot excisions of this joint, in the Franco-Prussian War, 2 had good results, and 31 had the loose dangling member, and in most cases all active motion of the shoulder was wanting, while the elbow and hand were useful; while he says, on the other hand, that of 51 cases of gunshot wound of the shoulder-joint, 43 were treated conservatively, and 8 secondarily resected, the patients and physicians thought the conservative treatment gave the best results; refers also to the opinion of Mossakowski, Berthold, and Seggel, who entertain the same view.
	.....	Head of humerus; never more than 3 inches of humerus.	Died 1	.....			
	.....	Head of humerus; never more than 3 inches of humerus.	4 Died, 5 Recovered.	.....	3 probably died of pyæmia In the 5 who recovered, the final results were good; Langenbeck says had useful elbows and hands, and dangling shoulder-joints.		

of this table, and not 19. The error was not discovered until the sub-tables in excisions had been printed. It cannot now be corrected, and it is not material, as it does not affect the per cents. or conclusions.]

of Shoulder-Joint for Disease and Injuries.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	I to outside.	Head of humerus, and 2 months later, a sequestrum from the upper portion of shaft.	Recovered, 4 months.	1	"Has perfect use of the arm; can elevate it to any height, and perform rotary motion as well as ever."	.....	In this case the head, which was removed, was replaced by a newly-formed head (see Syme, p. 629).
	?	Head of humerus.	Died, exhaustion, from secondary hemorrhage and suppuration, 3 weeks after amputation.	.....	Soon after amputated, for exhausting suppuration and hemorrhage.	.....	Velpeau (see Surg., p. 798) says this operation was done by Camper and Ridewald.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
3	Hodges, p. 22; Barwell, Dis. Joints, p. 409; Syme, p. 660.	Bent, James, Newcastle, England.	Newcastle, England.	"A woman." England.	F. ad't	3 years' standing.	Oct. 1771.	....	Chronic arthritis; caries of head of humerus.
4	Hodges, p. 23; Jaeger; Barwell, Dis. Joints, p. 424.	Lentin, Germany.	Germany.	Germany.	?	.....	1771.	....	Chronic arthritis; caries of head of humerus.
5	Hodges, p. 23; Syme, p. 660; Barwell, Dis. Joints, p. 410.	Orred, Daniel, Chester, England.	England.	England.	M. 40	3 years' standing.	Aug. 1778.	....	Chronic arthritis; caries of the "head of humerus."
6	Hodges' Exc. p. 24; South's Velpeau, ii. 800; Heyfeld. Exc. p. 163.	Moreau, Son.	France.	France.	?	.....	1812.	....	Chronic arthritis; caries.
7	Hodges' Exc. p. 24; South's Velpeau, ii. 800; Heyfeld. Exc. p. 163.	Moreau, Son.	France.	France.	?	.....	1812.	....	Chronic arthritis; caries.
8	Hodges' Exc. p. 24; South's Velpeau, ii. 800; Heyfeld. Exc. p. 163.	Moreau, Son.	France.	France.	?	.....	1815.	....	Chronic arthritis; caries.
9	Hodges, p. 23; Hodges' ta. 17; Syme, p. 660–1; Velpeau's Surg. p. 800–802, ii. 801.	Moreau, P. F., Sr., Bar, France.	France.	A young woman. Cousance, France.	F. 45	.....	July 8, 1786.	....	Chronic arthritis; caries of head of humerus.
10	Dict. de Méd., xviii. 287; Velpeau's Surg. by Patterson, p. 272; Heyfeld. O. p. 163.	Surg.-Major of the Regt. "de Berri."	France.	"A child." France.	M. 4	.....	1789.	....	Necrosis of head of right humerus.
11	Hodges, 23.	Fernire, Moux, France.	France.	France.	M. 14	.....	Short time after 1794.	....	Not stated.
12	Heyfeld. p. 163.	Moreau, P. F., Sr., Bar, France.	France.	France.	?	.....	1794.	....	For disease.
13	Surg. Memoirs, i. 108, ii. 136.	Larrey, D. J., France.	Salehyeh, Egypt.	?	M. ?	Aug. 8, 1798.	Aug. 8, 1798.	P.	Incised wound of shoulder-joint; from sabre cut; head separated from body of humerus.
14	Surg. Memoirs, ii. 136.	Larrey, D. J., France.	Polish Camp'gn.	A trumpeter of the Corps of Mamelukes	M. ?	Dec. 1806.	Dec. 1806.	P.	Incised wound of right shoulder-joint; from scimeter cut; joint laid open and head of humerus entirely cut off from body of bone.
15	Hodges, p. 24; Wagner, A., 119; Heyfeld. p. 163.	Textor, K., Würzberg.	Germany.	Germany.	?	.....	After 1815.	....	Caries.
16	Hodges, p. 24; Wagner, A., p. 119; Heyfeld. pp. 163, 171.	Textor, K., Würzberg.	Germany.	Germany.	M. 19	.....	1821.	....	Caries.
17	Syme's Surg. Works, p. 663; Med.-Chir. Rev. i. 235, 1827.	Syme, Jas., Edinburgh, Scotland.	Edinb'gh, Scotland.	Laing, Christian, Roslin, Scotland. "Had an exhausting diarrhœa; growing daily weaker and thinner."	F. 38	6 years' standing.	April 1, 1826.	....	Chronic arthritis; from fall; abscesses of joint; necrosis of head; sinuses; left side; end of acromion bare.

of Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
3	T	Head of humerus.	Recovered.	.....	"If the limb was not perfect, it was extremely useful."	?	
4	I	Whole humerus, except 2 inches of lower end.	Recovered.	.....	The arm remained stiff; not very useful.	?	Heyfeld. O., p. 163, says not very useful.
5	I to outside.	Head of humerus.	Recovered.	.....	"If the limb was not perfect, it was extremely useful."	?	
6	U	Head of humerus.	Recovered.	.....	Successful.		
7	U	Head of humerus.	Recovered.	.....	Successful.		
8	U	Head of humerus.	Recovered.	.....	Successful.		
9	U	Head of humerus, glenoid cavity, and portion of acromion.	Recovered.	.....	"A remarkably successful case."	.....	"The first complete excision of this joint."
10	?	Head of humerus.	Recovered.	.....	"Presented to the Academy the head of her right humerus, which had been removed; useful."	.....	Hodges' ta. No. 5, gives the age of this patient as 13 years.
11	?	Head of humerus.	Recovered.	.....	"Successful."		
12	U	Head of humerus.	?	.....	?		
13	None.	The separated head.	Recovered.	.....	"Preserved the arm."	?	
14	None.	The separated head.	Recovered.	.....	Anchylosis resulted; wound healed; and he was perfectly restored.	?	Returned to France.
15	U	Head of humerus.	Recovered.	.....	"Usefulness of arm great."	.....	Died, months afterwards, of disease unconnected with operation.
16	U	Over 3 inches, including head of humerus.	Recovered, 9 months.	.....	"Wound healed in 9 mos.; arm remained shortened; could be used with much force and skill, but could not be elevated."	.....	Died, months afterwards, of disease unconnected with operation.
17	L	Head of humerus; end of acromion.	Recovered, 2 months.	1	"Sews, knits, washes; carries a basket or any other ordinary load with left arm; motion of joint free; very little power of abduction."	54	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
18	Syme's Surg. Works, p. 666.	Syme, Jas., Edinburgh.	Edinbg'h.	Brothwick, Charles, Edinburgh, Scotland. Had cough; was thin and emaciated; severe pain in joint; phthisis	M. 40	4¼ years' standing.	July 11, 1826.	....	Chronic arthritis; caries of head and root of coracoid process, and glenoid cavity; abscesses; sinuses; left side; came on suddenly; no known cause.
19	Letter, 1871, from operator.	McCook, Geo., Pittsburg, Pa.	At residence, Center Twp., Cumberland, O.	Morrow, John United States.	M. 9	?	1826.	....	Chronic arthritis; caries; from accident.
20	Letter, 1871, Operator.	McCook, Geo., Pittsburg, Pa.	Private practice.	Wilkaney, Thomas, near New Lisbon, Ohio.	M. 16	.....	1827.	....	Chronic arthritis; from accident; necrosis.
21	Med.-Chir. Rev. xviii. 277, 1833.	Babington, England.	Saint George's Hospital, England.	"A clod-hopper."	M. 40	?	Before Mar. 28, 1831.	S.	Chronic arthritis; caries.
22	Med.-Chir. Rev. xviii. 275, 1833.	Brodie, Sir. Benj. C., Bart. London.	Saint George's Hospital, England.	Jones, Sarah, England.	F. 18	?	Mar. 28, 1831.	....	Chronic arthritis; caries (left side).
23	Hodges' Exc. p. 31, from Lond. Med. Gaz. Sept. 13, 1834; Hodges' ta. 35.	Roux, Ph. J., France.	France.	?	M. 40	?	1834.	....	Osteo-sarcoma.
24	South's Velpeau p. 799; Wagner, A., p. 119.	Textor, K., Würzberg, Germany.	Germany.	Germany.	?	.....	1836.	S.	Comminuted fracture, involving joint.
25	Lancet, i. 210, 1838 and 1830; Hodges' ta. 28.	Liston, Robt., 5 Clifford St., London.	Univ. College Hospital, London.	E——, W., England. "Gen'l health much impaired."	M. 34	5 mos. standing.	Oct. 3, 1838.	....	Chronic arthritis; caries of head of humerus; absorption of cartilages, from carrying his tray on right shoulder.
26	Lancet, i. 689, 1840–41.	Liston, Robt., 5 Clifford St., London.	Univ. College Hospital.	M——, J., England. "Has lost health and strength."	M. 28	4 years' standing.	Oct. 26, 1840.	....	Chronic arthritis; abscess of shaft, and caries of head of left humerus; no cause known.
27	Am. Jour. Med. Sci., N. S., xii. 230.	Pinkney, Nineau, U. S. Navy.	Callao, Peru.	Burden, John R., a Sailor, United States. "Gen'l health materially impaired."	M. 17	14 mos. standing.	Jan. 6, 1842.	S.	Chronic arthritis of right shoulder-joint; sinuses; abscesses; caries; arm semi-flexed; from fracture of head of humerus.
28	Hodges' ta. 43.	Williamson, G., Ireland.	Ireland.	Ireland.	M. 39	.....	June 22, 1844.	S.	Chronic arthritis.
29	Heyfeld. O. p. 172; Hodges' ta. 23; Wagner, A., p. 231.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	M. 39	?	1847.	....	Chronic arthritis; caries.
30	Hodges' No. 24.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	M. 65	.....	June 15, 1847.	S.	Chronic arthritis of right joint.
31	Lancet, i. 226, 1859; Hodges' ta. 28.	Key, C. Aston, London.	England.	England. Healthy man.	M. 34	.....	Jan. 1849.	....	Chronic arthritis; caries of head of humerus.
32	Lancet, ii. 556, 1850.	Hancock, H., 76 Harley St., W. London.	Charing-Cross Hospital.	England.	M. 18	April 1849.	May 1849.	....	Chronic arthritis; from a blow; fracture of head, several portions; abscess; bone diseased; head separated at epiphysis.

of Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
18	<	Head of humerus; root of coracoid process; glenoid cavity gouged.	Died, 6 months, phthisis.	.....	In six weeks wound nearly healed.	6	"At autopsy the end of bone rounded off, and united to scapula by ligamentous bands."
19	I	2 inches, including head of humerus.	Recovered.	.....	"Partial use of arm by keeping arm close to side, and better control over forearm."	36	"Three years afterwards, died of fungus hæmatodes of right thigh."
20	I	1¾ inches of humerus, including head.	Recovered.	.....	Partial; compelled to keep at side to use the forearm in any degree.	12	"Died 1 year after of pulmonary inflammation."
21	?	Head of humerus, and portion of shaft.	Recovered, 3 months.	.....	Health good; sinuses about scapula; can move arm forwards and backwards, and support a not inconsiderable weight in hand.	17	States all disease of joints begins in synovial membrane, cartilage, or bone.
22	V	Head and 1½ inches shaft of humerus, and loose portions of scapula.	Recovered.	.....	Wound healed, but sinuses about arm; limb worthless.	17	Died of thoracic disease Dec. 1832.
23	.....	Head of humerus; glenoid cavity cauterized.	Died, shortly afterwards.				
24	⊔	Head of humerus.	Recovered.	.....	"Very great."	At least 72	Considered secondary operation from the character of the incision.
25	Γ	Head of humerus to anatomical neck.	Recovered, 9 months.	.....	"A very useful arm."	9	
26	Γ	Head of humerus, and another slice of shaft.	Recovered.	.....	"Health excellent; wound healed; not yet using limb, as a precautionary measure."		
27	I	One-third head of humerus.	Recovered, 3 months.	?	"Able to do duty as a sailor; executes all the natural motions of the arm."	21	
28	?	Head of humerus, glenoid cavity, neck of scapula.	Recovered, 3 months.	.....	"Useful arm."		
29	I Prefers anterior	Nearly the (upper) third of humerus.	Recovered, 25 days.	But little.	"Greater part of the humerus reformed; at death the coracoid process carious, and there were fistulæ leading from this bone."	12	Died of phthisis after one year.
30	Prefers anterior	Head of humerus, and glenoid cavity.	Died, 21 days, exhaustion.				
31	?	Head of humerus.	Recovered, 9 months.	.....	"Had been working for years in an engineer factory"	84	
32	U	Head and 2 inches of shaft.	Recovered.	.....	"Erysipelas stiffened elbow; moves arm backwards and forwards; uses hand with facility."	12	Had erysipelas of member.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
33	Rogers' ta. 28.	Langenbeck, B., Berlin, Germany.	Germany.	Germany.	M. 30	.....	1850.	....	Softened enchondroma of scapula.
34	Lancet, i. 406, 1854; Hodges' ta. 13.	Solly, Samuel, London.	Saint Thomas' Hospital.	C——, Catherine, England.	F. 27	.....	June, 1849.	....	Chronic arthritis.
35	Lancet, i. 406, 1854; Hodges' ta. 10.	Solly, Samuel, London.	Saint Thomas' Hospital.	McC——, Terrence, England.	M. 35	15 mos. standing.	June 2, 1849.	....	Chronic arthritis; abscesses; sinuses; head soft and carious; glenoid cavity healthy; from cold (left side).
36	Arch. Gén. de Med. t. v. 2d series, p. 156; Hodges' ta. 37.	Lasserre, Agen, France.	Agen, France.	France.	?	?	?	....	Chronic arthritis; abscess of the limb and scapulo-humeral articulation.
37	Hodges' ta. 12.	Stanley, London.	London.	England.	M. 35	.....	April 6, 1850.	S.	Chronic arthritis; right joint.
38	Hodges' ta. 20.	Seutin, Baron, Belgium.	Belgium.	Belgium.	M. 14	.....	Before 1851.	S.	Chronic arthritis; left joint.
39	Hodges' ta. 44.	Gunn, Prof.	U. S.	United States.	M. 20	.....	Winter, 1850–51.	....	Chronic arthritis.
40	Hodges' ta. 38.	Blasius, Halle.	Germany.	Germany.	....	.....	No later than 1851.	S.	Chronic arthritis.
41	Lancet, i. 336, 1853.	Erichsen, J. E., 6 Cavendish Place, W. London.	Univ. College Hospital.	C——, John, England. "In a precarious state; has hectic."	M. 6	Some mos. before.	Nov. 24, 1851.	....	Chronic arthritis; from dislocation of head of left humerus; caries of head and glenoid cavity; abscess.
42	Hodges' ta. 45.	Gunn.	U. S.	United States.	M. 15	.....	Dec. 13, 1851.	....	Chronic arthritis.
43	Hodges' ta. 32.	Erichsen, J.E. see Case 41.	Univ. College Hospital.	London.	F. 10	.....	About 1852.	....	Chronic arthritis.
44	Am. Jour. Med. Sci., N. S., xxvi. 346; Hodges' ta. 21.	Warren, J. Mason, Boston, Mass.	In Boston, Mass.	United States. System being worn out from great pain & suppuration.	M. 60	3 years' standing.	Dec. 1852.	....	Chronic arthritis; caries of head; abscesses; no cause known; osteophytes about joint; left side.
45	Erichsen, Surg. by Ashhurst, p. 731; Hodges' ta. 6.	Erichsen, J.E. see Case 41.	Univ. College Hospital.	England.	M. 17	.....	Probably 1852.	....	Chronic arthritis.
46	Hodges' Exc. Joints, p. 32; from Lond. & Edin. Monthly Jour. Med. Sci. June, 1853.	Bickersteth, Liverpool.	England.	England.	?	?	1853.	....	For exostosis.
47	Hodges' ta. 11.	Not stated.	England.	England.	M. 25	.....	1854.	S.	Chronic arthritis.
48	Repair after Resection and Extirpation of bones, Wagner, A., Syd. Trans. v. 229; Hodges' ta. 25.	Ried, Jena.	Germany.	Bad state of health from empyæmia.	M. ?	?	July 6, 1854.	....	Chronic arthritis; caries of head of humerus and glenoid cavity.
49	Letter, 1872, Operator.	Sayre, L. A., 285 5th Ave., New York.	Patient's residence.	C——, Mrs., 317 E. 27 St., New York.	F. 38	?	April, 1854.	....	Chronic synovitis, ending in caries and suppuration.

of Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
33	T middle.	All of scapula except its coronoid process.	Died, 17 hours, from effects of chloroform.				
34	U	Head of humerus.	Recovered, 2 months.	.....	"Useful arm."	2	
35	U	Head of humerus.	Recovered, 8½ months.	.....	"Wound healed; very useful arm."	8½	
36	?*	Head of humerus.	Recovered, 1 month.	.....	Entirely recovered the force of the member.		
37	.....	Head of humerus.	Recovered, 10 months.	.....	Very useful arm.	10	
38	?	Head and 5¾ inches of humerus.	Recovered, 3 months.	.....	"Tolerably useful arm."	3	
39	?	Head and upper ½ of humerus.	Recovered, 14 days.	.....	"In a year did heavy manual labor."	12	
40	.....	Head of humerus.	Recovered.	.....	"Most of the motions preserved."		
41	U	Head of humerus; glenoid cavity gouged; 9 weeks later, 2 inches of shaft for caries.	Recovered, 4 months.	.....	"Health good; cicatrix firm and puckered; movements of arm partially free."	After 12	When last seen an abscess was opened under clavicle; it was thought that bone might be diseased.
42	?	Head and upper ½ of humerus.	Recovered, 14 days.	.....	"Works as a farm laborer."		
43	U	Head of humerus.	Recovered.	.....	"Useful arm."		
44	V	Head of humerus and glenoid cavity.	Recovered, 3 months.	.....	"Weaves ten hours a day; still a sinus; can raise hand to mouth."	24	
45	U	Head of humerus.	Recovered, 1 year.	2½	"Arm extremely useful; false joint formed between acromion and coracoid; forearm well developed."	120	
46	.....	Head of humerus.	Recovered.	.....	"Successful."		
47	?	Head of humerus; glenoid cavity gouged.	Died, 6 weeks, uræmic poisoning.				
48	I	Head of humerus; glenoid cavity gouged.	Recovered, 8 months.	.....	"Did well for 8 months; wound healed save two small fistulæ; the functions of arm perfect except abduction; then his health failed, and usefulness of limb diminished."	12	The post mortem showed a new joint and capsule formed in this case, also slight caries of glenoid cavity; at 1 year died of phthisis and lumbar abscess.
49	I	Head of humerus.	Recovered.	.....	"Useful joint."	60	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
50	Lancet, ii. 410, 1855; Ibid. i. 226, 1859.	Birkett, John, 59 Green St., Grosvenor Sq. W. London.	Guy's Hospital, London.	England. "Wasting and sickly; bad gen'l health."	M. 57	Old standing.	Admitt'd July 10.'55.	....	Chronic arthritis; head denuded, and its cartilage necrosed; suppuration; from injury (right side).
51	Lancet, i. 536, 1856.	Syme, James, Edinburgh.	Royal Infirmary Edinb'gh.	S——, H., Scotland. "Evidences of hectic irritation."	F. 19	12 mos. standing.	Nov. 1855.	....	Chronic arthritis; from carrying a pot at arm's length; abscesses; caries of coracoid process; head bare; right side.
52	Rogers' ta. 33.	Langenbeck, B., Berlin.	Prussia.	Germany.	M. 12	.....	1855.	....	Encephaloid osteo-cancer of scapula.
53	Boston Med. & Surg. Jour., lvi. 28.	Choppin, N. Orleans.	Charity Hospital, New Orleans.	Louisiana. "Extremely exhausted."	M. ad't	Same day operation.	Spr'g 1856.	P.	Lacerated wound of the shoulder; from railroad injury.
54	Boston Med. & Surg. Jour., lvi. 28; Lancet, i. 410, 1857.	Syme, Jas., Edinburgh.	Royal Infirmary Edinb'gh.	S——, Jenet.	F. 70	6 mos. standing.	Admitt'd Sept. 18, 1856.	....	Cysto-sarcomatous tumor of scapula.
55	Rogers' ta. 35; Heyfeld. O. 224.	Heyfelder, J. F., Erlangen, Germany.	Germany.	Germany. "Constitution poor."	? 40	.....	1856.	....	Caries of scapula, involving the joint and head of humerus.
56	Am. Jour. Med. Sci., N. S., xxxiv. 560; Hodges, 47.	Blackman, G. C., Cincinnati, O.	Commercial Hospital, Cincinnati.	United States.	M. 5	?	June 6, 1857.	....	Chronic arthritis; caries of head and upper part of humerus.
57	Lancet, ii. 419, 1857.	Coote, Holmes 52 Margate St. W. London.	Saint Bartholomew's Hospital, London.	England. "Weakly; emaciated."	M. 60	5 mos. standing.	July 13, 1857.	....	Chronic arthritis thought to have been from rheumatism; abscesses; excessive suppuration; erosion of cartilages (right side); disease of glenoid cavity.
58	Hodges' ta. 42.	Bozeman, N., United States.	New Orleans, La.	.....	M. 25	.....	1857.	S.	Chronic arthritis of left joint.
59	Hodges' ta. 33.	Lawrence, William, see Case —.	London.	England.	M. 40	.....	July 25, 1857.	....	Chronic arthritis.
60	Hodges' ta. 46.	Gunn.	U. S.	United States.	M. 29	.....	Oct. 5, 1857.	....	Chronic arthritis.
61	Hodges' No. 30.	Long.	England.	England.	M. 25	.....	1857.	....	Chronic arthritis.
62	Hodges' No. 31.	Not stated.	England.	England.	F. 29	.....	1857.	....	Chronic arthritis.
63	Med. & Surg. Reporter, iii. 410; Hodges' ta. 22.	Pancoast, Jos. Philada., Pa.	Jefferson College Clinic, Philada.	United States.	M. 28	.....	About Jan. 1858.	....	Chronic arthritis; caries.
64	Lancet, i. 226, 1859.	Jones, G. M., Jersey Island Eng. Chan.	Jersey Hospital.	Jersey Island Eng. Chan.	F. 14½	16 mos. standing.	May 19, 1858.	....	Chronic osteitis of scapula; from carrying heavy child; with necrosis of scapula and end of clavicle, and abscesses.
65	Hodges' ta. 40.	Ried, Prof., Jena.	Germany.	Germany.	M. 28	.....	Dec. 13, 1858.	S.	Chronic arthritis of left joint.
66	Arch. für Klin. Chir. Lang. 16, 2, p. 351.	Langenbeck, B. Von, Berlin.	Germany.	Germany.	M. ?	.....	June 1859.	S.	Caries of head of right humerus.

of Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
50	V	Head of humerus.	Recovered, 18 months.	.....	"Sinuses all healed in 18 mos., and for 2 years past has been doing varied work as a farm laborer."	Over 48	
51	1	Head of humerus and coracoid process.	Recovered.	None	When dismissed, health good; arms of equal length; could move joint at will in all directions.		
52	T middle deltoid.	Entire scapula and 3 inches of clavicle.	Died, 10 months, of return of disease.	.....	"Nothing stated as to usefulness of member."		
53	?	Entire scapula.	Died, shock.	.....	.....	.....	It is believed death should be attributed to shock of injury from his exhausted state when received.
54	T	Entire scapula.	Died, 2½ months, exhaustion, from old age.	None	"Wound nearly healed in two weeks; operation did not interfere with motions of shoulder." "Arm useful."	2½	Position of shoulder same as the other.
55	Front 1	1st operation, spine scapula. 2d, three months later, entire scapula and head of humerus.	Died, 9 days, exhaustion, from suppuration.				
56	?	Head of humerus.	Recovered, 2 months.	.....	"In good health, and pretty good use of limb."	5	
57	1	Head above anatomical neck.	Died, 2 weeks, diarrhœa.				
58	?	Head of humerus.	Recovered, 4 months.	.....	"Arm as good as ever."		
59	?	Head of humerus.	Recovered.	.....	"Useful arm."		
60	.....	Head of humerus.	Recovered, 3 weeks.	.....	"Useful arm."		
61	?	Head of humerus.	Recovered.	.....	"Fair amount of motion."		
62	.....	Head of humerus; glenoid cavity gouged.	Died, 3 months, phthisis.				
63	?	Upper 3 inches, including head of humerus.	Recovered, 2 months.	.....	"Puts hand on head; uses same in dressing; employs it usefully in his ordinary avocations."	24	
64	1 over spine; 1 along upper border.	Entire scapula and 1 inch of clavicle.	Recovered, 1 month.	.....	"Sewed at 1 month; raises arm horizontally from side with slight effort; raises hand to mouth; scrubs, makes bed, lifts heavy hospital register."	8	
65	T	Head of humerus; glenoid cavity gouged.	Recovered, 3 months.	.....	"Movements tolerable."	3	
66	T Middle	Head of humerus (subperiosteal); operator claims this to be the first subperiosteal excision done of this joint.	Died, 2 years, phthisis.	.....	He preserved the attachment of the upper muscles of the head of humerus to the diaphysis; the attachment of the sub-scapulosis incomplete.	.....	Specimen showed a small head covered with hyaline cartilage had been formed at upper end of resected humerus, and at glenoid fossa; and that a synovial capsule had been reformed about the new joint.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
67	Lancet, i. 411, 1860; Hodges' ta. —.	Solly, Samuel, London.	Saint Thomas' Hospital, London.	D——, R., England. "Emaciated and pale; family phthisical; deposit upper lobe right lung."	M. 19	2 years' standing.	June 25, 1859.	....	Chronic arthritis (no cause known) of left side; abscesses.
68	Lancet, ii. 324, 1859; Ibid. 256, 1866; Hodges' ta. 34.	Bryant, Thomas, 2 Finsbury Sq., E. C. London.	Guy's Hospital.	England.	M. 22 or 24	9 mos. standing.	July 19, 1859.	....	Chronic arthritis (no cause known); tuberosities enlarged; erosion of cartilages; softening and porosity of head; right side; fistulæ.
69	Letter, 1873.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Pa.	Patient's Hospital.	Loel, John, Pittsburg, Pa. "Room unfavorable and weather hot."	M. 45	July 25, 1859.	July 26, 1859.	P.	Lacerated wound from circular saw; head of humerus sawed.
70	Lancet, i. 410, 1860.	Fergusson, Sir William, 16 George St., W. London.	King's College Hospital.	A——, M., England. "Healthy looking."	F. 46	18 years' standing.	Oct. 29, 1859.	....	Chronic arthritis thought to have been caused by rheumatism (right side); abscesses; sinuses; glenoid cavity diseased; joint partly anchylosed.
71	Hodges' Exc. 31; from Lond. Med. Times & Gaz., Aug. 20, 1859.	Hutchinson, J., 4 Finsbury Circus, E. C. London.	London.	England.	?	.....	1859.	....	Myeloid tumor of the bone.
72	Lancet, 621, 1863.	Gilfillan, Brooklyn, New York.	New York.	United States.	?	.....	Probably 1859.	....	Compound comminuted fracture of humerus.
73	Surgery, 1088.	Gross, S. D., Philada., Pa.	Philada.	A Sailor.	M. 40	.....	Probably 1859.	....	Chronic arthritis; caries.
74	Letter, 1873.	Walter, A. G., see Case 69.	Parents' house, Penna. Avenue.	Sweikhart, Albert, Pittsburg, Pa.	M. 19	6 mos. standing.	June 12, 1860.	....	Chronic arthritis; caries of head of right humerus.
75	Lancet, 664, 1866. Rogers' ta. 39.	Hammer, A., St. Louis, Mo.	St. Louis, Mo.	United States.	F. 18	.....	Sept. 1860.	....	Osteo-encephaloid of scapula.
76	Syd. Year Book, p. 289, 1860, from Med. Times & Gaz., Feb. 1860, p. 116; Hodges' ta. 27.	King, England.	England.	England. Had phthisis.	F. ?	.....	1860.	....	Chronic arthritis; glenoid cavity diseased; right side.
77	Rogers' ta. 40.	Syme, James, Edinburgh.	Scotland.	Scotland.	M. 43	.....	1860.	....	Osteo-cancer of scapula.
78	Rogers' ta. 41.	Schuh, Vienna.	Austria.	Austria.	? 8	.....	1860.	....	Osteo-cancer of scapula.
79	Letter, 1873.	Walter, A. G., see Case 69.	Walter's Hospital, Pittsburg	McCarthy, James, Pittsburg, Pa. Intemperate.	M. 40	1 year's standing.	June 16, 1861.	....	Chronic arthritis; caries of head of humerus; from synovitis.
80	Authority omitted in tabulating.	Buck, Gurdon, 46 W. 29th St. New York.	Saint Luke's Hospital, N. York.	Reynolds, William, United States.	M. 38	Long standing.	Aug. 17, 1861.	....	Chronic arthritis; long-standing synovitis.
81	Syd. Year Book, 282, 1861, from Am. Med. Times, Feb. 9, p. 100; Letter, 1872.	Post, A. C., 291 Madison Avenue, New York.	N. York.	United States.	F. 47	Injury received at birth.	1861.	S.	Dislocation of head of humerus, with fibrous anchylosis; arm rotated inwards behind back; head on dorsum scapula.

of Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
67	U	Head of humerus; glenoid cavity gouged.	Recovered, 4 months.	.....	"Wound soundly healed; arm can be moved more freely and without pain; has gained flesh and strength; sinus on side of chest still discharges occasionally."	4	
68	I	Head and portion of shaft.	Recovered, 6 weeks.	1½	"Drives pair of horses; raises arm to level with shoulder; uses this as well as other arm."	72	Hodges' ta. gives age 24.
69	I	Head of humerus to surgical neck.	Died, 11 days, pyæmia.				
70	E	Head of humerus; glenoid cavity gouged.	Recovered, 5 weeks.	.....	Useful arm, with much motion at the shoulder-joint.	After 1½	
71	?	Head and upper fifth of humerus.	Died, of recurrence of disease in lungs and elsewhere.	.....	"Died before the usefulness of the limb had been put to much trial."		
72	?	Entire humerus.	Recovered.	.....	"Recovered with the best results."	?	
73	I	Humerus to 1½ inch below head.	Recovered.	.....	"Very useful arm."		
74	U	Head and neck of humerus.	Recovered, 9 weeks.	.....	"Wound healed; useful arm; does duties of carriage driver; performs all the duties of arm except raising arm above level with shoulder."	120	
75	?	Entire scapula and acromial end of clavicle.	Recovered.	.....	"Recovered with a useful arm, but died in 10 mos. of a return of the disease."	10	
76	?	Head of humerus; glenoid cavity gouged.	Died, 5 months, phthisis.				
77	<	Entire scapula and outer end of clavicle; 2 inches of head of humerus removed at a previous operation.	Recovered.	.....	"Had a useful arm some years after operation."	Some years.	
78	.....	Entire scapula.	Recovered.	.....	"No subsequent history."	?	
79	I	Head, neck, and 1 inch of shaft of humerus.	Recovered, 3 months.	.....	"Useful arm; motions full, yet unable to raise arm above a right angle."	36	
80	I	Head of humerus.	?	.....	?		
81	<	Head of humerus.	Recovered.	.....	"Deformity greatly diminished; limited amount of motion, due chiefly to muscular atony; wound healed."	?	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
82	Hodges' ta. 49.	Teal.	England.	England.	M. 20	.....	No later than 1851.	?	Chronic arthritis.
83	Hodges' ta. 50.	Humphry.	England.	England.	F. 18	.....	No later than 1851.	?	Chronic arthritis.
84	Am. Jour. Med. Sci., N. S., xlvi. 385.	Bennett, N. H., Bridgeport, Conn.	Conn.	Andrews, Henry A., Brookfield, Connecticut. Emaciating rapidly; free suppuration.	M. ad't	21½ mos. standing.	Feb. 14, 1862.	....	Osteo-cartilaginous tumor of humerus (right side).
85	Letter, 1873.	Walter, A. G., see Case 69.	Father's house, Centre Avenue.	Grewert, Peter, Pittsburg, Pa. Very feeble.	M. 5	16 mos. standing.	Aug. 22, 1862.	....	Chronic arthritis; caries of head of humerus.
86	Heyfelder, O., Traité des Res. p. 163.	Heyfelder, O., St. Petersburg Russia.	Russia.	Russia.	M. 20	Recent.	Prob. 1862.	S.	Traumatic acute arthritis, with periostitis and abscess of marrow.
87	Lancet, 247, 1866.	Bird, J., Durham.	Stockport Infirmary	L——, Ellen, England. "Very emaciated; cervical glands enlarged."	F. 10	3 years' standing.	1st, Jan. 26, 1863. 2d, Feb. 17, 1865.	....	1st. Malignant tumor of scapula. 2d. Extension of disease to neck of scapula and head of humerus.
88	Letter, 1873.	Walter, A. G., see Case 69.	Walter's Hospital, Pittsburg	Small, Wm., Allegheny City, Pa. "Is feeble; has chronic bronchitis."	M. 42	2 years' standing.	April 25, 1863.	....	Chronic arthritis; caries of head, and necrosis of shaft of humerus.
89	Letter, 1873.	Walter, A. G., see Case 69.	Private practice.	Lewis, Sam'l, Mifflinty's Coal Mines, Pennsylvania	M. 20	1 year's standing.	Jan. 11, 1864.	....	Chronic arthritis; profuse suppuration; calcareous degeneration of head of humerus, and enchondromatous degeneration of muscles (left side).
90	Buffalo Med. & Surg. Jour., iii. 8.	Miner, J. F., Buffalo, N. Y.	Sisters' Charity Hospital, Buffalo.	B——, M., United States.	M. 32	.....	Feb. 3, 1864.	....	Chronic arthritis; caries.
91	Letter, 1872.	Sayre, L. A., New York, see Case 49.	Bleeker St. cor. Mercer, N. York.	P——, Wm.	M. 27	6 years' standing.	June, 1864.	S.	Fracture of head of humerus, and neck of scapula.
92	Syd. Biennial, 1865–66, 261, from Gaz. Méd. de Paris, May 6, 1865.	Ollier, Lyons, France	France.	France.	F. 15	Old disease.	Sept. 16, 1864.	....	Chronic arthritis; old disease of bones, joint, and cartilages; caries of shaft of humerus.
93	Lancet, 600, 1866.	Michaux, Louvain. France.	Louvain, France.	France.	M. 15	.....	Nov. 1864.	....	Encephaloid tumor of scapula and its muscles.
94	Lancet, 256, 1866.	Holmes, T., 39 Clarges St., Mayfair, W. London.	Saint George's Hospital, London.	"A man." England.	M. ad't	.....	1864.	....	Chronic arthritis; extensive disease of joint.
95	Lancet, 390, 1865.	Fergusson, W see Case 70.	King's College Hospital.	O——, Henry, England. "Good health; delicate looking."	M. 18	15 years' standing.	Mar. 4, 1865.	....	Chronic arthritis; from injury when a child; abscesses; sinuses; necrosis.

of Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
82	?	Head of humerus; glenoid cavity gouged.	Recovered.	.....	"Considerable range of motion obtained."		
83	?	Head and large portion of humerus; glenoid cavity gouged.	Recovered.	.....	No details.		
84	I	Head and humerus down to insertion of deltoid.	Recovered.	.....	"Motions of forearm perfect; horizontal motions of arm lost; usefulness of arm improving; can plant corn as well as any one."		
85	U	Head of humerus at surgical neck.	Recovered, 3 months.	.....	"Wound healed; useful arm for ordinary purposes; want of muscular strength in raising arm above a right angle."	60	
86	I front.	Upper ½ of humerus, including head.	Died, 4 days, pyæmia.				
87	1st (2d longitudinal.	1st. Body of scapula to neck. 2d. Remains of scapula and head of humerus.	Recovered, from last operation.	.....	After 2d operation, wound healed; use of hand in sewing and writing but little impaired; can carry a moderate weight; false joint forming against ribs (2d and 3d).	After last operation. 5¾	
88	U	Head and 2½ inches shaft of humerus.	Recovered, 3 months.	.....	"Moderate use of joint; can raise arm above right angle; able to do light manual labor."	96	
89	I	Head and 3 inches shaft of humerus.	Died, 3 weeks, pleuro-pneumonia, with pyæmic symptoms.				
90	I	Head of humerus, including anatomical neck.	Recovered.	.....	"Works at his trade as a carpenter."	?	
91	I	Head and 1 inch of humerus, and to neck of scapula.	Recovered.	.....	"Very useful joint, but can elevate arm but little."	72	
92	I	Upper half of humerus; 4 inches (subperiosteal).	Recovered.	½	The bone was reproduced; can put hand to head; dress herself; draw hand forward and backward 18 inches with force; some rotation.		
93	?	Entire scapula.	Recovered.	.....	Nothing said.	11	Died, cancerous tumor mediastinum, in Sept 1865.
94	?	Head of humerus.	Recovered.	.....	"Wonderfully useful arm; able to do almost anything with it."	24	
95	⌐	Head and 1½ inches neck of humerus.	Recovered, 1 month.	.....	"Can wheel a heavy coal box; swings arm backwards and forwards, and raises arm a little."	1	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
96	Lancet, 526, 1865; Roger's ta. 51; Syd. Biennial Retro., p. 220, 1865–66.	Pollock, London.	Saint George's Hospital, London.	T——. Charlotte, England. Health much impaired.	F. 16	12 mos. standing.	July 27, 1865.	....	Osteo-cancer of scapula.
97	Cat. Surg. Sec. A. M. M. p. 116.	Allen, H., Asst. Surgeon U. S. Army.	Hospital, Washington.	S——, H., Pr. F, 51st Pa.	M. 36	Mar. 25, 1865. Petersburg.	April 1865.	S.	Shattered fracture of part removed of right humerus; from a shell striking a log, and the latter the arm.
98	Buffalo Med. & Surg. Jour. v. 4; Letter, 1872.	Miner, J. F., Buffalo, N. Y.	Sisters' Charity Hospital, Buffalo.	K——, Patrick, United States.	M. 55	?	Oct. 4, 1865.	....	Chronic arthritis; caries.
99	Buffalo Med. & Surg. Jour. v. 6.	Miner, J. F., Buffalo, N. Y.	Buffalo General Hospital.	Dean, J., United States.	M. 2½	.....	Dec. 6, 1865.	....	Chronic arthritis; caries.
100	Lancet, 622, 1871.	Lane, S. A., 2 Berkley St., W. London.	At her father's residence	F——, E., London. "Much reduced."	F. 10½	2 mos. standing.	1865.	....	Chronic arthritis, with abscess, caries, and suppuration; from cold and acute arthritis; glenoid cavity carious.
101	Roger's ta. 49.	Fergusson, William, see Case 70.	England.	England.	M. 25	.....	1865.	....	Encephaloma of scapula.
102	Letter, 1872.	Miner, J. F., Buffalo, N. Y.	Buffalo, N. York.	Ryan, Pat.	M. 34	.....	Mar. 8, 1867.	S.	For injury; fistulæ.
103	Letter, 1872.	Gardner, Perrin, Porter, O.	At residence	Kennedy, Henry.	M. 47	?	April 1, 1867.	S.	Chronic arthritis; caries of head and surgical neck.
104	Am. Jour. Med. Sci. N. S. lvi. 359; Butler's Half Yearly Compend., Part iii. 295, 1868.	Rogers, Stephen, 249 W. 42d St. New York.	N. York, private patient.	Name omitted. United States. "Health failing; small axillary tumor."	F. 7½	About 9 mos. standing.	Dec. 12, 1867.	S.	Osteo-cancer of left scapula; encephaloid form.
105	Lancet, 336, 1870.	Schuppert, New Orleans.	New Orleans, La.	"A woman," United States.	F. ad't	.....	Mar. 30, 1868.	....	Ossifying enchondroma; involving scapula.
106	Letter, 1872.	Spencer, A. J. San Jose, California.	Santa Clare Co. Infirmary Cal.	——, Wm., German boy, United States. General health good.	M. 18	In 1867.	June, 1868.	....	Chronic arthritis; caries; from injury.
107	Lancet, 755, 1868.	Jones, Sydney, 15 St. Thomas St. S. E. London.	Saint Thomas' Hospital, London.	Englaud.	?	.....	Oct. 7, 1868.	....	Enchondroma scapula weighing 11 lbs.
108	Am. Jour. Med. Sci., N. S., lviii. 475.	Maunder, C. F., 29 New Broad Street, E. C. London.	Not stated.	England.	F. 62	8 mos. standing.	1868.	....	Chronic rheumatic synovitis; head devoid of cartilage; neck bordered with osteophytes; abscesses.
109	Letter, 1872.	Walter, A.G., see Case 69.	Private house.	Weitershauser, Chas., Allegheny City, Pa.	M. 3	1 year's standing.	Mar. 3, 1869.	....	Chronic arthritis; caries of head of humerus (right side).
110	Rank. Abst. Part 52, p. 223, 1871.	Harrison, R., Liverpool.	Royal Infirmary Liverpool	"A dock laborer." England.	M. ad't	Some mos. before.	Aug. 31, 1869.	....	Chronic arthritis; abscesses of arm; caries (left side); from injury.

of Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
96	∩	Entire scapula, except portion of acromion process.	Recovered, 11 weeks.	.....	"Wound perfectly healed; no pain; could move arm from front backwards; uses arm freely in sewing and writing."	After 2½	Patient subsequently died from a recurrence of the disease.
97	?	Head and 4½ inches of shaft.	Died, May 4, 1835, pyæmia.				
98	I	Head of humerus.	Recovered, 7 weeks.	.....	Can perform nearly all the motions, and is rapidly gaining strength.	1¾	
99	I	Head and ⅝ inch of shaft of humerus.	Recovered.	.....	Parts look healthy, and promise a very satisfactory result.	2½	
100	T	2½ inches of humerus, including head; glenoid cavity gouged.	Recovered.	4	"Wound healed; cannot raise arm horizontally; motion of forearm perfect; works readily; writes, and plays piano."	72	
101	?	Entire scapula, except the acromion process.	Recovered, 1 month.	.....	"At end of month had considerable antero-posterior motion of arm."	1	3d case of this excision in Great Britain; advised this operation to be done from posterior border forwards in future.
102	V	Upper third of humerus.	Recovered.	.....	"Met him wheeling a wheelbarrow."	4	
103	V	Head and surgical neck of humerus.	Died, 20 days, pyæmia.				
104	O	Entire scapula.	Recovered.	.....	"Had good use of arm until disease recurred in shoulder."	6	Died of return of disease, after 6 months.
105	?	Entire scapula, except small portion of acromion process.	Recovered.	.....	"Can move the arm in four different designated positions; perfect recovery."	9	
106	I	7 inches, including head of humerus.	Recovered.	.....	"Perfect use of arm except in raising weights, when the arm is extended from the body."	.....	Also removed 8 inches of the biceps muscle along the short head for fatty degeneration.
107	?	Entire scapula, except acromion process.	Died, 5 days, shock.	.....	.....	.....	M. Ollier (see Lancet, Am. Ed., 1872, p. 609) speaking of the fact that the humerus develops mainly from the upper conjugate cartilage, will operate against excisions of this joint.
108	?	Head of humerus and lower half of glenoid cavity.	Recovered.	.....	"Recovered with a very useful limb."	?	
109	I	Head and neck of humerus.	Recovered, 6 months.	.....	"Does not use the arm as freely as desired, or as perfectly as the other; motion, however, is free."	21	
110	I	Head of humerus and small portion of spine scapula.	Recovered.	.....	"Arm almost as useful as other; can lift 56 lbs. with it, and raise a chair to a level with shoulder."	12	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
111	Lancet, 152, 1869.	Paget, Sir Jas., 1 Harewood Place, W. London.	Saint Bartholomew's Hospital.	"A Soldier." England.	M. ad't	1 year before.	1869.	S.	Fracture, with dislocation of head of humerus, with large deposit of callus (right side).
112	Med. Bulletin, Baltimore, Md., xxi. 257.	Warren, Prof. Baltimore, Md	?	M——, Mrs., United States.	F. 50	?	1869.	....	Irreducible dislocation at shoulder-joint.
113	Med. Record, New York, v. 162, 276.	Hutchison, Joseph C., Brooklyn, New York.	Brooklyn City Hospital.	United States.	M. 35	3 years' standing.	Mar. 18, 1870.	....	Chronic arthritis; abscesses; sinuses; necrosis of head and shaft of humerus, and slight necrosis of glenoid cavity; no injury assigned.
114	Butler's Comp., p. 8, from Am. Practitioner.	Blackman, George C., Cincinnati, O.	Commercial Hospital, Cincinnati.	Hays, Patrick United States.	M. 50	?	May 24, 1870.	....	Chronic rheumatic arthritis; head of left humerus softened.
115	Letter, 1872.	Barden, E. E., Alexandria, Minnesota.	Alexandria, Minn.	Falmer, L. C., Hudson, Minn System greatly impaired.	M. 20	.....	June 13, 1870.	....	Chronic arthritis; enlargement and softening of head of humerus, with ulceration of cartilages.
116	Lancet, 621, 1871.	Gant, F. J.	Royal Free Hospital.	C——, John, England. Health reduced; had been a hard drinker.	M. 21	2 years' standing.	Oct. 15, 1870.	....	Chronic arthritis; abscesses; caries and ulceration of cartilages; from blow on right shoulder.
117	Letter, 1872.	Miner, J. F., Buffalo, N. Y.	Sisters' Charity Hospital.	Cahill, Francis, United States.	M. 13	.....	Mar. 14, 1871.	....	Chronic arthritis; caries.
118	Am. Jour. Med. Sci., N. S., lxii. 557.	Steel, Chas., Bristol, England.	Royal Infirmary Bristol.	B——, C., England. Had fallen off in flesh, and looked rather delicate.	? 8	.....	April 18, 1871.	....	Encephaloid tumor of scapula.
119	Letter, 1872; Med. Record, New York, Jan. 2, 1872, p. 497.	Mason, Erskine, New York.	Charity Hospital, N. York.	M——, A., United States.	M. 36	.....	June 26, 1871.	S.	Chronic arthritis, with caries, luxation, and traumatic aneurism.
120	Letter, 1872.	Gregory, E.H. St. Louis, Mo.	Private practice, St. Louis, Mo.	Patterson, James, United States.	M. 30	.....	July 4, 1871.	P.	Lacerated wound of joint by circular saw; wound very extensive.
121	Med. Record, vi. 497.	Mason, Erskine, New York.	Colored Home, N. York.	Colored man.	M. 29	Some time before.	Aug. 21, 1871.	S.	Chronic arthritis; necrosis of head of humerus; abscess of joint; result of fall on shoulder.
122	Letter, 1872.	Barden, E. E., Alexandria, Minnesota.	Loef Valley, Minn.	Wilhelm——, Loef Valley, Minnesota. Very thin and emaciated.	M. 3	2 mos. standing.	Sept. 15, 1871.	S.	Chronic arthritis; caries, with absorption of head of humerus.
123	Letter, 1872; Rich. & Louisville Journal, Aug. 1872, 171.	1st, Kennedy; 2d, Logan, Samuel, New Orleans, La.	Charity Hospital, New Orleans.	Pierre, Janivere, New Orleans,	M. 9	18 mos. standing.	1st Sept. 3, 1871. 2d Dec. 19, 1871.	S.	1st. Chronic arthritis, and caries of humerus. 2d. Caries and necrosis of scapula; left side.
124	Letter, 1872; Med. Record, New York, Feb. 18, 1872.	Sayre, L. A., see Case 49.	Charity Hospital, N. York.	Louisiana. Carl, C. J., New York.	M. 44	6 years, before.	Dec. 27, 1871.	....	Chronic arthritis and necrosis; result of injury from wagon (right side).
125	Letter, 1872.	Lizars, J. L., Toronto, Ontario, Canada.	At home.	Justin, J., Toronto, Canada.	M. 10	In childhood.	Mar. 11, 1872.	...	Chronic arthritis; ulceration of cartilages; from injury.

f Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	U	Head of humerus.	?	.....	?	?	
2	V	Head of humerus.	Recovered.	.....	"Able to feed and dress herself with right hand; she regarded the improvement as very great."	Several	
3	I	4 inches, including head of humerus; sequestrum from glenoid cavity.	Recovered.	.....	?	Near 2	
4	I	2 inches, including head of humerus.	Recovered, 4 months.	.....	"Incisions closed; in excellent health."	4	
5	V	Head of humerus to surgical neck.	Recovered.	.....	"Has a very good joint; is well and hearty."	24	
6	U	To below the great tuberosity of humerus; glenoid cavity gouged.	Died, 3½ months, of amyloid degeneration of liver.	.....	"At 6 weeks wound healed, and a freely movable joint in all directions; limited ability to raise arm horizontally."	3½	
7	I	Head of humerus, including nearly half of the shaft.	Recovered.	.....	Very useful.	12	
8	∩	Entire scapula.	Died, 5 months, of return of disease at original seat.	.....	"At 7 weeks wound nearly healed; hand and forearm could be freely used; antero-posterior motion of arm."	5	
9	I	Head, and 2 inches shaft of femur.	Recovered.	.....	"Is able to work on a turning lathe."	6	
10	Irregular.	Head, and half-inch of shaft.	Recovered.	.....	"Joint good; is able to work at his business, that of a saw polisher."	.....	The division of bone was effected by the circular saw.
11	?	Head of humerus.	Recovered.	.....	"Has every motion of arm, except can raise arm only 4 or 5 inches from side."	2½	
12	I	Head of humerus to below surgical neck.	Died, 2 months, pyæmia.	.....	"No attempt of nature to heal the bone."	.....	Patient sank by degrees.
13	1st not stated; 2d +	1st. 2 inches upper end of humerus; glenoid cavity scraped. 2d. Entire scapula.	Recovered.	.....	"Can draw 26 pounds, arm horizontal; lifts 26 pounds; flexing the forearm, and not lifting with the body, raises 14 lbs.; earns living as gardener and laborer; often works with wheelbarrow; raises hand to face and head."	10 after last operation.	
14	I	4½ inches of humerus, and to neck of scapula.	Died, 2 months, smallpox.	.....	Wound entirely closed, and was getting a useful joint, when attacked with smallpox.	2	New bone was thrown out about the dead bone.
15	I	One inch, including head.	Recovered.	.....	"Can raise arm to right angle; deltoid perfect; perfect result."	4	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
126	Med. News & Lib., Phila., xxxi. 38; Lancet April 1873, 217.	Erichsen, J. E. see Case 41.	Univ. College Hospital.	England. "Healthy."	M. 14	29 mos. before.	Oct. 2, 1872.	....	Chronic arthritis; caries; sinuses; abscesses; necrosis of left humerus and glenoid cavity; from a blow.
127	Syd. Biennial Retro. 1871–72, p. 231.	Spence, Jas., Edinburgh, Scotland.	Edinb'gh.	Scotland. General health good.	M. 65	18 years' standing.	1872.	....	Malignant tumor, involving scapula.
128	Med. News & Lib., Phila., xxxii. 78.	O'Grady, Dublin.	Mercer's Hospital, Dublin.	?	M. 18	?	1st about Jan. 1873.	S.	Chronic arthritis and caries, with recurring necrosis and caries of scapula.
				Same patient as above.	M. 19	.....	2d Jan. 20, 1874.	S.	.....

Tabular Statement of Extraction

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Cooper's Surg. Dict. p. 82; Hodges, p. 21; Velpeau's Oper. Surg. p. 272.	Thomas, Pezenas, Languedoc.	France.	"A child."	? 4	.....	Aug. 1740.	....	Chronic arthritis; head separated and necrosed.
Not included, see remarks.	Dict. de Méd. t. 18, p. 287; Cooper's Surg. Dict. i. 82; Gant's Surgery, p. 656.	Vigaroux, Montpellier.	France.	France. Operated upon too late.	M. 17	.....	1767.	....	Chronic arthritis; necrosed portion of humerus as high as the upper epiphysis.
	South's Velpeau p. 800; Gant's Surgery, p. 656; Dict. de Méd. xviii. 287.	David, père, Rouen.	France.	France.	?	.....	1767.	....	Chronic arthritis; necrosed portion of humerus as high as the upper epiphysis.
2	Velpeau, by South, ii. 798–99; Hodges' Ex. 21; Heyfeld. p. 163.	Boucher, Lille, France.	After Battle of Fontenoy, France.	France.	M. ?	.....	After May 11, 1745.	P.	Gunshot wound of joint; upper extremity of humerus shattered into splinters.
3	Guth. Com. p. 131.	Recorded by Guthrie, J. G.	At assault Badajos, Spain.	Madden, Lieut. 52d Regiment. (English.)	M. ad't	.....	1812.	S.	Gunshot fracture of head of humerus; by musket ball.
4	Guth. Com. p. 131.	Recorded by Guthrie, J. G.	Toulouse, France.	Masters, Robt. 40th Regiment (English).	M. ad't	April 12, 1814.	May 24, 1814.	S.	Gunshot wound of head of right humerus; ball lodged in head.
5	Guth. Com. p. 131.	Recorded by Guthrie, J. G.	Toulouse, France.	Oxley, ——, Pr. 23d Regt., English.	M. ad't	April 12, 1814.	?	S.	Gunshot wound of head of humerus; by musket ball.
6	Surg. Memoirs, i. 327.	Larrey, D. J.	At the taking of Spire, Germany.	.....	M. ?	1792.	1792.	P.	Gunshot fracture of head of humerus; by bullet.
7	Guth. Com. p. 132.	Reported by Guthrie, J. G.	Rec'd at Sobraon, India.	Moore, Ensign Bengal Army.	M. ?	Feb. 10, 1846.	None done.	S	Gunshot fracture of head of humerus; by musket ball.

of Shoulder-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
126	1	Head of humerus, and glenoid cavity gouged.	Recovered, 1 month.	.....	"Wound nearly healed; can move limb without difficulty or pain."	1	
127	?	Entire scapula, and portion of outer end of clavicle.	Recovered, 3 months.	.....	"Dismissed cured; head of humerus projected up against the line of incision."	3	"In future he would leave the outer end of clavicle to prevent the upward motion of the head of humerus."
128	?	1st. 3 inches head and shaft of humerus.	.....	.....	Nothing said, probably not useful, as disease recurred in scapula.		
	?	2d. Entire scapula.	Doing well.	.....	Progressing favorably at 12 days.		

of Fragments of Bone from the Shoulder-Joint.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	"An incision previously made."	Separated head; some sequestra previously.	Recovered.	.....	"Successful."		
Not included, see remarks.	I	Portion of upper end of humerus as high as the epiphysis; head not removed.	Died, soon after, pyæmia.	.....	.....	.....	This case is included here only to show that it is not an excision of this joint.
	?	Portion of upper end of humerus as high as the epiphysis; head not removed.	Recovered.	.....	"Not stated."	.....	This case is included here only to show that it is not an excision of this joint.
2	None.	Fragments of the head of humerus.	Recovered.	.....	The limb was not obliged to be sacrificed.		
3	Simple incision	Fragments of head from time to time, and also the ball.	Recovered.	.....	"Ultimately he preserved a very serviceable arm."	?	
4	Form of not stated.	Portion of head of humerus, with the ball.	Recovered, 3 months.	.....	Shoulder-joint stiff; use of forearm preserved; limited use of arm by motion of scapula.	3	
5	?	"Pieces of head of humerus removed or came away."	Recovered, 4 months.	.....	Joint stiff; forearm used as before the accident.	About 4	Wound healed in July, 1814.
6	Wound dilated.	Fragments of head of humerus.	Recovered.	.....	"This man was cured, and the arm was united by anchylosis."		
7	None.	Fragments, including nearly whole of head.	Recovered, 28 months.	.....	"Under use of arm perfect."	28	

Tabular Statement of Extraction

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
8	Letter, 1872.	Walker, W. H. Fond du Lac, Wisconsin.	Fond du Lac, Wis.	Dury, Morton, Fond du Lac. Soldier.	M. 22	Oct. 8, 1862.	Feb. 8, 1863.	S.	Gunshot fracture of head of left humerus and acromion process; received at Champion Hills.
9	Letter, 1872.	Janes, Henry, Waterbury. Vermont.	Gettysburg.	H——, A., Sergt. F, 4th Texas, C. S. A.	M. 25	July 4, 1863.	July 4, 1863.	P.	Gunshot fracture of head of humerus.
10	Hodges' Exc. p. 32, from Hamilton on Dis. & Fract.	Brainard, Daniel, Chicago.	U. S.	United States.	?	1 year's standing.	?	S.	Necrosis and separation of head of humerus: from injury; head partly absorbed.
11	Hodges' Exc. p. 32, from Hamilton on Dis. & Fract.	Brainard, Daniel, Chicago.	U. S.	United States.	?	3 mos. standing.	?	S.	Necrosis and separation of head of humerus: from injury; head partly absorbed.
12	Lancet, 119, 1863.	Barwell, see Case —.	Charing-Cross Hospital.	M——, R., In bad condition; very thin and delicate.	F. 16 mos	5 mos. standing.	June 18, 1862.	S.	Necrosis of head of right humerus, and chronic arthritis; from injury.

of Fragments of Bone from the Shoulder-Joint—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
8	Irregular, enlarged cloacæ.	Several fragments of head and acromion process.	Recovered.	.....	"Joint anchylosed; saws wood; hoes for short periods; can't bring hand to head; can to mouth by bending head forward."	108	
9	?	Anterior portion of head of humerus.	Recovered.	.....	Not stated.	2	
10	?	Separated head of humerus.	Recovered.	.....	"Recovered with tolerably useful arm."		
11	?	Separated head of humerus.	Recovered.	.....	"Recovered with tolerably useful arm."		
12	I	Separated head of humerus: necrosed end shaft smoothed off.	Recovered, 2½ months.	.....	Small piece of bone to come away, and small sinus; uses hand pretty freely; movements of shoulder good, and its strength considerable; health very much better.	2½	

EXCISION OF THE ELBOW-JOINT.

EXCISION OF THE ELBOW-JOINT.

HISTORY.

WAINMAN, of Shripton, England, seems to have been the first to execute a partial excision of this joint for injury (complicated and irreducible luxation), about the year 1758. He removed the lower extremity of the humerus to just above the fossa which receives the olecranon process.

Salmon extracted the fragments of (2 inches of) the radius in 1777, and John Ulrich Bilguer, Surgeon-in-Chief to Frederick II., reports, in 1781, the removal of fragments comprising all this joint in one case, and portions of the radius and ulna in another; all of which were for gunshot injuries. But these operations are not examples of *excision.*

In 1775, Justamond, of London, did the first *partial* excision of this articulation *for disease*, removing the olecranon process and two inches of the ulna. About this period, Tyre, of Gloucester, England, excised two and one-half inches of the lower end of the humerus for compound dislocation. Later, and probably before 1783, Alanson *extracted* "the sequestrum of the olecranon, and inner tuberosity and lamina of the body of the humerus" (not an incision) for fracture of the inner condyle. In 1783, W. Hey, of Leeds, England, excised the lower extremity of the humerus, for caries.

In 1794, G. F. Moreau, of Bar-sur-Ornain, France, performed the first complete excision of this joint for disease. Whether before or after this date, P. F. Percy, of France, did three complete excisions of this joint for gunshot wounds, and, so far as we know, these are the first complete excisions of this articulation for gunshot or other injury. Moreau, son, did the next complete excision in June, 1797, for caries. Between this date and 1801, H. Park, of Liverpool, performed the first *complete* excision of this joint, in England, for disease; and before 1806, the same surgeon excised the apex of the olecranon, and removed the articular fragment of

the humerus, for a complicated fracture. From the last date until 1823, this excision seems to have been executed almost entirely by French and English surgeons. In 1823, K. Textor performed the first partial excision for injury, in Germany, and the same surgeon executed a number of complete excisions of this joint for disease between this date and 1832.

James Syme, of Edinburgh, accomplished the first complete excision for disease, in Scotland, November 3d, 1828; and the example of this able surgeon was followed, in this country, in two complete excisions of this articulation, in 1832, by John Sterling, of Glasgow, and again in 1831, by David Kerr, of Aberdeen. Judging from the cases presented in the several tables, this excision came into favor in Germany, after 1830 or 1831, through the operations of Textor, Blasius, Dietz, Fricke, H. Metz, J. F. Heyfelder, and Michael Jaeger; the latter of whom did his first *partial* excision of this joint in 1829.

Philip Crampton, of Dublin, did the first *complete* excision of this joint, in Ireland, February 4, 1823.

In *this* country the first complete excision for disease was done October 16, 1834, by John C. Warren, of Boston, Mass.; and on the 16th of January, 1841, Gurdon Buck, of New York, executed a similar operation for like cause. In 1842, the last-named surgeon did the first excision of this joint, in this country, for anchylosis, and during the same year, Prof. Joseph Pancoast performed a complete excision for disease. In 1847, Otis Hoyt, now of Hudson, Wisconsin, performed a complete excision of this articulation in the General Hospital, at Jalapa, Mexico, during the Mexican war, and in the person of a soldier named Loup, of an Illinois regiment. So far as we know, this is the first excision of this joint, done for gunshot wound, upon this continent. During the war of 1861, R. B. Bontecou, now of Troy, New York, executed the first partial excision of this joint for gunshot wound, in November, 1861. The tables develop the fact that this excision became a very popular conservative measure, among our surgeons, for gunshot injuries. Abroad, the Sleswick-Holstein war, the Crimean, and the Italian wars, aided in developing the merits of this excision, as did also the late Franco-Prussian war. However, it must be stated that, during the last-named war, the surgeons engaged often resorted to extraction in lieu of excision for gunshot injuries of this joint, with apparently favorable results. But these extraction cases are, as yet, too few in number to enable one to

determine if this mode of practice will give better results than those presented from excisions.

In general, it may be said, that excision of this articulation is a most popular operation, and although doubts have been expressed as to the propriety of excising the other large joints of the extremities, surgeons are generally in favor of *thus* removing the *elbow-joint.*

It should be stated here that we consider a *partial* excision of this joint as one involving the removal of the lower extremity of the humerus, or of the upper end of the radius, or of the ulna, or of the upper extremities of the radius and ulna; and a *complete* excision, as the resection of the lower extremity of the humerus and the upper of the ulna, or of the lower end of the first-named bone, and the upper ends of the radius and ulna; but we regard excision of the humerus and of the radius—the ulna undisturbed—at the elbow-joint as a partial excision, from the fact that the superficial area of the upper face of the radius is so limited in extent as to lead one to class removal of the radius and humerus as a *partial* rather than a *complete* excision. In fact, there are but five or six radio-humeral excisions *shown* in the tables of this joint.

SUBJECT NO. 1.—"*Where treated.*"

In excisions for gunshot wounds, which were treated in hospital, 20.95 per 100 died, while of those treated in "private practice," for the same class of excision, no deaths occurred. The cases treated in "private practice" are, however, too few in number to form a reliable basis for conclusions.

In excisions for "injuries," the relationship of these points is better expressed, 22.22 per 100 dying in hospital, and 26.66 per 100 in private practice. In the class of excision for "disease," 11.73 per 100 died in hospital, and none died in "private practice." In the examples for excision for "anchylosis," all the cases were treated in hospital, so far as known, and no deaths occurred. If we consider the several classes of excision for "injury" (not gunshot), for "disease," and "anchylosis" together, the mortality-rate for those treated in hospitals equals 12.61 per 100; for those attended in "private practice" the death-rate is 12.5 per 100. If, however, excisions for gunshot wounds be included with the classes named, the mortality attending those treated in hospital equals 18.45 per 100, and *that* for those attended in private practice equals but 11.76 per 100. These last figures are not to be

relied upon, from the fact that there are but two (2) excisions recorded as being done in "private practice" in the class of gunshot injuries.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
In hospital	54	19	2	109	38	3	233	48	1	20.95	3	1	..	17	5	1	1	..	..	22.22
In private practice	..	..	..	2	..	..	..	..	..	0	4	1	1	7	3	..	..	..	..	26.66
Not stated as to subject	..	1	..	10	3	..	71	4	..	.....	18	..	1	6	..	1	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
In hospital	16	4	1	138	15	12	4	2	..	11.73	5	..	1	3	..	1	..	..	..	0
In private practice	1	..	..	16	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	23	1	1	136	17	3	2	2	..	.....	..	..	..	2	..	1	..	..	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	. ....	5	..	1	5	..	2	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
In hospital	..	1	..	..	..	..	..	..	..	100.										
In private practice	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	4	..	..	2	..	..	..	..	..	.....										
Total for subject	4	1	..	2	..	..	..	..	..	.....										

Conclusion.—It may then be fairly claimed that the mortality of this excision, when done for "injuries" (not gunshot), for "disease," and for "anchylosis," is about as great where treated in "hospital" as in "private practice," that is, taking the average for the classes named.

In the class of extraction but one case is reported as being treated in hospital, equal to 100 per cent., and nothing is said as to those thus treated in private practice.

SUBJECT NO. 2.—*In what countries were the operations performed.*

The several classes of excision may be considered together in reference to this subject. The mortality is as follows:—

In Germany the mortality equals						14.91	per 100
" Mexico	"	"				None	"
" France	"	"				14.70	"
" Denmark	"	"				None	"
" Russia	"	"				26.62	"
" Italy	"	"				None	"
" United States	"	"				18.87	"
" England	"	"				7.97	"
" Scotland	"	"				12.44	"
" Ireland	"	"				None	"
" Australia	"	"				"	"
" Turkey	"	"				"	"
" Switzerland	"	"				"	"
" Austria	"	"				"	"
" Canada	"	"				"	"
" Syria	"	"				"	"

It should be stated that the excisions done in the last nine countries named do not include any performed for gunshot wounds, and hence the mortality is less than in the other countries mentioned in the table.

Conclusion.—If we base the conclusion upon the sum of mortality for the several classes considered together, the death-rate is about equal in Germany and France—14 per 100; greater in United States—18.87 per 100; and greatest in Russia—26.82 per 100; while, exclusive of excisions for gunshot wounds, the mortality rate in England is 7.97, and in Scotland 12.44 per 100.

In the class of "extraction" but one death is tabulated, and this occurred in the United States.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Germany	11	2	1	30	9	..	91	15	..	16.45	3	1	1	..	..	..	..	..	..	25.00
Mexico	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
France	..	..	..	5	1	..	16	5	..	22.22	3	..	..	2	..	..	..	..	..	0
Denmark	3	..	..	3	..	..	..	..	..	0	..	..	..	1	..	..	..	..	..	0
Russia	2	..	..	13	7	..	16	2	..	22.5	..	..	..	..	..	..	..	..	..	.....
Italy	..	..	..	1	..	..	2	..	..	0	..	..	..	..	..	..	..	..	..	.....
United States	38	18	..	62	19	3	179	30	1	19.36	6	1	1	16	7	1	1	..	..	25.80
England	..	..	..	..	..	..	..	..	..	.....	8	..	..	9	..	1	..	..	..	0
Scotland	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	0
Ireland	..	..	..	..	..	..	..	..	..	.....	..	..	..	1	..	..	..	..	..	0
Australia	..	..	..	..	..	..	..	..	..	.....	..	..	..	1	..	..	..	..	..	0
Turkey	..	..	..	..	..	..	..	..	..	.....	..	..	..	1	..	..	..	..	..	0
Switzerland	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	.....
Austria	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Canada	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Syria	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Spain	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	1	6	5	..	..	..	..	.....	3	..	..	..	1	..	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Germany	17	..	1	58	10	..	..	..	..	11.76	..	..	..	1	..	..	..	..	..	0
Mexico	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
France	2	..	..	30	4	..	..	..	..	11.11	..	..	..	..	..	..	..	..	..	.....
Denmark	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Russia	1	1	..	..	1	..	..	..	..	66.66	..	..	..	..	..	..	..	..	..	.....
Italy	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
United States	7	4	..	43	4	..	3	1	..	14.51	4	..	..	2	..	..	..	..	..	0
England	9	..	1	97	10	13	3	1	..	9.16	..	..	..	1	..	..	..	..	..	0
Scotland	..	..	..	20	3	1	..	..	..	13.04	..	..	1	..	..	2	..	..	..	0
Ireland	2	..	..	7	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Australia	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Turkey	..	..	..	4	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Switzerland	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Austria	..	..	..	5	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Canada	..	..	..	3	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Syria	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Spain	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	2	..	..	21	..	1	..	2	..	.....	1	..	..	1	..	..	..	..	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
Germany	1	..	..	1	..	..	..	..	..	0										
Mexico	..	..	..	..	..	..	..	..	..	.....										
France	..	..	..	..	..	..	..	..	..	.....										
Denmark	..	..	..	..	..	..	..	..	..	.....										
Russia	..	..	..	..	..	..	..	..	..	.....										
Italy	..	..	..	..	..	..	..	..	..	.....										
United States	..	1	..	..	..	..	..	..	..	100										
England	1	..	..	..	..	..	..	..	..	0										
Scotland	..	..	..	..	..	..	..	..	..	.....										
Ireland	..	..	..	..	..	..	..	..	..	.....										
Australia	..	..	..	..	..	..	..	..	..	.....										
Turkey	..	..	..	..	..	..	..	..	..	.....										
Switzerland	..	..	..	..	..	..	..	..	..	.....										
Austria	..	..	..	..	..	..	..	..	..	.....										
Canada	..	..	..	..	..	..	..	..	..	.....										
Syria	..	..	..	..	..	..	..	..	..	.....										
Spain	1	..	..	..	..	..	..	..	..	0										
Not stated as to subject	1	..	..	1	..	..	..	..	..	.....										
Total for subject	4	1	..	2	..	..	..	..	..	.....										

SUBJECT No. 3.—"*State of Constitution.*"

From an inspection of this table, it appears that in the class of excisions for "gunshot wounds," 12.69 per 100 died of those who are classed as "vigorous," and 33.33 per 100 suffered death among the patients reported as "exhausted."

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
"Vigorous"	25	8	1	42	4	..	43	4	1	12.69	14	..	1	18	3	1	1	..	..	8.33
"Exhausted"	..	..	..	6	3	..	..	..	..	33.33	..	1	..	2	4	..	..	..	..	71.42
Not stated as to subject	29	12	1	73	34	3	261	48	..	.....	11	1	1	10	1	1	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
"Vigorous"	1	..	..	15	2	1	..	..	..	11.11	..	..	..	2	..	..	..	..	..	0
"Exhausted"	4	1	..	45	15	4	..	..	..	24 61	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	35	4	2	230	15	10	6	4	..	.....	5	..	1	3	..	2	..	..	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
"Vigorous"	1	..	..	..	..	..	..	..	..	0										
"Exhausted"	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	3	1	..	2	..	..	..	..	..	.....										
Total for subject	4	1	..	2	..	..	..	..	..	.....										

In the excisions for "injuries," 8.33 per 100 of the "vigorous," and 71.42 per 100 of the exhausted, died. In the examples of excision for "disease," 11.11 per 100 of the "vigorous," and 24.61 per 100 of the "exhausted," died.

This subject is not complete in the class of excisions for "deformity;" however, it is shown that there were no deaths among the "vigorous."

In considering the several classes of excision together, 11.53 per 100 among the "vigorous," and 29.62 per 100 of those "exhausted," died.

Conclusion.—That a more or less exhausted state of the body, from any cause, is unfavorable to this excision.

In the class of extraction, but one case is developed as to this subject, and this patient is reported as "vigorous," and he recovered.

SUBJECT No. 4.—"*Sex.*"

Of the excisions for gunshot wounds, 18.91 per 100 died among the males, and in this class but one female was subjected to the operation, and she recovered. In the excisions for injury, 16.53 per 100 of the males, and none of the females, died. Among the excisions for "disease," 11.5 per 100 of the males, and 9.19 per 100 of the "females," died. In the class of excisions for "deformity," no deaths occurred. For all the classes the mortality rate equals 16.90 per 100 for the male, and 8.56 per 100 for the female sex. If the class of excisions for gunshot wounds be rejected, and those done for "injury," "disease," and "deformity" estimated together, the death-rate for the male sex will be 12.06 per 100; and for the female, 10.86 per 100; and this is probably the most reliable computation of this subject, as the gunshot excisions were, with one exception, all executed upon men.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
Males	53	19	2	121	41	3	304	52	1	18.91	14	..	1	26	8	1	1	..	..	16.53
Females	..	1	..	..	..	..	..	..	..	0	..	2	..	1	..	..	..	..	..	0
Not stated as to subject	1	..	..	..	..	..	..	..	..	.....	11	..	1	3	..	1	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Males	22	5	2	151	15	4	4	3	..	11.5	4	..	..	4	..	1	..	..	..	0
Females	4	..	..	73	7	4	2	1	..	9.19	1	..	..	1	..	1	..	..	..	0
Not stated as to subject	14	..	..	66	10	7	..	..	..	.....	..	..	1	..	..	..	..	..	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....

	EXTRACTION OF FRAGMENTS OF BONE.									
Males	1	1	..	..	..	..	..	..	..	50
Females	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	3	..	..	2	..	..	..	..	..	.....
Total for subject	4	1	..	2	..	..	..	..	..	.....

Conclusion.—That there is a slight difference in the mortality of this excision in favor of the operations performed upon females.

In the class of "extraction," but two cases (males) are expressed as to this subject; one patient recovered, the other died.

SUBJECT No. 5.—"*Of Age.*"

The oldest patient upon whom this excision was performed was seventy-four years, and the youngest three and one-half months of age.

In the class of excisions for disease of those aged from 1–5 years, 16.16 per 100 died.

For the four different classes of excisions estimated together, in those aged from 5–10 years, the mortality is 11.11 per 100; in those aged from 10–15 years, it is 7.40 per 100; from 15–20 years, 9.07 per 100; from 20–25 years, 13.41 per 100; from 25–30 years, 17.54 per 100; from 30–40 years, 18.33 per 100; from 40–50 years, 11.53 per 100; from 50–60 years, 30.76 per 100; and in those over 60 years of age, no deaths are recorded.

Looking at the several classes distinctively, we find that the mortality rate in the excisions for gunshot wounds is least among those aged from 20–25 years; greater among those from 15–20 years; and greatest among those from 25–30 years of age. The rate decreases in those aged from 30–40, to 26.31 per 100; and increases to 33.33 per 100 in those from 40–50 years of age.

In the class of excisions for injury, the least mortality is shown in those aged from 30–40, and 10–15 years; and the greater death-rate in those aged 50–60 years (50 per 100), and in those aged from 25–30 years (25 per 100); and again in those aged from 20–25 years (28.57 per 100). In the examples of excision for disease, the most favorable period for the operation is in those aged from 15–20 years (5.26), and 10–15 years (6.8 per 100); next in those aged from 20–25 years (10.81 per 100); and nearly as favorable as this in those aged from 5–10 years (12.5), and those from 40–50 years (12.5 per 100); next the rate increases in those aged 1–5 years (16.66 per 100); and lastly, the highest death-rate is found among those aged from 50–60 years (44.44 per 100). There is no mortality shown among the cases of excision for "deformity."

Conclusion.—That the most favorable age for this excision, considered as to the mortality, when executed for gunshot wounds, is in those aged from 20–25 years; when done for "injury," in those

aged from 30–40; when performed for "disease," in those aged from 10–20 years; and that in the class of excisions for "deformity," age does not seem to exercise any influence.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
From 1 to 5 years	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	..	..	..	..	..	..	1	..	..	0	1	..	..	..	..	..	..	..	..	0
" 10 " 15 "	..	..	..	1	..	..	..	..	..	0	3	..	..	4	1	1	..	..	..	12.5
" 15 " 20 "	3	2	..	13	2	..	1	..	..	19.04	2	..	..	3	..	..	..	..	..	0
" 20 " 25 "	4	2	..	26	3	1	1	..	..	13.88	2	..	1	3	2	..	..	..	..	28.57
" 25 " 30 "	2	4	..	7	5	..	1	..	..	47.36	..	..	..	2	1	..	1	..	..	25.00
" 30 " 40 "	5	2	..	7	3	..	2	..	1	26.31	2	..	..	6	1	..	..	..	..	11.11
" 40 " 50 "	1	1	..	1	..	..	..	..	..	33.33	1	..	..	5	..	..	..	..	..	0
" 50 " 60 "	..	..	..	..	..	..	..	..	..	.....	..	1	..	1	2	..	..	..	..	50.00
" 60 " 70 "	..	..	..	..	..	..	..	..	..	.....	..	1	..	1	..	..	..	..	..	0
" 70 " 80 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	39	9	2	63	28	2	298	52	..	.....	14	..	1	5	1	1	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
From 1 to 5 years	1	..	..	9	2	..	..	..	..	16.66	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	1	..	..	20	3	2	..	..	..	12.5	..	..	..	1	..	..	..	..	..	0
" 10 " 15 "	4	1	..	35	1	..	2	1	..	6.81	1	..	..	..	..	..	..	..	..	0
" 15 " 20 "	5	1	..	29	1	2	2	..	..	5.26	..	.	1	1	..	1	..	..	..	0
" 20 " 25 "	3	..	..	20	4	1	1	..	..	10.81	..	..	..	2	..	..	..	..	..	0
" 25 " 30 "	3	..	..	28	..	1	..	..	..	0	2	..	..	1	..	..	..	..	..	0
" 30 " 40 "	3	1	..	23	4	1	..	..	..	16.12	1	..	..	..	..	..	..	..	..	0
" 40 " 50 "	2	..	..	11	1	1	1	1	..	12.5	1	..	..	..	..	..	..	..	..	0
" 50 " 60 "	..	1	..	5	3	..	..	..	..	44.44	..	..	..	..	..	..	..	..	..	.....
" 60 " 70 "	..	..	..	5	..	1	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	18	1	2	95	13	6	..	2	..	.....	..	..	..	..	..	1	..	..	..	.....
Total for subject	49	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....

	EXTRACTION OF FRAGMENTS OF BONE.									
From 1 to 5 years	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	..	..	..	..	..	..	..	..	..	.....
" 10 " 15 "	..	..	..	..	..	..	..	..	..	.....
" 15 " 20 "	..	..	..	..	..	..	..	..	..	.....
" 20 " 25 "	..	..	..	..	..	..	..	..	..	.....
" 25 " 30 "	..	..	..	..	..	..	..	..	..	.....
" 30 " 40 "	..	..	..	..	..	..	..	..	..	.....
" 40 " 50 "	..	..	..	..	..	..	..	..	..	.....
" 50 " 60 "	..	..	..	..	..	..	..	..	..	.....
" 60 " 70 "	..	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	4	1	..	2	..	..	..	..	..	.....
Total for subject	4	1	..	2	..	..	..	..	..	.....

In the class of "extraction," nothing is expressed on this subject.

SUBJECT No. 6.—"*Duration of Disease or Injury.*"

In the class of excisions for gunshot wounds, in which the patients had been wounded from 1–3 months previous to the operation, the mortality shown is 22.22 per 100. The other periods under this subject in this class will not be considered, nor the cases appearing under the head of excisions for "injury" and for "deformity," as the data are incomplete. In referring to the ex-

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
From 1 to 3 months	2	..	..	12	4	..	..	..	..	22.22	1	..	..	1	..	..	..	..	..	0
" 3 " 6 "	1	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 6 " 9 "	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 9 " 12 "	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 12 " 15 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 15 " 18 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Over 18 months	..	..	..	1	..	..	..	..	..	0	..	..	..	1	..	..	..	..	..	0
Not stated as to subject	51	20	2	105	37	3	304	52	1	.....	24	2	2	28	8	2	1	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
From 1 to 3 months	4	..	..	4	..	1	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 3 " 6 "	..	..	..	11	3	..	..	..	..	27.27	..	..	..	..	..	..	..	..	..	.....
" 6 " 9 "	..	..	..	7	..	1	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 9 " 12 "	..	..	..	16	1	1	..	..	..	5.88	1	..	..	2	..	..	..	..	..	0
" 12 " 15 "	..	..	..	2	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 15 " 18 "	..	..	..	5	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Over 18 months	3	1	..	36	3	2	..	..	..	9.30	..	..	..	1	..	..	..	..	..	.....
Not stated as to subject	33	4	2	209	25	10	6	4	..	.....	4	..	1	2	..	2	..	..	..	0
Total for subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
From 1 to 3 months	1	..	..	..	..	..	..	..	..	0										
" 3 " 6 "	..	..	..	..	..	..	..	..	..	.....										
" 6 " 9 "	..	..	..	..	..	..	..	..	..	.....										
" 9 " 12 "	..	..	..	..	..	..	..	..	..	.....										
" 12 " 15 "	..	..	..	..	..	..	..	..	..	.....										
" 15 " 18 "	..	..	..	..	..	..	..	..	..	.....										
Over 18 months	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	3	1	..	2	..	..	..	..	..	.....										
Total for subject	4	1	..	2	..	..	..	..	..	.....										

amples of excision for "disease," it appears that in those instances in which the standing of the disease was from 1–3, and from 6–9, and from 12–15, and 15–18 months, there is no mortality shown, while, when the disease had existed from 9–12 months, the mortality is but 5.88 per 100, and when the standing was over 18 months, the mortality increased to 9.30 per 100, and reached its acme when the affection had existed only from 3–6 months (27.27 per 100).

Conclusion.—As to excisions for gunshot wounds, if these are not primary they should not be executed within the first three months after wounded; and as to excisions for "disease," the most favorable period for the execution of the operation is when the disease has existed from 9–12 months, and the most dangerous time for the performance of the resection, so far as life is concerned, is when the affection has continued but from 3–6 months.

In the class of extraction but one case is shown under this subject. The standing of this was from 1–3 months, and the patient recovered.

SUBJECT NO. 7.—"*Of Season;*" "*or Months in which the Operations were performed.*"

In estimating this subject, the several classes will only be considered together. The following is the mortality according to the months in which the excisions were performed:—

	Deaths per 100.
In January	12.5
" February	26.66
" March	18.18
" April	14.81
" May	17.54
" June	26.08
" July	23.52
" August	9.09
" September	28.57
" October	8.33
" November	6.06
" December	10.52

This subject may be again considered by dividing the year into two parts; one designated the "warm or hot," and the other the "cool or cold" period. Thus viewed, the mortality attending this excision, when executed during the warm or hot months of April, May, June, July, August, and September, is shown by the sub-

table to be 19.44 per 100, and that following this operation during the cool or cold months of October, November, December, January, February, and March is found to be 13.01 per 100.

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
January	1	..	..	6	..	..	..	..	..	0	..	..	..	1	1	..	..	..	..	50.00
February	..	..	..	1	2	..	..	..	..	66.66	1	1	..	2	..	..	..	..	..	25.00
March	1	..	..	1	..	..	..	..	1	0	..	..	..	3	2	..	..	..	..	40.00
April	5	2	..	8	1	..	..	..	..	18.75	..	..	..	1	..	..	..	..	..	0
May	10	2	..	14	6	..	3	..	..	22.85	1	..	..	2	..	1	1	..	..	0
June	7	4	..	9	6	..	..	..	..	38.46	..	..	..	1	..	..	..	..	..	0
July	8	5	1	23	7	..	2	..	..	26.66	1	..	..	..	..	..	..	..	..	0
August	2	2	..	4	..	..	..	..	..	25.00	..	..	..	2	..	..	..	..	..	0
September	5	1	..	17	1	..	1	..	..	8.00	..	..	..	2	..	..	..	..	..	0
October	4	..	1	9	1	..	1	..	..	6.66	..	..	..	4	..	..	..	..	..	0
November	3	1	..	7	..	..	..	..	..	9.09	1	..	..	..	..	..	..	..	..	0
December	3	..	..	2	..	..	..	..	..	0	2	..	..	..	1	..	..	..	..	33.33
Not stated as to subject	5	3	..	20	17	..	297	52	..	.....	19	1	2	12	4	1	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
January	2	2	..	17	1	2	1	..	..	13.04	..	..	..	..	..	..	..	..	..	.....
February	1	..	..	6	1	..	..	..	..	12.5	..	..	..	..	..	..	..	..	..	.....
March	2	..	..	9	2	1	..	..	..	15.38	..	..	..	2	..	..	..	..	..	0
April	1	..	..	8	1	..	..	..	..	10.00	..	..	..	..	..	..	..	..	..	.....
May	2	..	..	14	1	..	..	1	..	11.11	..	..	..	..	..	..	..	..	..	.....
June	2	..	..	13	1	..	1	1	..	11.11	..	..	..	1	..	..	..	..	..	0
July	..	..	..	17	4	1	1	..	..	18.13	..	..	..	..	..	..	..	..	..	.....
August	1	..	..	10	..	2	..	..	..	0	1	..	..	..	..	..	..	..	..	0
September	1	..	..	4	2	..	..	..	..	28.57	..	..	..	..	..	..	..	..	..	.....
October	..	..	1	13	2	..	1	..	..	12.5	1	..	..	..	..	..	..	..	..	0
November	1	..	..	8	1	1	..	..	..	10.00	..	..	..	1	..	..	..	..	..	0
December	..	..	..	9	1	..	..	..	..	10.00	1	..	..	..	..	..	..	..	..	0
Not stated as to subject	27	3	1	162	15	8	2	2	..	.....	2	..	1	1	..	2	..	..	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.																			
January	..	..	..	..	..	..	..	..	..	.....										
February	..	..	..	..	..	..	..	..	..	.....										
March	..	..	..	..	..	..	..	..	..	.....										
April	..	..	..	..	..	..	..	..	..	.....										
May	..	..	..	..	..	..	..	..	..	.....										
June	..	..	..	..	..	..	..	..	..	.....										
July	..	..	..	..	..	..	..	..	..	.....										
August	..	..	..	..	..	..	..	..	..	.....										
September	..	..	..	..	..	..	..	..	..	.....										
October	..	1	..	..	..	..	..	..	..	100										
November	..	..	..	..	..	..	..	..	..	.....										
December	..	..	..	..	..	..	..	..	..	.....										
Not stated as to subject	4	..	..	2	..	..	..	..	..	.....										
Total for subject	4	1	..	2	..	..	..	..	..	.....										

Conclusion.—That no reliable data can be drawn in estimating this subject, as per the months in which the operations were performed, but that it is positive that this excision, when done in cool or cold weather, is less fatal than when executed in the warm or hot seasons.

In the class of "extraction," but one case is expressed as to this subject. In this the operation was done in October, and the patient died.

SUBJECT No. 8.—"*Period of Operations.*"

This subject is divided into two parts: 1st. Those comprising excisions for gunshot wounds and "injuries;" and 2d. Those for 'disease" and "deformity."

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
Primary	24	8	1	43	6	1	56	5	1	13.38	16	1	1	21	6	1	1	..	..	15.55
Secondary	3	2	1	22	12	2	56	16	..	27.02	1	1	..	8	..	1	..	..	..	10.00
Intermediate	24	8	..	49	23	..	1	..	..	29.52	..	..	..	..	1	..	..	..	..	100.00
Not stated as to subject	3	2	..	7	..	..	191	31	..	.....	8	..	1	1	1	..	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Primary	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Secondary	40	5	2	290	32	15	6	4	..	10.87	5	..	1	5	..	2	..	..	..	0
Intermediate	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....

	EXTRACTION OF FRAGMENTS OF BONE.									
Primary	1	..	..	..	..	..	..	..	..	0
Secondary	1	1	..	1	..	..	..	..	..	33.33
Intermediate	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	2	..	..	1	..	..	..	..	..	.....
Total for subject	4	1	..	2	..	..	..	..	..	.....

The mortality attending "*primary*" operations in the *first* division (those for gunshot wounds and for injury considered together) is

equal to 12.83 per 100; that for secondary incisions is 25.61 per 100, and that for "intermediate," is 30.47 per 100.

The death-rate developed from the second division (excisions for "disease" and "injury" estimated together) is for secondary operations (only these are tabulated in this class) 10.59 per 100.

Conclusion.—That in this excision for all forms of injury primary operations are least, and the intermediate the most fatal; and in excisions for "disease" and "deformity" secondary operations develop a still lower rate of mortality than that shown in excisions for injury (10.59 per 100).

In the class of "extraction" one case (primary) recovered, and of three secondary operations one died.

SUBJECT No. 9.—*Nature of the Causes for which the Excisions were performed.*

This subject is divided into excisions for "injury" and those for disease and deformity. The first includes those for injury proper and those for gunshot wounds, and the second those for "disease" and "deformity." The first class embraces only traumatic cases, and the mortality of these taken together is equal to 18.68 per 100. The second class includes collectively operations for disease and anchylosis, and the death-rate of this is, for "non-traumatic" cases (including three examples of syphilitic origin) 14.28 per 100, and for "traumatic" cases the rate is 5.17 per 100.

Conclusion.—That the traumatic element exercises a greater influence upon the mortality of this excision when done for gunshot wounds and injury proper than in excision "for disease or deformity," which cases have had their origin in traumatic causes; for the reason that in excisions for "disease" and "injury" the traumatism is generally of minor intensity, and has long since ceased to influence the progress of the cases, and in excisions for "injury" the influence is profoundly felt in the sudden innovation, and plays an important *rôle* in the future of the cases. It is natural, then, that the mortality in gunshot excisions of this joint should be great (19.08), and for injuries somewhat less (15.15), and least in excisions for disease and anchylosis, of traumatic origin, 5.17 per 100.

But it will be observed that the mortality rate in excisions for injuries (15.15) approaches closely that in those for disease and anchylosis of *non-traumatic* origin (14.28 per 100). This arises probably from influences peculiar to the cases in the last-named

classes of excision, and not from a decrease in the potency of the traumatism in the class of excisions for injury proper. Again, it would seem clear, in the examples of excision for disease and injury, that the marked difference in the mortality shown in the cases of non-traumatic (14.28), and in those of traumatic origin (5.17 per 100), denotes a deep constitutional vice which lends its action not only to aid the progress of the local affection but to increase the death-rate; or, in other words, that there is present in such patients what has been designated as the scrofulous diathesis, or other forms of constitutional vice.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Par. tial.			Com- plete.			Extent not stated.			Deaths per 100.	Par- tial.			Com- plete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
Non-traumatic	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Traumatic	54	20	2	121	41	3	304	52	1	19.08	25	2	2	30	8	2	1	..	..	15.15
Malignant	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Syphilitic	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....

	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Non-traumatic	..	..	..	8	2	3	..	..	..	20.00	1	..	..	..	..	1	..	..	..	0
Traumatic	7	1	..	45	2	2	..	..	..	5.45	3	..	1	1	..	1	..	..	..	0
Malignant	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Syphilitic	..	..	..	3	..	0	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	33	4	2	234	28	10	6	4	..	.....	1	..	..	4	..	..	..	..	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....

	EXTRACTION OF FRAGMENTS OF BONE.									
Non-traumatic	..	..	..	..	..	..	..	..	..	.....
Traumatic	4	1	..	2	..	..	..	..	..	14.28
Malignant	..	..	..	..	..	..	..	..	..	.....
Syphilitic	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....
Total for subject	4	1	..	2	..	..	..	..	..	.....

It is also observed that in those cases tertiary syphilis, affecting the bones of this joint, did not prevent recovery after the excisions had been performed.

In the class of "extraction" seven cases are of traumatic origin, of which one died, a mortality of 14.28 per 100 for this subject.

SUBJECT No. 10.—"*Of Incisions.*"

The following is a *résumé* as to this subject for all classes of excision. Mortality attending:—

	Per cent.
Longitudinal incision equal to	11.72
Double longitudinal incision equal to . . .	00
"H" shaped " "	15.90
"⊢" " " "	11.76
"⊣" " " "	100.00
"H" " " "	13.04
"U" " " "	50.00
Transverse " " "	50.00
"+" " " "	25.00
V " " "	00
Λ " " "	14.28
T " " "	34.78
⊥ " " "	25.00
⌋ " " "	00
⌶ " " "	00
⌐ " " "	100.00

A careful survey of these several representations of incisions will not enable one to attribute the mortality to the form of the cuts. It may be further inquired if the form of the incision influences the usefulness of the member.

The following is a synopsis of this point for all the classes of excisions, in two hundred and seventy-five cases in which the usefulness and form of incision is expressed:—

	Per cent.
In the longitudinal incision . .	90 were useful, 85.71. 15 were not useful.
" double longitudinal incision .	1 was useful, 100.00. 0 " not useful.
" "H" incision	55 were useful, 90.16. 6 " not useful.
" "⊢" and "⊣" incision .	24 " useful, 92.30. 2 " not useful.
" "H" " .	18 " useful, 94.73. 1 was not useful.
" transverse " .	0 " useful, no per cent. 1 " not useful.
" "+" " .	15 were useful, 93.75. 1 was not useful.
" "V" and "Λ" " .	17 were useful, 89.47. 2 " not useful.
" "T" and "⊥" " .	24 " useful, 92.30. 2 " not useful.
" "⌋" " .	1 was useful, 100.00. 0 " not useful.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Single longitudinal	6	4	..	23	4	2	2	..	..	20.51	3	..	..	8	3	1	1	..	..	20.00
Double "	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
"H" shaped incision	2	..	..	9	3	..	1	..	1	33.33	..	..	..	1	1	..	..	..	..	50.00
"⊢" " "	2	..	..	9	2	..	..	..	..	15.38	1	1	..	5	..	..	..	..	..	14.28
"⊣" " "	..	1	..	..	..	..	..	..	..	100.00	..	..	..	..	..	..	..	..	..	.....
U " "	8	2	..	12	1	..	..	..	..	13.04	..	..	..	..	..	..	..	..	..	.....
Transverse "	..	..	1	..	1	..	..	..	..	100.	..	..	..	..	..	..	..	..	..	.....
"+" shaped "	..	..	..	1	1	..	..	..	..	50.00	..	..	..	..	..	..	..	..	..	.....
V " "	3	..	..	4	3	..	..	..	..	30.00	..	..	..	1	..	..	..	..	..	0
⋀ " "	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
⊤ " "	1	..	..	..	..	..	..	..	..	0	1	..	1	..	..	..	..	..	..	0
⊥ " "	2	2	..	4	4	..	..	..	..	50.00	2	..	..	..	..	..	..	..	..	0
⊐⊏ " "	..	..	..	..	..	..	..	..	..	.....	..	1	..	..	..	..	..	..	..	100.00
H " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
⊐ ⊏ " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	30	11	1	57	22	1	301	52	..	.....	18	..	1	15	4	1	..	..	..	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Single longitudinal	10	2	..	69	4	..	..	..	..	7.14	4	..	1	3	..	..	..	..	..	0
Double "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
"H" shaped incision	2	..	1	61	7	2	..	..	..	10.00	..	..	..	1	..	1	..	..	..	0
"⊢" " "	..	..	..	13	1	2	..	..	..	7.14	..	..	..	..	..	..	..	..	..	.....
"⊣" " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
U " "	1	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Transverse "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
"+" shaped "	..	..	..	4	1	..	..	..	..	20.00	..	..	..	..	..	..	..	..	..	.....
V " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
⋀ " "	5	..	..	11	3	..	..	..	..	15.78	..	..	..	..	..	..	..	..	..	.....
⊤ " "	..	..	..	7	2	1	..	..	..	28.57	..	..	..	..	..	..	..	..	..	.....
⊥ " "	3	..	..	11	5	..	..	..	..	26.31	..	..	..	..	..	..	..	..	..	.....
⊐⊏ " "	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	0
H " "	..	..	..	1	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
⊐ ⊏ " "	..	..	..	..	1	..	..	..	..	100.00	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	19	3	1	113	8	10	6	4	..	.....	..	..	..	1	..	1	..	..	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....
	EXTRACTION OF FRAGMENTS OF BONE.									
Single longitudinal	..	..	..	..	..	..	..	..	..	.....
Double "	..	..	..	..	..	..	..	..	..	.....
"H" shaped incision	..	..	..	..	..	..	..	..	..	.....
"⊢" " "	..	..	..	..	..	..	..	..	..	.....
"⊣" " "	..	..	..	..	..	..	..	..	..	.....
U " "	..	..	..	..	..	..	..	..	..	.....
Transverse "	..	..	..	..	..	..	..	..	..	.....
"+" shaped "	..	..	..	..	..	..	..	..	..	.....
V " "	..	..	..	..	..	..	..	..	..	.....
⋀ " "	..	..	..	..	..	..	..	..	..	.....
⊤ " "	..	..	..	..	..	..	..	..	..	.....
⊥ " "	..	..	..	..	..	..	..	..	..	.....
⊐⊏ " "	..	..	..	..	..	..	..	..	..	.....
H " "	..	..	..	..	..	..	..	..	..	.....
⊐ ⊏ " "	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	4	1	..	2	..	..	..	..	..	.....
Total for subject	4	1	..	2	..	..	..	..	..	.....

Conclusion.—That in those forms of incision which are represented by a sufficient number of cases to enable one to form a reliable opinion, while the form of the cuts differs materially, the usefulness varies but little from 90 per cent. of useful results for each form of incision; and that, therefore, in operating, we may select our incision on anatomical grounds, or in relation to convenience or facility of execution.

In the class of "extraction," nothing is said on this subject.

SUBJECT No. 11.—"*Extent of the Excisions.*"

The mortality attending partial excisions of this joint for gunshot wounds, is 26.75 per 100; and for complete excisions of this class, 25.32 per 100.

The death-rate for partial excisions for injuries proper, is 7.40 per 100; and for complete excisions, same class, 21.05 per 100. The fatality attending partial excisions for disease, is equal to 11.11 per 100; and for complete excisions, 9.93 per 100. There is no mortality shown in excisions for deformity. The death-rate developed in the table, from excisions for gunshot wounds and injuries, considered together, for the "*partial*" operations is 21.78, and for the "*complete*" 24.5 per 100.

Considering in another class, and together, excisions for "disease" and "deformity," the mortality-rate for "*partial*" excisions is 10.00, and for the "*complete*" is 9.78 per 100.

It is interesting to note the linear extent of bone removed in some of these excisions. In excisions for disease and injuries (see table No. 192), Compton removed both bones of the forearm, except the lower end of the ulna. In Case 318, same table, the entire ulna was removed, and also 1½ inches of the humerus, and the head and neck of the radius. In Case 444, same table, the upper third of the ulna, the lower fourth of the humerus, head, and to neck radius, were removed. In Case 456, same table, the lower two-thirds of the humerus was removed. In the table of excisions for gunshot wounds, in Case 112, the upper-third ulna and lower-fourth humerus were removed. In Case 142, 4½ in. humerus was excised. In Case 174, 4 inches of the humerus, the olecranon and coronoid processes, were removed. In another case, 4 inches of the humerus and ulna were removed. In Case 218, 6 inches of the ulna and 4 inches of the radius were removed. In Case 518, 4 inches of the ulna, a thin slice of the condyles of humerus and

radius, and 4 inches of the *upper* extremity of the humerus at the shoulder-joint, were removed.

In Case 447, table of excisions for "disease and injuries," the elbow was completely excised, and also the hip-joint excised, but not simultaneously. In Cases 399 and 400, same table, the right and left elbow-joints were completely excised, but not at the same date.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
EXCISION FOR GUNSHOT WOUNDS.										
Partial	54	20	2	...	...	..	...	...	..	26.75
Complete	..	..	..	121	41	3	...	...	..	25.32
Extent not stated	..	..	..	...	...	..	304	52	1	.....
Total for subject	54	20	2	121	41	3	304	52	1	.....
EXCISION FOR INJURIES.										
Partial	25	2	2	..	..	..	..	..	..	7.40
Complete	..	..	..	30	8	2	..	..	..	21.05
Extent not stated	..	..	..	..	..	..	1	..	..	.....
Total for subject	25	2	2	30	8	2	1	..	..	.....
EXCISION FOR DISEASE.										
Partial	40	5	2	...	...	..	...	...	..	11.11
Complete	..	..	..	290	32	15	...	...	..	9.93
Extent not stated	..	..	..	...	...	..	6	4	..	.....
Total for subject	40	5	2	290	32	15	6	4	..	.....
EXCISION FOR DEFORMITY.										
Partial	5	..	1	..	..	..	..	..	..	0
Complete	..	..	..	5	..	2	..	..	..	0
Extent not stated	..	..	..	..	..	..	..	..	..	.....
Total for subject	5	..	1	5	..	2	..	..	..	.....
EXTRACTION OF FRAGMENTS OF BONE.										
Partial	4	1	..	...	..	..	..	..	..	20.00
Complete	..	..	..	2	..	..	..	..	..	0
Extent not stated	..	..	..	...	..	..	..	..	..	.....
Total for subject	4	1	..	2	..	..	..	..	..	.....

Conclusion.—That in excisions for injuries, the extent of the operation exercises a limited influence upon the mortality of the cases; and in excisions for "disease" and "deformity," the mortality is about equal in the "partial" and "complete" operations.

In the class of "extraction," five cases are tabulated as partial (with one death), and two cases as complete excisions. In the latter no deaths occurred.

SUBJECT No. 12.—"*Of the Mortality.*"

Considering the several classes of excision together, in 164 cases of death as tabulated, 29.87 per 100 died of the disease or injury,

4.87 per 100 of the operation, 19.51 per 100 of "other diseases," and in 45.75 per cent. of the cases the cause of death is not determined. Estimating from the cases in which the cause of death is stated, but about five per cent. of the patients died from the operation.

The average number of days in which the patients died in gunshot excisions is $28\frac{3}{4}\frac{3}{2}$ days; in those for injuries $20\frac{8}{9}$ days; and in excisions for disease $63\frac{7}{13}$ days.

The several diseases of which the patients died are as follows:—

Cerebro-spinal menigitis,	2 cases.	Per cent. 1.21
Tubercular "	1 case.	" .60
Scurvy	1 "	" .60
Phlebitis	1 "	" .60
Convulsions	2 cases.	" 1.21
Delirium tremens	1 case	" .60
Shock	2 cases.	" 1.21
Hemorrhage	6 "	" 3.65
Pyæmia	32 "	" 19.51
Exhaustion	17 "	" 10.36
Pneumonia	3 "	" 1.82
Apoplexy	1 case.	" .60
Erysipelas	2 cases.	" 1.21
Gangrene	2 "	" 1.21
Tetanus	3 "	" 1.82
Chronic diarrhœa	1 case.	" .60
Phthisis	10 cases.	" 6.09
Disease not stated	77 "	" 47.10
Total	164 cases.	Per cent. 100.00

It will thus be seen that the principal disease of which these patients died is hemorrhage, phthisis, exhaustion, and pyæmia—stated in the order of fatality.

Conclusion.—The limited mortality shown to be attributable to the operation would dictate the execution of this excision; and, at the same time, inculcates the great importance of securing, as far as possible, a salutary condition of the general system of the patients, and unexceptionable hygienic states about them. It would be, for instance, a great risk of the life of the patient to execute this operation during the prevalence of an epidemic of erysipelas, and generally unwise to operate before the constitutional powers of the patients have been improved so far as the local disease will permit. So also, no doubt, many patients undergoing this excision perished during the late Franco-Prussian war from the unhealthy sanitary condition which attended them, and which so frequently accompanies armies in a state of siege.

Nothing is stated on this subject in the class of "extraction."

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Died of the disease or injury..	..	14	..	..	19	..	..	2	..	30.97	..	1	..	..	4	..	..	..	..	50.00
" " " operation	..	1	..	..	..	..	..	..	..	.88	..	..	..	..	..	..	..	..	..	.....
" " other diseases.....	..	4	.	..	6	..	..	..	..	8.84	..	..	..	..	4	..	..	..	..	40.00
Cause of death not stated	..	1	..	..	16	..	..	50	..	59.31	..	1	..	..	..	..	..	..	..	10.00
Total for subject.....	..	20	..	..	41	..	..	52	..	100.00	..	2	..	..	8	..	..	..	..	100.00
Number days dying (average).	In 42 cases, 1208 days, or $28\frac{32}{42}$										In 9 cases, 188 days, or $20\frac{8}{9}$									
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Died of the disease or injury..	..	1	..	..	6	..	..	2	..	21.95	..	..	..	..	..	..	..	..	..	.....
" " " operation.....	..	..	..	..	7	..	..	..	..	17.07	..	..	..	..	..	..	..	..	..	.....
" " other diseases	..	3	..	..	14	..	..	1	..	43.90	..	..	..	..	..	..	..	..	..	.....
Cause of death not stated	..	1	..	..	5	..	..	1	..	17.08	..	..	..	..	..	..	..	..	..	.....
Total for subject.....	..	5	..	..	32	..	..	4	..	100.00	..	..	..	..	..	..	..	..	..	.....
Number days dying (average).	In 26 cases, 1652 days, or $63\frac{7}{13}$										.....									
	EXTRACTION OF FRAGMENTS OF BONE.																			
Died of the disease or injury..	..	..	..	..	..	..	..	..	..	.....										
" " " operation.....	..	..	..	..	..	..	..	..	..	.....										
" " other diseases	..	..	..	..	..	..	..	..	..	.....										
Cause of death not stated.....	..	1	..		..	..	..	..	..	100.00										
Total for subject.....	..	1	..	..	..	..	..	..	..	.....										
Number days dying (average).	.....																			

SUBJECT No. 13.—"*Of Recovery.*"

The mortality from gunshot excisions is 19.08 per 100; from excisions for injury 15.15; from excisions for disease 10.87; and from excisions for deformity no deaths are tabulated. The death-rate for all the classes of excision considered together is 15.69 per 100.

The average period in which the patients recovered in gunshot excisions is 147 days; in excisions for injury $110\frac{3}{20}$th days; in excision for disease $136\frac{11}{145}$th days; and in excisions for deformity $117\frac{1}{5}$th days.

The mortality for "partial" excision for gunshot wounds is

27.02 per cent., and for the same class in "complete" excisions 25.30 per 100. In excisions for "injury" the death-rate for partial excision is 7.40 per 100; and in the "complete" 21.05 per 100. In excisions for disease the fatality for the "partial" is equal to 11.11 per 100; and in the "complete" 9.94 per 100. No deaths are reported from excisions for deformity.

SUBJECT.	Partial.			Complete.			Extent not stated.			Recovered per 100.	Partial.			Complete.			Extent not stated.			Recovered per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Recovered and died	54	20	2	121	41	3	304	52	1	19.08	25	2	2	30	8	2	1	..	..	15.15
Total for the subject	54	20	2	121	41	3	304	52	1	.....	25	2	2	30	8	2	1	..	..	.....
Number of days recovering, in cases	9555 days, in 65 cases.										1350 days, in 20 cases.									
Average number days recovering	147										$110\frac{3}{20}$									
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
Recovered and died	40	5	2	290	32	15	6	4	..	10.87	5	..	1	5	..	2	..	..	..	0
Total for the subject	40	5	2	290	32	15	6	4	..	.....	5	..	1	5	..	2	..	..	..	.....
Number of days recovering, in cases	19,864 days, in 145 cases.										586 days, in 5 cases.									
Average number days recovering	$136\frac{144}{145}$										$117\frac{1}{5}$									
	EXTRACTION OF FRAGMENTS OF BONE.																			
Recovered and died	4	1	..	2	...	..	...	...	..	14.28										
Total for the subject	4	1	..	2	...	..	...	...	..	14.28										
Number of days recovering, in cases																				
Average number days recovering																				

Conclusion.—That considering the importance to the patient of regaining a useful limb, by the performance of this excision, the

mortality rates shown above are not high, and compare favorably with amputation. Thus, "of 73 amputations for gunshot wounds at the elbow-joint, 34 per cent. were fatal;" and of 3968 cases of amputation of the arm for gunshot wounds, 1202 proved fatal," over 30 per cent. See Gross' *Surgery*, last ed., vol. ii. p. 1111. For injury, of 514 amputations of the arm, in civil practice, 180 were fatal, or 34 per cent.; and for disease, of 250 amputations of the arm 65 terminated fatally, or 26 per cent. See Erichsen's *Sci. and Art. Surg.*, Am. from 6th Lond. ed., vol. i. p. 55. By reference to sub-table No. 14, it will be seen that in 74 amputations of all the classes executed after this excision had been performed, 29.31 per cent. of the patients died, a result not so unfavorable as amputation of the arm as an initiatory measure. If excisions for injury be omitted, partial excisions for gunshot wounds are but little more fatal than the complete for the same class, and the partial and complete excisions for disease are practically equal as to mortality. The operator may, therefore, not fear to remove as much bone as the nature of the case may *demand*, and without fear of increasing the death-rate of his excisions when executed for disease or gunshot wounds. But in excisions for injury, the partial excisions being attended with less mortality, it is especially important to excise as little bone as possible.

In the class of "extraction" but 14.28 per 100 of the cases proved fatal.

SUBJECT NO. 14.—"*Usefulness of Members.*"

An inspection of this table will show that 1 58 per cent. of the excisions for gunshot wounds were perfect as to "usefulness," 8.77 per cent. of those done for "injury" were "perfect," and that 11.11 per cent. of those executed for disease were "perfect." Again, in the class of excisions for gunshot wounds, 25.09 per cent. were simply "useful," in the class of excisions for "injury" 10.19 per cent. were "useful," and 64.91 per cent. were "useful" in those operated upon for "disease," and 90 per cent. in those for deformity.[1] In excisions for gunshot wounds 10.47 per cent. were "worth-

[1] There can be no doubt that the usefulness resulting from excisions of this joint for gunshot wound is greater than shown here, viz., about 27 per cent. This low rate of "usefulness," as compared with that shown in the other classes of excision of this articulation, arises from the fact, that in very many of the cases of excision for gunshot lesion (and in which the extent of the resection is not stated) the "usefulness" is not expressed. But according to the showing as it now stands, in the cases in which this point is stated, two patients in two and one-half gained useful members.

less," in excisions for "injury" 12.27 per cent. were "worthless," in those for "disease" 8.17 per cent. were "worthless," and none were "worthless" in excisions for deformity.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
"Perfect"	4	..	..	4	..	..	..	..	..	1.58	2	..	..	3	..	..	..	..	..	8.77
"Useful"	25	..	..	58	..	..	54	..	..	25.09	19	..	..	21	..	..	1	..	..	70.19
Worthless { Not useful	1	..	..	6	..	..	..	..	..	1.38	2	..	1	..	..	..	..	..	..	5.26
Worthless { Amputated	6	7	..	12	4	..	1	16	..	9.09	..	..	..	3	1	..	..	..	..	7.01
Not stated	18	..	..	41	..	..	249	..	..	62.86	2	..	..	3	..	..	..	..	..	8.77
Total for subject as expressed...	54	7	..	121	4	..	304	16	..	100.00	25	..	1	30	1	..	1	..	..	100.00
Average shortening of limbs (inches.)	In 8 cases (20½ in.) $2\frac{9}{16}$ inches.										In 1 case 3 inches.									
Average period last heard from (months)	In 93 cases (1750 mos.) $18\frac{76}{93}$ mos										In 26 cases (725 mos.) $27\frac{23}{26}$									
	EXCISION FOR DISEASE.										EXCISION FOR DEFORMITY.									
"Perfect"	6	..	..	32	..	..	..	..	..	11.11	..	..	..	..	..	..	..	..	..	.....
"Useful"	26	..	..	196	..	5	..	..	..	64.91	5	..	..	4	..	..	..	..	..	90.00
Worthless { Not useful	..	..	..	3	1	..	..	..	..	1.16	..	..	..	1	..	..	..	..	..	10.00
Worthless { Amputated	3	..	..	15	4	..	1	1	..	7.01	..	..	..	..	..	..	..	..	..	.....
Not stated	5	..	..	44	..	..	5	..	..	15.81	..	..	..	..	..	..	..	..	..	.....
Total for subject as expressed...	40	..	..	290	5	5	6	1	..	100.00	5	..	..	5	..	..	..	..	..	100.00
Average shortening of limbs (inches)	In 3 cases (4½ in.) 1½ inches.										Not stated.									
Average period last heard from (months)	In 169 cases (3366 mos.) $19\frac{155}{169}$										In 9 cases (257 mos.) $28\frac{5}{9}$ mos.									
	EXTRACTION OF FRAGMENTS OF BONE.																			
"Perfect"	..	..	..	..	..	..	..	..	..	.....										
"Useful"	4	..	..	1	..	..	..	..	..	0										
Worthless { Not useful	..	..	..	..	..	..	..	..	..	.....										
Worthless { Amputated	..	..	..	..	..	..	..	..	..	.....										
Not stated	..	..	..	..	..	..	..	..	..	.....										
Total for subject as expressed...	4	..	..	1	..	..	..	..	..	.....										
Average shortening of limbs (inches)	Not stated.																			
Average period last heard from (months)	Not stated.																			

Remark.—This table does not compare with that exhibiting the deaths and recoveries, but can be made to by calculation.

Again, in 107 *partial* excisions of all classes, 87 regained useful limbs, over 81 per cent.; while in 468 "complete" excisions, 318 secured "useful" members, or 65.81 per cent.

As to the shortening of the extremities resulting in the several classes of excision, in twelve (12) cases in which this point is stated, the average reduction of the length of the limbs was $2\frac{1}{3}$ inches.

The average period "last heard from," in 297 cases in which this point is developed, is $20\frac{158}{297}$ months.

Conclusion.—That a large per cent. of those undergoing this operation secure useful limbs; that the results as to usefulness are more successful in the partial than in the complete excisions, that the average shortening of the limbs does not interfere materially with their usefulness, and that the average number of months "last heard from," is a sufficiently long period to determine that these results were permanent in character.

In the class of "extraction" five of the cases regained useful members.

Remarks.

In General.

Gunshot Excisions.

Case 178. At this case it is stated that "All of the excisions reported by Prof. Cabell were performed either by himself or J. S. Davis, J. E. or C. W. Chancellor, B. Wallace, or possibly John Lewis, or M. McKenna, of the C. S. Army.

Excisions for Disease and Injury.

Case 20. This case recovered, but subsequently died of phthisis.

Case 40. Vague rumors that the disease returned in this patient, and that he was under treatment in some one of the Dublin hospitals.

Case 78. This patient died two years after operation, of phthisis.

Case 205. Patient died in 1868, of dropsy from fatty liver.

Case 208. Died, dropsy one year after operation.

Case 221. This patient was three months advanced in pregnancy at time of the operation, and was delivered safely at full term in November, 1855.

Case 397. This case reported by the operator as an argument against the view of Sédillot, that in sub-periosteal excisions an excess of bone is reproduced, and motion of joint interfered with.

Case 403. At this case is stated M. Ollers' view (see *London Lancet*, Am. ed. 1872, p. 659), that the development of the bones of the upper extremity mainly at the head of the humerus and at the lower ends of the radius and ulna, is rather favorable to resections at the elbow.

Case 411. Patient died $2\frac{1}{2}$ years afterwards of pneumonia.

As to Treatment.

GUNSHOT EXCISIONS.

Case 103. Splint applied, warm baths of member used; induced electricity employed, and active movements of member and joint instituted.

Case 104. At this case is stated Légouste's views (see *Traité de Chirurgie d'Armie*, p. 740): "The general indication dictating this operation consists in the state of the soft parts, the vessels, and the bones" (omits state of nerves). "The considerable loss of substance of the soft parts, lesion of the principal artery, and fracture of the bone extending to a great distance upon the diaphysis, contraindicate the excision and necessitate amputation." At page 745 he says: "The general state should be favorable." For this excision he recommends an internal or external longitudinal with a transverse incision, and also advises the rectangular splint to favor dressing without deranging the splint.

Case 183. First dressed with Esmarch splint, four weeks later plaster Paris bandage, with openings opposite joint.

Case 227. Plaster Paris dressings.

Case 245. Dr. C. A. Rice, late surgeon C. S. A., is here quoted. He says: "The recoveries from excision of this joint were more tedious than from the shoulder excisions, and often secondary amputation was required in the former."

Case 544. Drainage tube used in this case. At first angular splint, later plaster dressings; passive motion resorted to, and induced electricity.

Case 545. At this case is quoted statement of Mossakowski; he says, 38 wounds of this joint treated conservatively healed with anchylosis, and that the results were sooner obtained and more complete use of the hand and fingers ensued than through resection.

Case 550. At this case is quoted Berthold's opinion; he says, "Of 37 cases, 25 of which were treated conservatively, nearly all ended in anchylosis; 9 were crippled, and 16 gained useful members."

Case 561. At this case is quoted Seggel's opinion; he says, "Of 49 cases, 21 resected, and 28 treated conservatively with following results; 12 anchylosed crippled; 9 motion of joint completely useful; 7 partial motion of joint, partially useful."

Case 596. At this case views of Prof. Langenbeck expressed, who says, "In those crippled (from the conservative treatment), this joint was afterwards resected successfully in some of the cases, and hence the limb should always be kept in the bent position while under treatment." This authority advocates the sub-periosteal excision of this joint. He also attributes some of the ill results following excision of this joint to the non-use of the member after the operation, and advocates the passive and active use of the limb as soon as possible. He claims that anchylosis of the joint, with rectangular position of the member, is a better result than resection with the loose elbow-joint; also states that the preference given to the conservative treatment, in late war, was partly due to the less severe nature of the injuries in those so treated. Prof. Billroth attributes the mortality resulting from excisions of this joint during this war, to the delay in performing the operations.

Excisions for Diseases and Injuries.

Case 314. Patient in this case refused to employ passive motion, as it was so painful; limb healed anchylosed and in a tolerably bent position.

Case 400. Operator objects to transverse incisions, as the cicatrix is liable to unite to the ends of the bones and impede motion of joint.

Case 418. Patient refused passive motion; hence the anchylosis in this case.

Case 450. The novelty of this, Watson's operation, consists in taking out each condyle with cutting pliers and strong forceps, through a lateral internal longitudinal incision.

Dissections.

Gunshot Excisions.

Case 34. The autopsy revealed tubercles in the lungs and mesentric glands.

Case 41. This patient had also phlebitis of the bone.

Case 43. This patient also had crural phlebitis.

Case 106. Autopsy showed forearm in median position between pro- and supination; slight dislocation of forearm bones at the elbow; forearm could be moved through an arc of 130°, and flexed to an angle of 65°; limited pro- and supination; joint motion smooth; joint well formed; several muscles partly atrophied and degenerated (fatty); deposit of bone about joint which limits its motions; fibrous band between ends of bones and a joint in front and behind this band.

Case 117. The inspection showed the joint surfaces and upper end of radius carious.

Case 174. The specimen showed necrosis lower end of middle third humerus, and that the fractures of the radius had united.

Case 193. Specimen shows caries of radius and ulna, and these bones partly absorbed and united at their borders. A sequestrum of the lower six inches of the humerus with an involucrum of spongy bone.

Case 195. Dissection showed ligamentous union between the end of the humerus and bones of the forearm, the end humerus rounded off, and enlarged by new bone, and the medullary canal decreased in size by new bone.

Case 203. Specimen shows lower fourth of humerus absorbed, caries of anterior half humerus to junction of upper thirds—a sequestrum six inches in length.

Case 231. Specimen shows caries of end humerus and radius and a sequestrum of the upper end of the ulna with a slight involucrum.

Excisions for Disease and Injuries.

Case 45. A disease of the wrist rendered amputation necessary, patient having excellent use of the elbow. Specimen showed no disease present in the elbow-joint.

Case 201. The specimen showed that the nerves of the soft parts were involved at the joint, which induced the necessity of amputation of the limb.

Case 280. Autopsy showed the resected end of humerus necrotic 2½ inches.

Case 320. Patient taken with pulmonary troubles and died of phthisis in May, 1859. Autopsy showed tubercular cavities in ends ulna and humerus.

Case 322. Six months after this excision the thigh of patient amputated for disease of the bone, and at 2½ years died of caries of the spine.

Case 380. Patient died four years after. Dissection showed the condyles, head radius and ulna and orbicular ligament and even a hyaline cartilage to have been reproduced.

Case 459. Patient did well for three weeks, discharge from wound became profuse, no bony repair whatever.

SYNOPTIC TABLE OF EXCISIONS OF THE ELBOW-JOINT.

Nature of operation.	No. cases.
Excisions for Gunshot wounds	598
" " Injury	70
" " Disease	394
" " Deformity	13
Total for the joint	1075
Extraction of bone simply	7

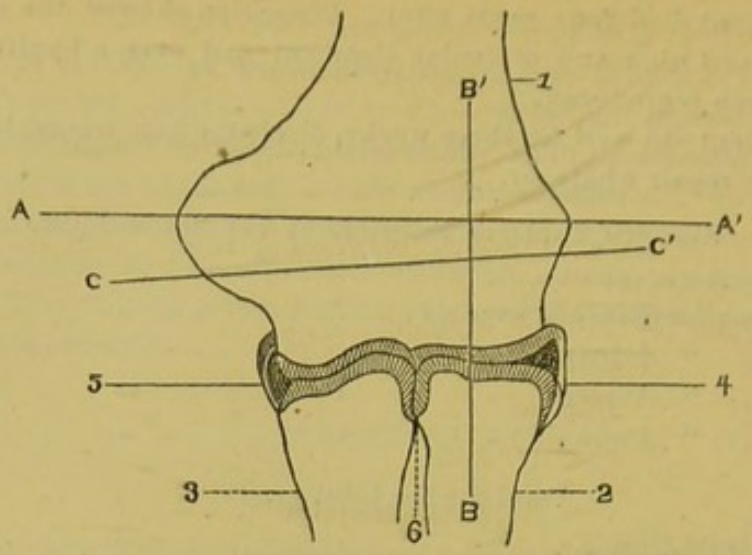
ANATOMY.

The illustrations, Plates XII. and XIII., will render it unnecessary to give a lengthy anatomical description of this articulation, and serve to refresh the memory of the operator as to the several steps in excision of the elbow-joint.

Measurements of the breadth and projections of the processes of the elbow-joint (see Nouveau Dict. de Méd. et Chir. Prac., t. 9, p. 705)

	INCHES.	
	Male.	Female.
Distance from epitrochlea to epicondyle	2.30	2.02
Axis of the articular cylinder	1.63	1.52
Breadth of the trochlea	.85	.81
" " condyle	.81	.74
Projection of the epitrochlea	.50	.42
" " epicondyle	.11	.07
Radius of the large part of the trochlea	.50	.46
" " groove	.37	.35
" " small part of the trochlea	.45	.37
" " condyle	.39	.35

This table develops that the epitrochlea forms upon the inner side of the elbow a very marked projection, and that from within to without from the trochlea to the condyle, the articular surface is sensibly oblique from below upwards. This explains the defect in the continuity of the axis of the arm and the forearm, and the open angle on the outside projecting inwards, which form these two axes. This angle is about 170°. We add that the axis of the articular cylinder is transverse and situated several millimetres below the line which unites the epitrochlea and the epicondyle.



DRAWING OF THE ARTICULATION OF THE ELBOW.—A. Transverse line—1, humerus; 2, radius; 3, cubitus; 4, 5, synovial membrane; 6, annular cul-de-sac of the synovial membrane. A, A'. Line joining the epitrochlea and the epicondyle. B, B'. Arc of rotation of the radius upon the cubitus. C, C'. Arc of rotation of the movements of flexion and extension of the elbow.

OPERATION.

The patient having been placed well over, but not entirely upon the anterior part of the body, and anæsthesia induced, and the Esmarch bandage applied, an incision is made upon the dorsal aspect of the joint and in the axis of the limb, extending from two to three inches above and below the point of the olecranon process. This cut should divide the skin, the superficial fascia, and the posterior superficial aponeurosis of the elbow. See Plate XII., A, B, C.

The latter fascia should be separated on the inner and outer side, the length of the external incision, the lips of the incision secured widely apart, and the ulnar nerve thus exposed should be dissected from its bed and turned inwards. The head of the radius having been exposed, the soft parts removed from about its neck, the chain-saw is passed (care being taken to preserve the insertion of the biceps), the bone divided, and seized with forceps and its ligamentous attachments severed and the head removed. The insertion of the triceps may now be divided close to the olecranon. The soft parts and periosteum should be enucleated from the lower extremity of the humerus, and a track formed about the bone for the passage of the chain saw. The bone divided, the lower extremity is protruded through the posterior wound, seized with forceps, and its ligamentous attachments carefully severed. The periosteum should be preserved. The soft parts and periosteum

EXPLANATION OF PLATE XII.

REGION OF THE ELBOW.

A. Section of the skin bounding the region.

B. Section of the superficial fascia and of the subcutaneous fatty cellular tissue.

C. Section of the posterior and superficial aponeurosis of the elbow.

D. Section of the posterior and superficial aponeurosis of the anterior surface of the region.

D′. Aponeurotic arch formed by the posterior aponeurosis of the elbow.

E. Tendon of the insertion of the triceps into the olecranon.

F. External portion of the triceps muscle.

F′. Internal portion of the triceps muscle.

G. Extensor carpi ulnaris muscle.

H. Section of the anconeus muscle.

I, J. Section of the extensor communis digitorum.

K. Condyle of the humerus.

K′. Internal condyle of the humerus.

L. Olecranon.

1. Posterior recurrent radial artery.

2. Anastomosis of the posterior recurrent radial artery with the profunda superior.

3. Branch of the profunda superior.

4. Branch of the profunda inferior.

5. Posterior ulnar recurrent.

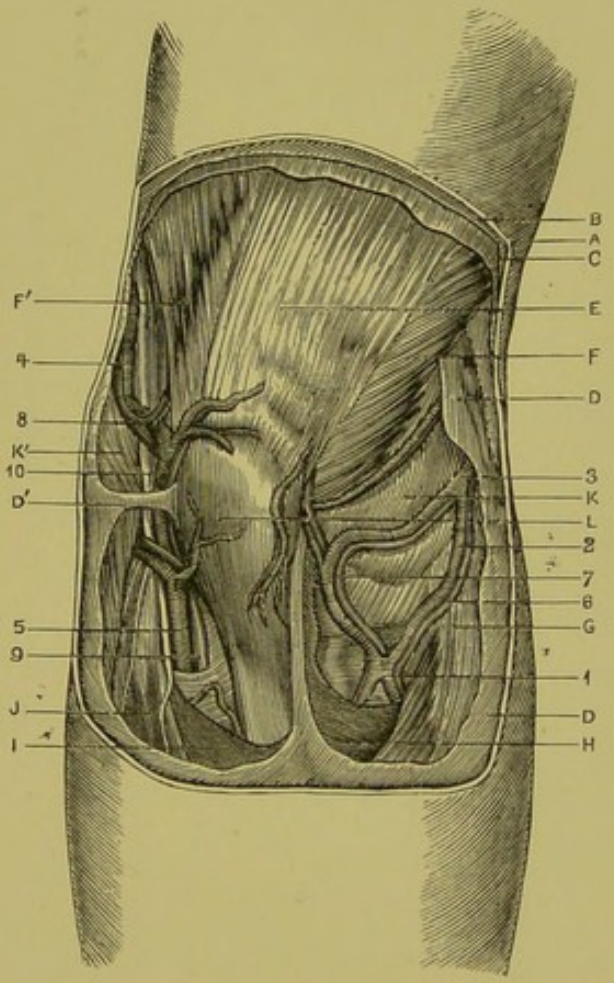
6, 7. Posterior radial recurrent veins.

8, 9. Posterior ulnar recurrent veins.

10. Ulnar nerve.

PLATE XII.

From Béraud, Anat. Chirurg.



EXPLANATION OF PLATE XIII.

MEDIAN SECTION,

Antero-posterior, of the region of the elbow (the forearm pronated).

A. Biceps.

B. Median nerve.

C. Brachial artery.

D. Brachialis anticus.

E. Supinator longus.

F. Ulna.

G. Interosseus aponeurosis.

H. Radius.

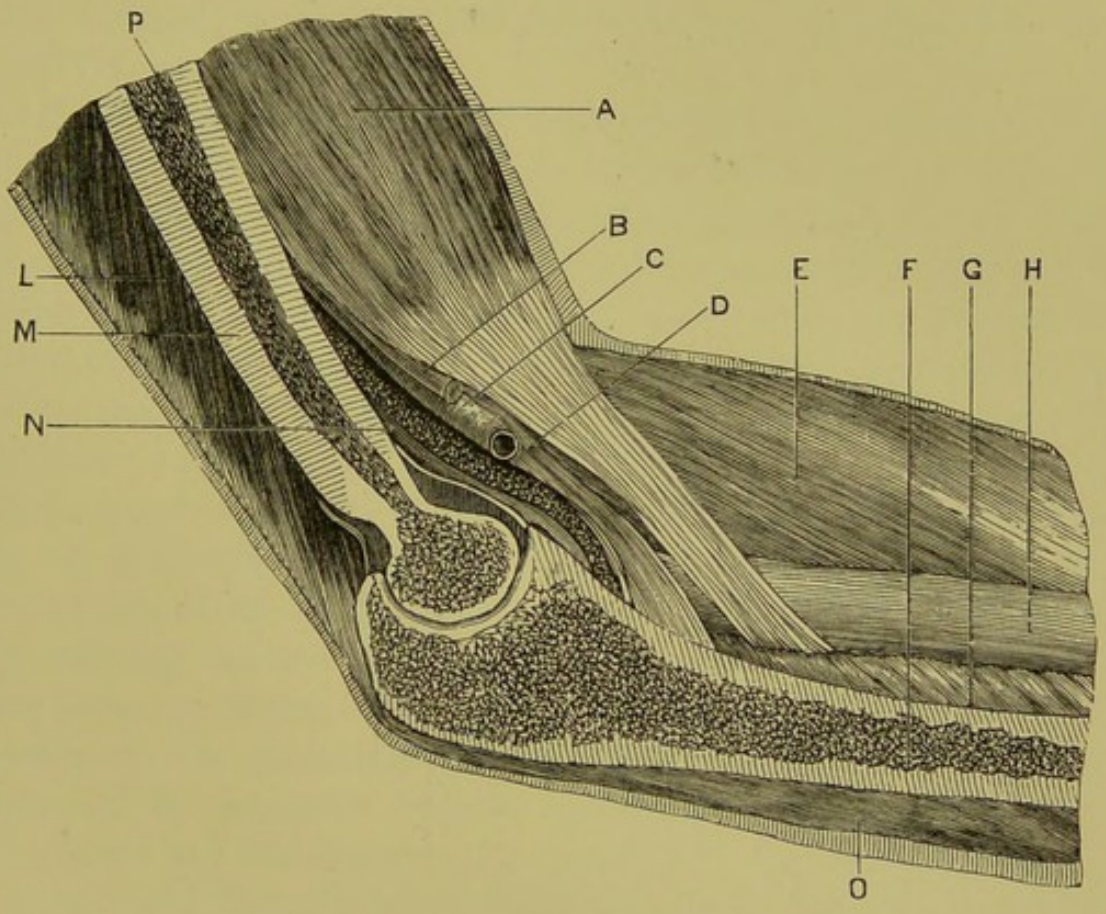
L. Triceps.

M. Humerus.

N. Section of the brachialis anticus.

PLATE XIII.

From Nouveau Diction. de Méd. et Chirurg. Pract , tome 9, p. 705.



may now be separated from the head of the ulna, the chain-saw passed and the bone divided as low down as necessary, care being taken to preserve the aponeurotic fascia connected with the biceps tendon. The bone is now seized with forceps, its attachments further separated and the head removed. All spicula should be extracted and the remains of the diseased synovial membrane dissected out.

Surgeons have adopted a variety of incisions in executing this excision. Park made the longitudinal incision in the axis of the limb. Chassaignac preferred a longitudinal incision made on the external and slightly posterior part of the elbow. Moreau made the H shaped incision, as did Syme, Dupuytren, Dietz, Pancoast, and Velpeau.

Manne made two semilunar incisions on the posterior aspect of the joint. These were joined by external and internal longitudinal incisions, and the inclosed integument was raised with the bone. Roux made a longitudinal incision on the external part of the joint, and at the lower extremity of this added a transverse cut opposite the olecranon. Simpson made a median posterior incision and a transverse cut at the superior and inferior extremity of this. Jaeger made a longitudinal incision directly over the ulnar nerve, and after removing it from its bed added a transverse cut at the middle of the first. Liston made an incision on the radial side of the ulnar nerve, and added an external transverse cut meeting the first at its middle. Sédillot advised two lateral semilunar incisions, the arches of which should meet on the centre of the olecranon and the extremities rest on the condyles of the humerus. Thore made a T shaped incision. J. F. Heyfelder and Maisonneuve ⊣ shaped cut. Lizars made a crucial incision, and Textor a triangular flap with an inferior base. Guepratte made a semilunar flap with a superior base. Langenbeck prefers the longitudinal incision, on the inner side of the olecranon. Erichsen and Esmarch make an incision parallel to the ulnar nerve and a few lines to its outer side, and another from the middle of this outwards over the olecranon. Fergusson perfers the H incision, and Guthrie and Butcher the same. MacCormac prefers the single median longitudinal incision, and Holmes the longitudinal cut made a little nearer the inner than the outer border of the arm. Gant advises the single linear incision longitudinally over the centre of the joint. Henry H. Smith employed the H and L shaped incisions. Hamilton prefers the H incision, and Gross a

semilunar cut with the convexity downwards. Ashhurst adopts the single longitudinal incision running parallel and a few lines to the outer side of the ulnar nerve, and Chipault made a longitudinal incision, which coursed a little without the olecranon.

TREATMENT.—The bleeding having been arrested, the wound filled with a long strip of lint saturated with carbolic acid solution, the edges approximated, excepting at the centre of the incision, the limb is laid partly flexed upon its inner side, after having been bandaged. A pillow should be placed beneath the member, and over this a piece of oil cloth. Ice in bladders may then be applied to the joint and limb, or other applications considered indicated. The joint should be often washed out with disinfectants after the removal of the lint, the discharges removed, and the most scrupulous cleanliness maintained. As the swelling and inflammation abate, the limb should be brought into the rectangular position, and then gradually to a state of extension. This mode of passive motion may be conveniently executed by means of Stromeyer's elbow splint or a similar apparatus. Passive motion should be persistently and freely employed, or anchylosis will ensue, especially if the subperiosteal excision has been executed. Early in the case systematized exercise of the joint and member should be practised and electricity employed to facilitate the cure. Warm or cold baths and frictions of the limb are recommended.

As a first dressing Heath's apparatus is advised (see Gross's *Surgery*, vol. ii. p. 1086). Butcher placed the limb upon a rectangular splint, as did Gant. Erichsen advises to place the limb on a pillow in the extended position, and in a week or ten days to bring it into the rectangular state, and to secure this position by a leather splint. Hamilton advises the use of a well-padded tin or zinc (straight) splint at first. Ashhurst advises the use of a straight splint in the early stages. Fergusson advises the bent position secured by a leather splint. Holmes recommends the use of a splint, and advises not to disturb the limb for three weeks, and when the parts have consolidated sufficiently over the ends of the bones to begin with passive motion. Liston recommends that the limb be kept on a pillow for the first few weeks. Stromeyer advises the use of a well-padded splint, bent at an angle of 140°, and that the limb be left undisturbed at first. Guthrie places the arm in the bent position at first, and secures it thus by com-

press and bandage and sling. Henry H. Smith advises to dress the limb with an angular splint. Chipault applied a splint, and it may be added that plaster of Paris dressings have been employed arranged with openings at the joint.

In the above description of the operation and *résumé* of the treatment the following works have been consulted:—

Authorities.—Béraud, Ant. Chipault, Fract. par Armes a Feu; Heyfelder, O., Trait. des Rés; Smith, S., Hand Book; Smith, H. H., Oper. Surg.; Pancoast, Oper. Surg.; Fergusson, Surg.; Gant, Surg.; Gross, Surg.; Erichsen, Surg.; Ashhurst, Surg.; Holmes, Surg. Dis. Child.; Hamilton, Surg.; Liston, Surg.; Syme, by Maclean; Esmarch & Stromeyer; Guthrie, Comm.; Velpeau, Oper. Surg.; MacCormac, Notes and Recol.; Butcher, Oper. and Cons. Surg., and other works and medical journals.

TABULAR STATEMENT

OF

EXCISION OF ELBOW-JOINT.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Velpeau's Surg. ii. 786; Hodges' Exc. p. 47; Heyfeld. Part. ta. 65.	Reported by Bilguer, John Ulrich, Germany.	Germany.	Germany.	?	.....	Report'd 1781.	?	Fracture of ulna and olecranon; process by shell.
2	Hodges' Exc. p. 47; Velpeau's Surg. ii. 797.	Grocke.	Germany.	"A Soldier." Germany.	M. ?	.....	1793.	....	Gunshot fracture of ulna.
3	Heyfeld. ta. 4.	Percy, P. F., France.	?	France.	M. ?	.....	?	....	Wound involving joint.
4	Heyfeld. ta. 5.	Percy, P. F., France.	?	France.	M.	?	?	....	Wound involving joint.
5	Heyfeld. ta. 6.	Percy, P. F., France.	?	France.	M.	?	?	....	Wound involving joint.
6	Letter, 1872, Operator.	Hoyt, Otis, Hudson, Wis.	General Hospital, Jalapa, Mexico.	Loup, Ill. Regt. Mexican War	M. 32	.....	1847.	P.	Wound involving joint.
7 to 22	Gross' Statistics.	Roux and Demme.	Parisian Revolutions.	16 cases.	?	.....	?	....	Wound involving joint.
23	Arch. für Klin. Chir. Lang. 16, 2, 425; Esmarch's ta. 2, Work, p. 92; Heyfeld. ta. 94.	Langenbeck, B. Von, Berlin.	?	Westergaard, Von, Danish Major "High fever; chronic cough; asthma; slight stature."	M.	April 23, 1848. S'leswig.	1st, May 2, 1848. 2d, May 13, 1848.	Int.	Comminuted fracture of the internal condyle; epicondyle shot away; left side; ball grazed olecranon and passed out; great swelling.
24	Arch. für Klin. Chir. Lang., 16, 2, 424; Esmarch's ta. 1.	Langenbeck, B. Von, Berlin.	Schleswig-Holstein War, at Rendsburg.	Schw. Von, Captain. Active fever.	M.	April 23, 1848. S'leswig.	May 17, 1848.	Int.	Comminuted fracture of the external condyle; ball lodged in joint; synovitis followed great swelling of arm to shoulder-joint.
25	Esmarch's ta. 3, and p. 93; Heyfeld. O. 186.	Stroymeyer, L.	Sleswick-Holstein War.	K——, Hanoverian Private.	M. ?	April 6, 1849, Uleruup.	April 7, 1849.	P.	Comminution of upper end of ulna right side, by musket ball.
26	Esmarch's ta. 5, and p. 93; Heyfeld. Part. ta. 17.	Langenbeck, B. Von, see Case 23.	Flensburg.	R——, Saxon Rifleman.	M. ?	April 13, 1849. Dueppel.	April 15, 1849.	Int.	Comminuted fracture of end of left humerus; by bullet.
27	Esmarch's ta. 4; Heyfeld. Part. ta. 51.	Stromeyer, L., see Case 494.	Sleswick-Holstein War.	Von M——, Saxon Lieut.	M. ?	April 13, 1849. Dueppel.	April 21, 1849.	Int.	Comminution (18 pieces) of end of left ulna.
28	Esmarch's ta. 6; Heyfeld. Part. ta. 52.	Stromeyer, L., see Case 494.	Hadershaben Hospital.	Br——, Sles.-Hol. Pr.	M. ?	April 23, 1849. Koldnig.	April 25, 1849.	Int.	Comminuted end of right ulna.
29	Esmarch's ta. 9.	Stromeyer, L., see Case 494.	Hadershaben Hospital.	Chr——, Sles.-Hol. Pr.	M.	April 23, 1849. Koldnig.	April 26, 1848.	Int.	Comminuted end of right ulna.
30	Esmarch's ta. 7, and p. 96.	Esmarch, Fr., Kiel, Denmark.	Christianfield Hospital.	Max Von F——, Sles.-Hols. acting Officer.	M. ?	April 23, 1849. Koldnig.	April 26, 1849.	Int.	Splintering of right internal condyle; arm swollen; bullet lodged; ulnar nerve divided by bullet.

of Elbow-Joint for Gunshot Wounds.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	Splinters and four finger breadths of the ulna.	Recovered, 27 days.	.....	Recovered without anchylosis.	Several	
2	?	Olecranon and four inches of ulna.	Recovered, 5 months.	.....	Recovered with an anchylosed joint.	5	
3	?	Complete excision.	Recovered.	.....	"Good."		
4	.....	Complete excision.	Recovered.	.....	"Good."		
5	.....	Complete excision.	Recovered.	.....	"Good."		
6	H	"One inch above condyles; 2 inches below articulation of forearm."	Recovered.	.....	"Very little motion of joint; forearm nearly at right angle with arm; perfect use of hand."	12	
7 to 22	?	Excision of joint.	11 Recovered. 5 Died.				
23	+ Middle.	1st. Remains of internal condyle. 2d. Total excision of joint; 1½ inches in all.	Recovered, 3½ months.	.....	At 2½ months wound completely healed; in August active motion of joint; use of fingers and hand completely free.	4	Petruschky refers to this case; great swelling of limb followed; triceps cut across; ulnar nerve not touched; attachment of brachialis retained.
24	Dilated the wound up and down.	External condyle (ball removed with the bone).	Recovered. ?	.....	May 25 went home; soon had a gastric fever; advised not to use arm by another physician; went into active service in war of 1866, 1870–71, and now holds a military position in Berlin; right arm very strong, and useful in all its functions.	276	Referred to by Petruschky; "fever and swelling."
25	H	Three joint ends.	Recovered.	.....	Able to use hand well when he left hospital; movements of arm and joint as perfect as other; able to do the duties of a "forester."	Long after left hospital.	
26	I	End of humerus and olecranon.	Died, 29 days, pyæmia.	.....	Did well at first; member amputated May 1st, for secondary hemorrhage.		
27	⊢	Ends of ulna and radius.	Recovered.	.....	"Serving again; slight mobility."		
28	H	Ends of ulna and radius.	Recovered, 4 months.	.....	"Cured; extensive mobility; right arm slightly weaker than the other; hand perfectly strong and free in its motion."	4	Wound healed in July, but mixed in a fight using arms vigorously, causing wound to break out afresh; wound again cicatrized in several weeks.
29	⊢	Olecranon and 2½ inches of humerus.	Recovered.	.....	"Cured; incomplete anchylosis."		
30	⊢	Olecranon and epiphysis of humerus.	Recovered, 11 months.	.....	May 3, arm amputated at elbow, for gangrene of forearm.	11	This man had pleuritis and empyema, and other wounds.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
31	Esmarch's ta. 8; Heyfeld. Part. ta. 4.	Schwartz, H.	Christianfield Hospital.	Br——, S., Sles.-Hols. Pr	M. ?	April 23, 1849. Koldnig.	April 26, 1849.	Int.	Comminuted end of left humerus.
32	Esmarch's ta. 11, and p. 97; Heyfeld. Part. ta. 26.	Niese, Denmark.	Christianfield.	S——, Thos., Danish Pr.	M. ?	April 23, 1849. Koldnig.	April 26 and 27, 1849.	Int.	Comminution of left humerus; by bullet 2¼ inches above elbow, with fissure extending into joint.
33	Esmarch's ta. 10; Heyfeld. Total ta. 96.	Schwartz, H.	Sleswick-Holstein War.	H——, Sles.-Hols. Pr	M. ?	April 23, 1849. Koldnig.	May 16, 1849.	Int.	Splintering of right olecranon.
34	Esmarch's ta. 12; Heyfeld. ta. 97.	Hausen.	Sleswick-Holstein War.	B——, Sles.-Hols. Pr.	M. ?	April 23, 1849. Koldnig.	May 30, 1849.	Int.	Fracture of coronoid process (struck off).
35	Esmarch's ta. 13, and p. 98.	Esmarch, Fr., Kiel, Denmark.	Sleswick-Holstein War.	S——, Heinrich, Ensign 6th Sles.-Hols. Infantry.	M. ?	July 6, 1849. Friderica	July 7, 1849.	P.	Comminuted head of left humerus.
36	Esmarch's ta. 14, and p. 98.	Schwartz, H.	Christianfield.	Q——, P., Sles.-Hols. Pr	M. ?	July 6, 1849. Friderica	July 7, 1849.	P.	Comminuted head of right radius and ulna; member much swollen.
37	Esmarch's ta. 15.	Stromeyer, L., see Case 494.	Sleswick-Holstein War.	R——, Sles.-Hols. Musician.	M. ?	July 6, 1849. Friderica	July 7, 1849.	P.	Comminution of end of right humerus.
38	Esmarch's ta. 16.	Stromeyer, L., see Case 494.	Sleswick-Holstein War.	Kr——, Sles.-Hols. Pr	M.	July 6, 1849. Friderica	July 8, 1849.	Int.	Comminuted end of left humerus.
39	Esmarch's ta. 17.	Esmarch, Fr.	Sleswick-Holstein War.	W——, Sles.-Hols. Pr	M.	July 6, 1849. Friderica	July 8, 1849.	Int.	Comminuted external condyle, and head of radius.
40	Esmarch's ta. 18; Heyfeld. Part. ta. 58.	Marcus.	Sleswick-Holstein War.	S——, Sles.-Hols. Pr	M.	July 6, 1849. Friderica	July 8, 1849.	Int.	Fracture of right olecranon (struck off).
41	Esmarch's ta. 19.	Goetze.	Sleswick-Holstein War.	Kr——, Sles.-Hols. Pr	M.	July 6, 1849. Friderica	July 8, 1849.	Int.	Splintering of end of humerus and olecranon.
42	Esmarch's ta. 20.	Stromeyer, L., see Case 494.	Sleswick-Holstein War.	H——, Sles.-Hols. Pr	M. ?	July 6, 1849. Friderica	July 9, 1849.	Int.	Fissuring of right olecranon.
43	Esmarch's ta. 21.	Dorhn.	Sleswick-Holstein War.	B——, Sles.-Hols. Sergt. "Is a drunkard."	M. ?	July 6, 1849. Friderica	July 9, 1849.	Int.	Comminuted end of left humerus.
44	Esmarch's ta. 22.	Schwartz, H.	Sleswick-Holstein War.	R——, Sles.-Hols. Pr	M. ?	July 6, 1849. Friderica	July 22, 1849.	S.	Fracture of left coronoid process (struck off); radius grazed.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
31	H	Olecranon and two inches of humerus.	Recovered.	.....	"Cured; extensive mobility."		
32	I	1st. Fragments and points of bone; upper portion of humerus sawn off. 2d. Lower fragment; all 4 inches of humerus.	Recovered, 3 months.	.....	"Cured; incomplete anchylosis; hand strong and useful."	3	
33	H	The three joint ends.	Recovered.	.....	"Cured; slight mobility."		
4	H	The three joint ends.	Died, 42 days, phthisis.	.....	.....	.....	"Autopsy revealed tubercles in lungs and mesenteric glands."
5	H	Head of radius; 1½ inches of ulna; portion of articular cartilage of humerus.	Recovered, 3 months.	.....	Joint anchylosed; served as ensign until autumn of 1850, as he could use the member so well; began to do duty in spring of 1850.	14	
6	H	Head of radius, and 3½ inches of ulna.	Died, 3 days, phlebitis pyæmia.				
7	U	2 inches end of humerus.	Doubtful.	.....	"Not healed; necrosis of end of humerus."	?	
8	H	1 inch end of humerus.	Recovered.	.....	Cured; perfect anchylosis.		
	H	The three joint ends.	Recovered.	.....	"Cured; incomplete anchylosis."		
	H	"Ends of radius and ulna."	Recovered.	.....	"Cured; incomplete anchylosis; remained in the service as a sub-officer."		
	H	End of humerus and ulna.	Died, 22 days, pyæmia.	.....	.....	.....	Had also phlebitis of the bone.
	H	Olecranon and end of humerus.	Recovered	.....	Cured; anchylosis.		
	H	1¾ inches of humerus and olecranon.	Died, 32 days, pyæmia.	.....	.....	.....	Had also crural phlebitis.
	H	The three joint ends.	Recovered.	.....	Cured; mobility of joint.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
45	Esmarch's ta. 23.	Goetze.	Sleswick-Holstein War.	E——, Sles. Pr.	M. ?	July 6, 1849. Fri-derica	July 30, 1849.	Int.	Splintering of left olecranon.
46	Esmarch's ta. 24.	Schwartz, H.	Sleswick-Holstein War.	G——, Sles.-Hols. Dragoon.	M. ?	July 26, 1850. Id-sted t.	July 27, 1859.	P.	Comminuted ends of right humerus and radius.
47	Esmarch's ta. 29.	Dohrn.	Sleswick-Holstein War.	H——, Sles.-Hols.Pr.	M. ?	July 26, 1850. Id-stedt.	July 27, 1850.	P.	Comminuted ends of right ulna.
48	Esmarch's ta. 30.	Bartles, Berlin, Germany.	Sleswick-Holstein War.	Br——, Sles.-Hols. Rifleman.	M. ?	July 26, 1850. Id-stedt.	July 27, 1850.	P.	Fracture of right internal condyle (struck off); joint opened.
49	Esmarch's ta. 34.	Niese, Denmark.	Sleswick-Holstein War.	B——, Sles.-Hols. Rifleman.	M.	July 26, 1850. Id-stedt.	July 27, 1850.	P.	Comminution of end of right humerus.
50	Esmarch's ta. 25.	Esmarch, Fr., Kiel, Denmark.	Sleswick-Holstein War.	H——, Sles.-Hols. Pr.	M. ?	July 26, 1850. Id-stedt.	July 28, 1850.	Int.	Comminution of left olecranon.
51	Esmarch's ta. 26.	Stromeyer, L., see Case 494.	Sleswick-Holstein War.	A——, Sles.-Hols. Pr.	M. ?	July 26, 1850. Id-stedt.	July 28, 1850.	Int.	Comminution of end of left humerus.
52	Esmarch's ta. 27.	Stromeyer, L., see Case 494.	Sleswick-Holstein War.	G——, Sles.-Hols. Rifleman.	M. ?	July 26, 1850. Id-stedt.	July 28, 1850.	Int.	Comminution of end of right humerus.
53	Esmarch's ta. 31.	Dorhn.	Sleswick-Holstein War.	H——, Sles.-Hols. Rifleman.	M. ?	July 26, 1850. Id-stedt.	July 29, 1850.	Int.	Comminution of head of radius and humerus; olecranon bruised.
54	Esmarch's ta. 32.	Bartles, see Case 48.	Sleswick-Holstein War.	Ka——, Sles.-Hols. Rifleman.	M. ?	July 26, 1850. Id-stedt.	July 28. 1850.	Int.	Comminution of end of left humerus.
55	Esmarch's ta. 33.	Dorhn.	Sleswick-Holstein War.	Koe, Sles.-Hols. Rifleman.	M.	July 26, 1850. Id-stedt.	July 29, 1850.	Int.	Splintering of ends of ulna.
56	Esmarch's ta. 35, and p. 99.	Kunckle.	Sleswick-Holstein War.	S——, "Tanner."	M.	Aug. 7, 1850. R'nds burg.	Aug. 17, 1850.	Int.	Comminution of end of right humerus.
57	Esmarch's ta. 28.	Schwartz, H.	Sleswick-Holstein War.	R——, Sles.-Hols. Rifleman.	M.	July 26, 1850. Id-stedt.	Aug. 18, 1850.	Int.	Splintering of left olecranon.
58	Esmarch's ta. 36.	Herrich.	Sleswick-Holstein War.	H——, Sles.-Hols. Pr.	M.	Sept. 12, 1850. Miss-unde.	Sept. 13, 1850.	P.	Comminuted end of left radius and ulna.
59	Esmarch's ta. 40.	Goetze.	Sleswick-Holstein War.	W——, Sles.-Hols. Pr.	M. ?	Oct. 4, 1850. Fried rich-stadt.	Oct. 5, 1850.	P.	Comminuted end of left humerus.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
45	H	The three joint ends.	Recovered.	.....	Cured; nearly firm anchylosis.		
46	H	3 inches of humerus, and end of radius.	Recovered.	.....	"Cured; mobility of joint."		
47	H	End of radius and ulna.	Recovered.	.....	Cured; nearly firm anchylosis.		
48	H	Half of olecranon, and 1¼ inches of humerus.	Recovered.	.....	"Cured; anchylosis."		
49	H	2 inches of humerus.	Recovered.	.....	"Cured; great mobility."		
50	H	Olecranon.	Recovered.	.....	"Cured; anchylosis."		
51	H	2 inches of humerus.	Died. ?	.....	Amputation by a Danish surgeon; did well for a time.		
52	H	Olecranon and one inch of humerus.	Recovered.	.....	"Cured; anchylosis."		
53	H	The 3 joint ends.	Recovered.	.....	"Cured; great mobility."		
54	H	Half of olecranon; 4½ inches of humerus.	Recovered.	.....	"Cured; great mobility."		
55	H	Head of radius; 2 inches of ulna.	Recovered.	.....	"Cured; slight mobility."		
56	H	2½ inches of humerus.	Recovered, 5 months.	.....	"Cured; slight mobility."	5	
57	H	The 3 joint ends.	Recovered.	.....	"Nearly firm anchylosis; cured."		
58	H	2½ inches of ulna; 3 inches of radius.	Recovered.	.....	"Cured; mobility."		
59	H	1½ inches of humerus.	Recovered.	.....	"Cured; mobility."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
60	Esmarch's ta. 38.	Stromeyer, L., see Case 494.	Sleswick-Holstein War. Field Hospital, Delve.	H——, Sles.-Hols. Rifleman.	M. ?	Oct. 4, 1850. Friedrichstadt.	Oct. 5, 1850.	P.	Comminuted end of right ulna.
61	Esmarch's ta. 37.	Dorhn.	Sleswick-Holstein War.	L——, Sles.-Hols. Pr.	M. ?	Oct. 4, 1850. Friedrichstadt.	Oct. 6, 1850.	Int.	Comminuted on right side; external condyle bruised.
62	Esmarch's ta. 39.	Herrich.	Sleswick-Holstein War.	Kl——, Sles.-Hols. Pr.	M. ?	Oct. 4, 1850. Friedrichstadt.	Oct. 7, 1850.	Int.	Comminuted end of left humerus.
63	Macleod's Surg. Notes, pp. 294, 391, 392; Am. Jour. Med. Sci. N.S. xxxiii.245.	Wyatt, Surg. Cold Stream Guards.	Crimean War.	O'B——, J., English Soldier.	M. 26	June 18, 1855.	June 19, 1855.	P.	Wound of joint; by Minié-ball.
64	Guth. Com. 580.	Dowse, Surg. 30th Regt.	Camp Hospital, Sevastopol, Crimea.	Leah, Wm., Pr. 30th Eng. Regiment.	M. 21	June 27, 1855.	June 27, 1855.	P.	Wound involving joint.
65	Guth. Com. 581.	Atkinson, T.J Asst. Surg. 31 Regt. English	Camp Hospital, Sevastopol, Crimea.	Maguire, J., 31 Eng. Regt.	M. 20	July 13, 1855.	July 13, 1855.	P.	Wound involving joint.
66	Guth. Com. 582.	Scott, J. E., Surg. 41 Regt.	Camp Hospital, Sevastopol, Crimea.	Murray, Anthony, Pr. 41 Regiment.	M. 28	?	July 23, 1855.	P.	Wound involving joint.
67	Lancet, ii. 525, 1856.	Burke, Eng. Army.	Regt. Field Hospital, Crimea.	Trigwell, Lewis, Pr. 3d Eng. Regt.	M. ab't 34	?	Aug. 1855.	P.	Compound comminuted fracture of bones of joint.
68	Macleod's Surg. Notes, 294, 300; Am. Jour. Med. Sci., N. S., xxxiii. 244.	Reported by Macleod, G. H. B.	General Camp Hospital, Crimea.	Soldier 9th Regiment.	M. ?	Sept. 7, 1855.	Sept. 7, 1855.	P.	Compound fracture of external condyle; eminentia capitata; part of trochlea; soft parts not much injured.
69	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	General Camp Hospital, Crimea.	English officer or soldier.	M. ?	?	1855 to 1856.	P.	Wound of joint.
70	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	General Camp Hospital, Crimea.	English officer or soldier.	M. ?	.....	1855 to 1856.	P.	Wound of joint.
71	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	General Camp Hospital, Crimea.	English officer or soldier.	M. ?	.....	1855 to 1856.	P.	Wound of joint.
72	Macleod's Surg Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	General Camp Hospital, Crimea.	English officer or soldier.	M. ?	.....	1855 to 1856.	P.	Wound of joint.
73	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	General Camp Hospital, Crimea.	English officer or soldier.	M. ?	.....	1855 to 1856.	P.	Wound of joint.
74	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	General Camp Hospital, Crimea.	English officer or soldier.	M. ?	.....	1855 to 1856.	P.	Wound of joint.
75	Macleod's Surg. Notes, pp. 294, 300; Am. Jour. Med. Sci. N. S. xxxiii. 244.	Thornton, Surgeon 9th English.	Crimean War.	B——, T., Pr. 9th English.	M. 30	Sept. 8, 1855.	Sept. 11, 1855.	P.	Wound of left joint, with fracture of internal condyle.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
60	H	Head of radius; 4 inches of ulna.	Recovered.	.....	"Cured; great mobility."		
61	H	4 inches of radius and ulna.	Recovered.	.....	"Cured; great mobility."		
62	H	Olecranon and two inches of humerus.	Recovered.	.....	"Cured; mobility."		
63	(	2 inches of humerus; ulna below coronoid; head of radius.	Died, 6 days, pyæmia.				
64	?	External condyle and head of radius.	Recovered, 2¼ months.	.....	"Can use all muscles of forearm, except flexor little finger; is regaining motion."	2¼	
65	I	Complete, including the upper and lower fourths of arm and forearm.	Recovered, 37 days.	.....	Sensation of fingers partially restored; slight motion at bend of elbow; has not power to raise the hand.	1¼	
66	I	Ends of the several bones.	Recovered, 39 days.	.....	Can move thumb and 3 fingers; some union between bones; health good; progressing favorably.	1¼	
67	?	"Ends of bones a little distance from extremities."	Recovered, 12 months.	.....	"So far as can be gathered from the patient's account, has a useful arm."	12	
68	I	External condyle; eminentia capitata, and part of trochlea.	Recovered.	.....	Sloughing set in, with great constitutional disturbance, and amputation done at 2 months.	Over 2	
69	?	Total excision.	Recovered.	.....	?		
70	.....	Total excision.	Recovered.	.....	?		
71	?	Total excision.	Recovered.	.....			
72	?	Total excision.	Recovered.	.....	?		
73	?	Total excision.	Recovered.	.....	?		
74	?	Total excision.	Recovered.	.....	?		
75	I	All the broken portions of internal condyle.	Recovered.	.....	"Motions improving; could extend the arm to within one-third of its natural motion."	In Nov. 1855.	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
76	Macleod's Surg. Notes, pp. 294, 390, 391, 392.	Reported by Macleod, G. H. B.	Crimean War.	Soldier of English Fusileers.	M.	.....	1855 to 1856.	P.	Wound of joint.
77	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	Crimea.	English officer or soldier.	M. ?	.....	1854 to 1856.	P.	Shot wound of joint.
78	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	Crimea.	English officer or soldier.	M. ?	.....	1854 to 1856.	P.	Shot wound of joint.
79	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	Crimea.	English officer or soldier.	M. ?	.....	1854 to 1856.	P.	Shot wound of joint.
80	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	Crimea.	English officer or soldier.	M. ?	.....	1854 to 1856.	S.	Shot wound of joint.
81	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	Crimea.	English officer or soldier.	M. ?	.....	1854 to 1856.	S.	Shot wound of joint.
82	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	Crimea.	English officer or soldier.	M. ?	.....	1854 to 1856.	S.	Shot wound of joint.
83	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	Crimea.	English officer or soldier.	M. ?	.....	1854 to 1856.	S.	Shot wound of joint.
84	Macleod's Surg. Notes, pp. 294, 391, 392.	Reported by Macleod, G. H. B.	Crimea.	English officer or soldier.	M.	.....	1854 to 1856.	P.	Shot wound of joint.
85 to 102	Gross' Statistics; Rudinsky.	Reported by Pirogoff, N. Russia.	Crimea.	18 cases, Russian Soldiers.	M.	.....	1854 to 1856.	P.	Shot wound of joint.
103	Arch. für Klin. Chir. 16, 2, 446.	Langenbeck, B. Von, Berlin.	Berlin.	Pietsch, Gustave, Lieutenant of Navy.	M. 24	1856, at Captres Forcass, in a fight with pirates.	Mar. 10, 1857.	S.	Anchylosis; from shot wound; ball entered front, fractured the internal left epicondyle, and emerged through the olecranon; severe suppuration; inflammation of joint followed, and bony anchylosis of joint resulted; joint at an angle of 130°; wound healed in October, 1856; active motion of fingers, but their extension and flexion incomplete; whole extremity thin and weak; sensation of fingers good.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
76	?	Head of radius and small portion of lesser sigmoid notch.	Recovered, after 2 months.	.....	Amputation 2 months after, for non-repair of parts.	After 2	
77	?	Total excision.	Recovered.	.....	?		
78	?	Total excision.	Died.				
79	?	Total excision.	Died.				
80	?	Total excision.	Died, from causes not connected with operation.				
81	?	Total excision.	Died, from causes not connected with operation.				
82	?	Total excision.	Died, from causes not connected with operation.				
83	?	Total excision.	Died, from causes not connected with operation.				
84	?	Total excision.	Recovered.				
85 to 102	.....	Excision of joints.	16 Recovered. 2 Died.				
103	I	Subperiosteal; humerus just above condyles; ulna just beneath coracoid, and head of radius; 1.96 inches in all; removed in a block.	Recovered, 5 weeks.	¾	April 18, wound healed; regained all the active motions of the joint and fingers, excepting supination, which was imperfect, and on passive motion painful; a portion of the sawed surface of the external condyle exfoliated at end of April; in June, health was perfect, and had complete use of member, but suffered a fracture of the humerus from a fall; after this, finally, flexion and extension almost complete; grip very strong; fingers completely useful; active motions of member; went into active service; writes he is able to fill the duties of his station; was drowned in the wrecking of the ship "Arcona."	7	Splint applied; warm baths of member; induced electricity employed, and active motions instituted.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
104 to 105	Gross' Statistics.	Reported by Demme, H., Berne.	Italian War.	2 cases.	M.	.....	1859.	....	Shot wounds of joint.
106	Arch. für Klin. Chir. 16, 1, Langenbeck.	Ficker, Dr., Regimental Surgeon.	Italian War, 1859.	Kaintz, Jos., an invalid.	M. 31	Shot while on m'rch	1859.	P.	Shot wound of right joint.
107	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Fortress Monroe.	Taylor, Wm.	M. 20	July 21, 1861.	Nov. 1861.	S.	Wound of right joint.
108	Cat. Surg. Sec. A. M. M. p. 155.	Wier, R. F., Asst. Surgeon U. S. Army.	Hospital at Frederick	W——, F. A., Pr. 7th Ohio.	M. 26	Mar. 1862.	April 16, 1862.	S.	Fracture of olecranon, humerus, and outer condyle of left joint; received at Winchester.
109	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Fortress Monroe.	Grady, M., Pr. 37th New York Vols.	M. 20	May 4, 1862.	May 17, 1862.	Int.	Fracture involving left joint.
110	Cat. Surg. Sec. A. M. M. p. 136.	Reported by Bliss, D. W., Surg. U. S. V.	Fair Oaks.	McT——, C.P. 1st Lieut. H, 3d Michigan.	M. ad't	May 31, 1862.	May 31, 1862.	P.	Shattered left elbow; received at Fair Oaks.
111	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Hygeia Hospital, Fortress Monroe.	Chandler, S. T., Co. C, Hampton Legion, C. S. A.	M. 30	May 1862.	June 12, 1862.	Int.	Compound fracture of left joint.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
104 to 105	?	Partial or complete.	2 Recovered.	.....	?	.....	Légouste (see Traité de Chirurgie d'Armée, p. 740) says the general indications dictating this operation consist in the state of the soft parts, vessels, and the bones (omits state of nerves); the considerable loss of substance of soft parts, lesion of principal artery, and fracture of the bone, extending to a great distance upon the diaphysis, contra-indicate the excision, and necessitate ampntation; at p. 745, says the general state should be favorable; for elbow recommends an internal or external longitudinal, with a transverse incision; and also advises the rectangular splint, to favor dressing without deranging splint.
106	I	Total excision.	Recovered.	.....	Imperfectly useful: flexion and extension imperfect; pro- and supination not tried; last of 1871, had delirium tremens, of which he died Jan. 4, 1872. Autopsy—Forearm in median position; between pro- and supination, slight dislocation of forearm bones at elbow; forearm can be moved through an arc of 130°, and can be flexed to an angle of 65°; limited pro- and supination; joint motion smooth; joint well formed; several muscles partly atrophied and degenerated (fatty); deposit of bone about joint, which limits the motion of the joint; fibrous band between the ends of the bones; and a joint in front and behind this band		
107	+	2 inches of humerus.	Recovered.	.....	Useful; returned to his regiment.	In 1851.	
108	?	1½ inches of humerus; ulna to ¼ inch below coronoid; portion of head of radius.	Recovered, 2½ months.	.....	Discharged service with useful arm.	2½	
109	+	2 inches of humerus; 1 inch of ulna; ¼ inch of radius.	Recovered.	.....	Not stated.		
110	?	Total excision.	Recovered.	.....	Amputated June 1st lower third, and reamputated Sept. 7, 1862, for sloughing.	Over 3	
111	+	2 inches of humerus; 1 inch of ulna; ¼ inch of radius.	Died, 14 days, secondary hemorrhage				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
112	Cat. Surg. Sec. A. M. M. p. 170.	Swinburne, John.	Savage's Station.	S——, J. A., Pr. A, 3d New Jersey.	M. ?	June 27, 1862.	June 27, 1862.	P.	Shattered right joint; received at Gaines' Mills.
113	Letter, 1872.	Walter, A. G., 66 6th Ave., Pittsburg, Pa.	Walter's Hospital, Pittsburg	Wadsley, Fred., Allegheny City, Pa. Enfeebled by chronic diarrhœa before operation.	M. 26	3 years before.	July 6, 1862.	S.	Caries; from gunshot wound of left joint.
114	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Hygeia Hospital, Fortress Monroe.	Madigan, Thomas.	M. 33	June 27, 1862.	July 5, 1862.	Int.	Fracture of olecranon (left).
115	Cat. Surg. Sec. A. M. M. p. 153.	Unknown.	Washington, D. C.	C——, A., Pr. A, 62d Pa.	M.	July 1, 1862.	July 14, 1862.	Int.	Fracture (shattered) of the right outer condyle; received at "Malvern Hills."
116	Letter, 1872.	Prince, David, Jacksonville, Illinois.	Richmond, Ky.	Soldier.	M. ad't	Aug. 30, 1862. Richmond Ky.	Aug. 30, 1862.	P.	Wound of joint.
117	Cat. Surg. Sec. A. M. M. p. 163.	Pinkney, Howard, Asst. Surgeon 9th N. York.	Antietam.	P——, G. W., Pr. 9th N. Y.	M. ?	Sept. 17, 1862.	Sept. 17, 1862.	P.	Compound fracture of radius, involving left elbow.
118	Letter, 1872.	Bunton.	Mt. Pleasant Hospital, Washington, D. C.	McAttee, Morgan.	M. 20	?	Sept. 17, 1862.	S.	Compound wound of joint.
119	Cat. Surg. Sec. A. M. M. p. 154.	Clements, B. A., Asst. Surgeon U. S. Army.	Omitted.	G——, J., Pr. D, 6th New Jersey.	M. 24	Aug. 29, 1862.	Sept. 19, 1862.	Int.	Fracture of the right olecranon, with caries of articular surfaces.
120	Cat. Surg. Sec. A. M. M. p. 159.	Bartholf, J. H., A. A. Surg. U. S. Army.	Hospital at Frederick	H——, J., Pr. K, 19th Ind.	M. 21	Sept. 17, 1862. at Antietam.	Sept. 28, 1862.	Int.	Comminuted fracture of upper portion of ulna, and fracture of radius, involving left elbow.
121	Cat. Surg. Sec. A. M. M. p. 154.	Hewit, H. S., Surg. U. S. V.	Hospital at Frederick	W——, J. S., Pr. 5th Md.	M. ?	Sept. 17, 1862.	Oct. 2, 1862.	Int.	Perforating wound of right elbow; received at Antietam.
122	Cat. Surg. Sec. A. M. M. p. 156.	Hewit, H. S., Surg. U. S. V.	Hospital at Frederick	D——, P., Pr. D, 69th N. Y.	M. ?	Sept. 17, 1862.	Oct. 2, 1862.	Int.	Perforating fracture of right elbow; received at Antietam.
123	Cat. Surg. Sec. A. M. M. p. 156.	McCall, C. A., Asst. Surgeon U. S. Army.	Hospital, Washington.	McA——, A., Pr. F, 23d Ohio.	M. ?	Sept. 17, 1862.	Oct. 2, 1862.	Int.	Compound fracture of humerus and olecranon, with erosion of articular surface of left elbow; received at Antietam.
124	Cat. Surg. Sec. A. M. M. p. 152.	Breneman, E. de W., Asst. Surgeon U. S. Army.	Hospital at Philada.	S——, S., Pr. B, 59th N. Y.	M. ?	Sept. 17, 1862. Antietam.	Oct. 6, 1862.	Int.	Compound fracture of head of radius and olecranon of right elbow.
125	Letter, 1872; Am. Med. Times, March 19, 1864.	Gross, S. W., 12th and Walnut St., Philadelphia.	DeCamp General Hospital, David's Island, N. York.	Schneider, Morris, I, 23d Ohio.	M. 23	Sept. 16, 1862. South Mo'ntain.	Oct. 8, 1862.	Int.	Shattered fracture of olecranon.
126	Cat. Surg. Sec. A. M. M. p. 158.	Sloan, John, A. A. Surg. U. S. Army, New Albany, Indiana.	Hospital at New Albany, Indiana.	O'N——, E., Pr. D, 10th Ohio.	M.	Oct. 8, 1862. Perryville.	Oct. 14, 1862.	Int.	Necrosis of lower portion of shaft; compound fracture of right humerus; oblique fracture of outer condyle; inner condyle split off; from bullet.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
112	?	Upper ⅓ of ulna; lowest ¼ of humerus; radius not touched.	Recovered.	.....	Amputated Sept. 22, 1862.	?	
113	⊢	Humerus above condyles; articular facets of ulna, radius, and olecranon.	Died, 2 weeks, pyæmia.				
114	⊣	Olecranon only.	Died, 32 days, tetanus.				
115	?	Humerus just above condyles; ulna below coronoid; radius below head.	Recovered, 47 days.	.....	Amputated July 21, 1862, for secondary hemorrhage.	1½	
116	?	Total excision.	Recovered.	.....	When last heard from the recovery was incomplete, and the degree of usefulness uncertain.		
117	?	Head and 1 inch of radius.	Recovered, 56 days.	.....	October 10, amputated; the joint surfaces and upper end of radius carious.	Nearly 2	Discharged 56th day.
118	I	Total excision.	Recovered.	.....	Adventitious joint; with leather splint can plough drive, and do most other farm work: can use hand pretty well.	120	
119	?	Humerus just above condyles; ulna just below coronoid process; head and half inch of radius.	Recovered.	.....	Useful hand, but anchylosed elbow.	?	
120	?	Olecranon and coronoid; 2½ inches of shaft ulna; head, and 1 inch shaft of radius.	Recovered.	2	?		
121	?	Head of radius; end of ulna; 2 inches of humerus.	Died, 18 days, ?	.....	?		
122	?	2 inches of humerus, and olecranon.	Recovered.	.....	Amputated near shoulder Dec. 4, 1862.	After 2	
123	?	2 inches of humerus, and ulna below coronoid.	Recovered.	.....	?		
124	?	Head and 1 inch of shaft of radius, and portion of olecranon.	Recovered, 77 days.	.....	?	2½	
125	I	Olecranon process.	Recovered, 68 days.	.....	Had a very useful limb; all the functions of the joint being nearly perfect.	2¼	Discharged Dec. 15, 1862.
126	?	3 inches of lower end of humerus.	Recovered.	.....	"Doing well at time of desertion, October 30, 1862."	½	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
127	Cat. Surg. Sec. A. M. M. p. 159.	Sloan, John, New Albany, Indiana.	Hospital, New Albany.	B——, R. B., Pr. F, 80th Indiana.	M. 12	Oct. 8, 1862. Perryville, Ky.	Oct. 24, 1862.	Int.	Shattered fracture of radius; from bullet; inner half, fractured portion carried away, involving right elbow.
128	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 159.	Bontecou, R. B., Troy, N. Y.	Hospital, Beaufort, S. C.	Hertzog, J.T., Pr. K, 47 Pa.	M. 24	Oct. 22, 1862. Pocataligo.	Oct. 26, 1862.	Int.	Fracture of shaft of right humerus, involving joint; from bullet.
129	Cat. Surg. Sec. A. M. M. p. 153.	Bill, J. H., Asst. Surgeon U. S. Army.	Hospital, Frederick	E——, Pr. Pa. Res. Corps.	M. ?	Sept. 17, 1862. Antietam.	Oct. 29, 1862.	Int.	Fracture of right inner condyle and olecranon, with caries.
130	Reported by Bontecou, R. B.	Dibble, F. L.	Officers' Hospital, Beaufort, S. C.	Spidel, Col.	M. 33	Oct. 22, 1862.	Oct. 30, 1862.	Int.	Wound involving right elbow.
131	Cat. Surg. Sec. A. M. M. p. 158.	Breneman, E. de W., Asst. Surgeon U. S. Army.	Hospital, Philada.	Wisconsin Soldier.	M.	Sept. 17, 1862. Antietam.	Oct. 1862.	....	Necrosis of outer surface of left radius near tuberosity; probably from contusion, with partial fracture of shaft.
132	Cat. Surg. Sec. A. M. M. p. 145.	Bliss, D. W., Surg. U. S. V.	Hospital, Washington.	M——, J., Pr. D, 69th N. Y.	M. 33	Dec. 13, 1862. Fr'dericksburg.	Dec. 15, 1862.	Int.	Fracture, by bullet, of lower end of humerus (right).
133	Am. Jour. Med. Sci. N. S. xlvi. 37; Boston Med. & Surg. Jour. lxviii. 251.	Wagner, Clinton, Asst. Surgeon U. S. Army.	Hammond General Hospital.	McMurphy, Henry, Pr. 5th N. H. Vols.	M. 29	Dec. 13, 1862. Fr'dericksburg.	Dec. 18, 1862.	Int.	Fracture of ulna, involving left elbow.
134	Cat. Surg. Sec. A. M. M. p. 152.	Judson, O.A., Surg. U. S. V.	Hospital, Washington.	H——, C., Pr. C, 123d Pa.	M. ?	Dec. 13, 1862. Fr'dericksburg.	Dec. 29, 1862.	Int.	Fracture of head of right radius, and outer condyle.
135	Letter, 1872.	Packard, J. H., 1928 Spruce St., Philadelphia.	U. S. General Hospital, Philada.	Keller, M. V. B., Soldier.	M. ad't	6 w'ks before.	1862.	S.	Wound involving joint.
136	Letter, 1872.	Post, Alfred C., 291 Madison Ave. New York.	Chesapeake Hospital, Virginia.	A prisoner of war. Soldier.	M.	1862. Williamsburg, Va.	After battle Williamsburg. Va. 1862.	Int.	Gunshot wound, involving joint.
137	Boston Med. & Surg. Jour. lxviii. 251; Am. Jour. Med. Sci., N. S., xlvi. 38.	Gardner, W. H., Asst. Surgeon U. S. Army.	Hammond General Hospital.	Wellover, J., Pr. 131st Pa.	M. 22	Dec. 13, 1862. Fr'dericksburg.	Jan. 10, 1863.	Int.	Wound involving joint.
138	Boston Med. & Surg. Jour. lxviii. 251; Am. Jour. Med. Sci., N S., xlvi. 38.	Gardner, W. H., Asst. Surgeon U. S. Army.	Hammond General Hospital.	Douglas, Jas., Pr. 63d Pa.	M. ?	Dec. 13, 1862. Fr'dericksburg.	Jan. 12, 1862.	Int.	Compound fracture of joint.
139	Boston Med. & Surg. Jour. lxviii. 252; Am. Jour. Med. Sci., N. S., xlvi. 39; Cat. Surg. Sec. A. M. M. p. 161	Allison, T.H., A. A. Surg. U. S. Army.	Hammond General Hospital.	Lewis, Morris, Pr. 133d Pa.	M. 19	Dec. 13, 1862. Fr'dericksburg.	Jan. 15, 1863.	Int.	Fracture of left olecranon and inner condyle; joint carious.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
127	?	Head and 2 inches shaft of radius; articular surface and 2½ inches of ulna.	Recovered.	.....	?		
128	H	1½ inches of humerus; 1 inch of ulna; ¾ inch of radius.	Recovered, 8 months.	.....	"Useful arm with aid of apparatus."	48	
129	?	Condyles of humerus; olecranon and coronoid processes.	Recovered.	.....	"Serviceable limb."	?	
130	H	Not stated.	Recovered.	.....	"Still in service, with useful arm."	18	
131	?	2½ inches of end of radius.	Recovered.	.....	"Successful."		
132	?	2 inches end of humerus.	Recovered.	.....	"Recovered with passive motion of joint."		
133	H	Over 2 inches of ulna; head of radius and small piece of articular surface of humerus.	Recovered, 2½ months.	.....	Wound healed; passive full flexion and extension; some pronation and supination.	2½	
134	?	Outer condyle and head of radius.	Recovered.	.....	?		
135	?	Total excision.	Recovered.	.....	Anchylosis of elbow; no pronation or supination; "can drive, chop wood, row, write well, or do labor with ease."	108	
136	I	Lower end of humerus, upper radius, and ulna.	Probably Recovered.	.....	"Can't state."		
137	I	Ulna just below coronoid process; head of radius; articular surfaces of humerus.	Recovered, 2½ months.	.....	"Wound nearly healed; pronation, supination, and extension perfect; flexion nearly perfect."	2½	
138	H	"Radius at tuberosity; upper end of ulna; articular surfaces of humerus."	Recovered, 2⅔ months.	.....	Motions tolerably free; extension full; flexion 5° above right angle; slight pro- and supination; motions improving.	2⅔	
139	H	Humerus just above condyles; olecranon at base of coronoid process.	Recovered, 47 days.	.....	"Wound healed; all motions of joint good; flexion 10° above right angle."	1½	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
140	Cat. Surg. Sec. A. M. M. p. 161.	Moses, I., Surg. U. S. V.	Hospital, Washington.	T——, B., Pr. D, 20th N. Y.	M. ?	Aug. 30, 1862. 2d Bull Run.	Jan. 22, 1863.	S.	Multiple fracture of inner left condyle, with displacement and anchylosis to olecranon.
141	Cat. Surg. Sec. A. M. M. p. 169; Letter, 1874, Operator.	Conner, P. S., cor. Race & 7th Streets, Cincinnati, O.	Hospital, New Orleans.	C——, H. H., Corporal D, 26th Maine.	M. 31	April 4, 1863. Irish Bend.	April 20, 1863.	Int.	Comminuted fracture of head, and 5 inches of radius.
142	Cat. Surg. Sec. A. M. M. p. 145; Letter, 1872.	Goodman, H. E., Philadelphia, Surg. 28 Pa.	Aquia Creek 12 Army Corps Hospital.	T——, W. G., Capt. Staff Gen. Slocum, 12 A. Corps.	M. 21	May 2, 1863. Chancellorsville.	May 6, 1863.	Int.	Perforated fracture of humerus, extending into right elbow; bone shattered above point traversed by ball.
143	Letter, 1872.	Taylor, W., Talladega, Alabama.	Field near Fred'r'ksburg.	Dillon, G.	M. 27	May 3, 1863. Fr'dericksburg.	May 4, 1863.	P.	Wound of joint.
144	Cat. Surg. Sec. A. M. M. p. 152.	Judson, O. A., Surg. U. S. V.	Hospital, Washington.	B——, W., Corporal H, 68th Pa.	M. 21	May 3, 1863. Chancellorsville.	May 13, 1863.	Int.	Comminuted fracture of right olecranon; by buck shot.
145	Cat. Surg. Sec. A. M. M. p. 158.	McCall, C. A., Asst. Surgeon U. S. Army.	Hospital, Washington.	T——, J., Pr. C, 10th Mass.	M. 22	May 3, 1863. 2d Fr'dericksburg.	May 18, 1863.	Int.	Fracture of left trochlea, extending up humerus 2 inches.
146	Cat. Surg. Sec. A. M. M. p. 154.	Reported by Winants, J. E.	Hospital, Washington.	H——, J., Pr. E, 12th N. J.	M. ?	May 3, 1863. Chancellorsville.	May 25, 1863.	Int.	Fracture of left olecranon, and portion of ulna; from conoidal ball.
147	Letter, 1872.	Selden, A. F., Pultneyville, New Jersey.	Navy Yard, Washington.	Jones, John.	M. 36	May 26, 1863.	May 26, 1863.	P.	Fracture of upper end of ulna, involving joint.
148	Letter, 1872.	Ledlie, J. H., Pittsfield, Ill.	On field.	Wilkens, Nelson.	M. 23	May 1863.	May 1863.	P.	Wound of joint.
149	Letter, 1872.	Nelson, A. W. New London, Connecticut.	Gayosa Hospital, Memphis, Tenn.	Soldier.	M. 19	May 28, 1863. Vicksburg.	June 4, 1863.	Int.	Compound fracture of radius, involving joint.
150	Cat. Surg. Sec. A. M. M. p. 159.	McLean, A. A. Surg. U. S. Army.	Hospital, Philada.	B——, R., Pr. A, 116th Pa.	M.	May 3, 1863. Chancellorsville.	June 12, 1863.	Int.	Shattered fracture of inner condyle and olecranon, with caries of left joint.
151	Trans. Med. Assoc. Maine, 22, 1866, 67, 68.	Sanger, E. F., Bangor, Me.	Port Hudson.	Conner, Jas. G., 162d N. Y.	M. ?	June 14, 1863.	June 14, 1863.	P.	Fracture of radius and ulna, involving joint.
152	Trans. Med. Assoc. Maine, 23, 1866, 67, 68.	Sanger, E. F., Bangor, Me.	Port Hudson.	M——, H. W., D, 128th N. Y.	M. ?	June 14, 1863.	June 14, 1863.	P.	Fracture of olecranon.
153	Trans. Med. Assoc. Maine, 23, 1866, 67, 68.	Sanger, E. F., Bangor, Me.	Port Hudson.	Sargeant, J. W., E, 15th N. Hamp.	M.	June 14, 1863.	June 14, 1863.	P.	Fracture of end of humerus.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
140	?	Total excision.	Recovered, 4½ months.	.....	Discharged June 4, 1863.	4½	
141	?	Head; 5 inches of radius.	Died, 3½ months, chronic diarrhœa.				
142	V ?	4½ inches of lower end of humerus and olecranon process.	Recovered, 4 months.	.....	"Recovery, except as to pronation and supination; can write and use arm for almost all kinds of work; hand perfect."	4	
143	⊦	Condyles of humerus, with articulating surface of ulna and humerus; the olecranon; head of radius retained.	Recovered.	.....	"Has good use of hand, but can't flex elbow; can write."	92	
144	?	Greater portion of olecranon.	Recovered.	.....	Recovered with partial anchylosis.	?	
145	?	3 inches of humerus; coronoid and olecranon processes.	Died, 9 days, ?				
146	?	Olecranon and two inches of posterior portion of ulna.	Recovered.	.....	"Partial use of joint."	?	
147	I	3 inches of upper end of ulna.	Recovered, 27 weeks.	.....	"Good use of arm: can carry pail of water and do general work."	4¾	
148	T	1¼ inches of humerus; 1½ inches of radius and ulna.	Recovered.	.....	Chops, plows, drives a team, but cannot lift a weight from the ground.	100	
149	I	Upper ½, including head of radius.	Died, 11 days, tetanus.				
150	?	Head of radius; 2 inches of humerus; olecranon and coronoid processes.	Recovered.	.....	?		
151	+	Ulna above attachment of brachialis anticus; radius through orbicular ligament.	Recovered, 12 months.	.....	Pronation, supination, flexion, and extension of forearm.	12½	
152	+	Loose bone and olecranon.	Recovered.	.....	"Joint anchylosed; patient says arm almost as useful as ever."	?	
153	T	Lower end of humerus just above condyles.	Recovered, 12 months.	.....	"Recovered, with good motion."	12½	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
154	Trans. Med. Assoc. Maine, 23, 1866, 67, 68.	Sanger, E. F., Bangor, Me.	Port Hudson.	Jackson, Andrew, D, 128th N. Y.	M. ?	June 14, 1863.	June 14, 1863.	P.	Fracture of one of the condyles.
155	Cat. Surg. Sec. A. M. M. p. 145.	McGill, G.M., Asst. Surgeon U. S. Army.	Aldie.	S——, B. C., Major 6th Ohio Cav.	M. 26	June 17, 1863.	June 17, 1863.	P.	Slight comminuted fracture of humerus, involving right elbow.
156	Cat. Surg. Sec. A. M. M. p. 160.	Moses, I., Surg. U. S. V.	Hospital, Murfreesborough.	L——, D., Pr. D, 72d Ind.	M. ?	June 27, 1863. Murfreesboro'.	June 28, 1863.	P.	Fracture of olecranon and shaft of left ulna.
157	Letter, 1872.	Rice, John B., Surg. 72d Ohio.	Near Vicksburg.	Soldier.	M.	May or June 1863.	May or June 1863.	P.	Wound of joint.
158	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg, Pa.	Williams, H. C., D, 13th Ga., C. S. A.	M. 32	July 1-3, 1863. G'tysburg.	July 3, 1863.	P.	Wound of joint.
159	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg, Pa.	Johnston, G. W., D, 1 Va. Cav. C. S. A.	M. ?	July 1-3, 1863. G'tysburg.	July 3, 1863.	P.	Wound of joint.
160	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg, Pa.	Dickson, B.F., B, 7th La., C. S. A.	M. 26	July 2, 1863. G'tysburg.	July 3, 1863.	P.	Fracture of humerus, involving joint.
161	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg, Pa.	Cransford, R. R., 27th U. S. Infty.	M. 23	July 1-3, 1863. G'tysburg.	?	P.	Fracture, involving joint.
162	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg, Pa.	Pease, A. N., 3d S. C., C. S. A.	M. 23	July 1-3, 1863. G'tysburg.	July 4, 1863.	P.	Fracture, involving joint.
163	Letter, 1872.	Reported by Janes, Henry, Waterbury, Vermont.	Gettysburg, Pa.	Mowken, J.M. F, 1 La. Cav.	M. 23	July 1-3, 1863. G'tysburg.	July 4, 1863.	P.	Fracture, involving joint.
164	Letter, 1872.	Johnston, Christopher, Baltimore, Md	College Building, Gettysburg.	Confederate Soldier.	M. 40	July 3, 1863. G'tysburg.	About July 10, 1863.	Int.	Compound fracture, with much destruction of joint.
165	Cat. Surg. Sec. A. M. M. p. 153.	Weir, R. F., Asst. Surgeon U. S. Army.	Hospital, Frederick	C——, W. J., B, 48th Va., C. S. A.	M. 18	July 1, 1863. G'tysburg.	July 11, 1863.	Int.	Fracture of articular portion of ulna and radius; left elbow.
166	Cat. Surg. Sec. A. M. M. p. 158.	Weir, R. F., Asst. Surgeon U. S. Army.	Hospital, Frederick	H——, J., 2d N. C., C. S. A.	M. 40	July 3, 1863. G'tysburg.	July 29, 1863.	S.	Complete fracture of right humerus through the trochlea.
167	Cat. Surg. Sec. A. M. M. p. 152.	McClellan, J. H., A. A. Surg. U. S. A.	Hospital, Philada.	K——, T., F, 2d N. Y.	M. ?	July 3, 1863. G'tysburg.	July 29, 1863.	S.	Fracture of right olecranon.
168	Cat. Surg. Sec. A. M. M. p. 145.	Bontecou, R. B., Troy, N. Y.	Hospital, Washington.	A——, J., Pr. 9 N. Y. Cav.	M.	Sept. 14, 1863.	Sept. 15, 1863.	P.	Comminuted fracture of outer condyle of left humerus; by pistol ball.
169	Cat. Surg. Sec. A. M. M. p. 145.	Moses, I., Surg. U. S. V.	Chickamauga.	C——, J. H., Pr. B, 96 Ill.	M.	Sept. 19, Ch'kamauga.	Sept. 19, 1863.	P.	Fracture of right olecranon and humerus.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
54	T	Loose pieces, and one of the condyles.	Recovered.	.....	"Slight motion."	13	
55	?	3 inches end of humerus.	Died, 8 days; tetanus.				
56	?	Olecranon and upper ¼ of ulna.	Recovered.	.....	"Amputated October 30, 1863, for gangrene at lowest third."		
57	?	Not stated.	Recovered.	.....	"Gained an artificial joint."	12	
58	?	Not stated.	Recovered, 3 months.	.....	?	3	
59	?	Not stated.	Recovered, 3 months.	.....	?	3	
60	?	2 inches end of humerus.	Died, 115 days, pyæmia.	.....	.....	4	
61	?	Total excision.	Not stated.	.....	?	?	
62	?	Ends of humerus, ulna, and radius.	Recovered, 3 months.	.....	"Pretty good."	?	
63	.....	Ends of humerus, ulna, and radius.	Recovered, 14½ weeks.	.....	Convalescent. ?	3½	
64	H	Total excision.	Died, over two days after operation, hospital gangrene.				
65	?	Olecranon, coronoid, and 1 inch of ulna; 1 inch of radius, and trochlear portion of humerus.	Recovered, 162 days.	.....	Healed, with motion of hand over an arc of 14 inches.	9¾	"Escaped" Sept. 4, 1863; had gangrene.
66	?	Upper half of olecranon, and 3 inches of humerus.	Recovered, 9 months.	.....	.....	9	Transferred to Baltimore, May 5, 1864.
67	?	Head of radius; coronoid, and 1 inch shaft of ulna.	Recovered.	.....	?	?	
68	?	Outer condyle, and adjoining portion of humerus.	Died, 16 days, pyæmia.				
69	?	2 inches of humerus, portion of olecranon.	Recovered.	.....	Furloughed from Murfreesborough, with "very useful hand."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
170	Letter, 1872.	Roler, E.O.F., Chicago, Ill.	On field, Tenn.	Oaks, John, Illinois.	M. 20	Sept. 20, 1863.	Sept. 20, 1863.	P.	Fracture of humerus, involving right elbow.
171	Letter, 1872.	Gouley, J. W. S., 52 W. 24th St., N. York.	Bellevue Hospital, N. York.	New York.	M. 15	July 1863. During riot.	1st Sept. 1763. 2d 1 year after.	S.	1st. Wound involving right joint. 2d. Necrosis of cut end of (lower) humerus.
172	Cat. Surg. Sec. A. M. M. p. 159.	Hinkle, F., A. A. Surg. U. S. Army.	Hospital, Baltimore	S——, M., Sergeant E, 16th Maine.	M. 25	July 1, 1863. G'tysburg.	Oct. 29, 1863.	S.	Fracture of lower end of right humerus; from conoidal ball; with caries.
173	Letter, 1872; Trans. State Med. Assoc. Mich. 1869.	Lyster, Henry F., Detroit, Mich.	Kelley's Ford, Va.	Fitzgerald, Wm. M.	M. 21	Nov. 7, 1863 Kelley's Ford.	Nov. 7, 1863.	P.	Fracture of condyles of right humerus.
174	Cat. Surg. Sec. A. M. M. p. 160.	Matlock, W. H., A. A. Surg. U. S. A.	Hospital, Nashville	R——, J. R., Corporal F, 65th Ohio.	M. ?	Sept. 19, 1863. Chickamauga.	Nov. 12, 1863.	S.	Longitudinal fracture of right humerus entering joint; slight deposit of callus; fracture of radius in upper third.
175	Trans. State Med. Assoc. Mich. 1869.	Lyster, Henry F., Detroit, Mich.	Mine Run, Va.	Fanger, Julius.	M. 28	Nov. 30, 1863. Mine Run.	Nov. 30, 1863.	P.	Fracture of inner condyle.
176	Letter, 1872.	Keen, W. W., 1729 Chestnut St., Philada.	Ascension Hospital, Washington.	Soldier.	M. ad't ?	1863.	1863.	S.	Wound of joint.
177	Letter, 1872.	Keen, W. W., 1729 Chestnut St., Philada.	Ascension Hospital, Washington.	Soldier.	M. ad't	1863.	1863.	S.	Wound of joint.
178	Letter, 1872.	Reported by Cabell, J. L., Univ. of Va.	General Hospital, Charlottsville, Va.	Powell, J. F., Lieut. Co. G, 19 Va. Regt. C. S. A.	M. 22	July 3, 1863.	Feb. 5, 1864.	S.	Anchylosis, following wound of the joint.
179	Cat. Surg. Sec. A. M. M. p. 145.	Dwinelle, J., Surg. 106 Pa.	Second Corps Hospital.	H——, C. E., Pr. A, 14th Connecticut.	M. ?	Feb. 6, 1864. Morton's Ford.	Feb. 8, 1864.	Int.	Shattered fracture of the left humerus and ulna.
180	Trans. Med. Assoc. Maine, 24, 1866, 67, 68.	Sanger, E. F., Bangor, Me.	Port Hudson.	Moran, Dennis, C, 14 N. Y. Cav.	M.	Jan. 20, 1864.	Mar. 6, 1864.	S.	Fracture of humerus.
181	Trans. Med. Assoc. Maine, 25, 1866, 67, 68.	Sanger, E. F., Bangor, Me.	Port Hudson.	G——, Lieut.-Col. 173d N. Y.	M. ad't	April 10, 1864.	April 11, 1864.	P.	Fracture of upper end of ulna.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
170	+	2 inches of humerus; articular surface of ulna and radius.	Recovered, 12 months.	.....	"Could carry a bucketful of water, hold a plough, make flexion, but not forcible."	12	
171	+	1st. 4 inches of humerus, olecranon, coronoid, and head of radius. 2d. Lower end of remaining humerus.	Recovered.	.....	"Exceedingly useful limb; flexion, extension, and rotation excellent; is a hunter; says can fire a gun as well as ever."	72	Last operation done in Dublin, Ireland.
172	?	3½ inches of lower end of humerus.	Recovered.	.....	?	?	
173	I	2 inches of condyles of humerus.	Died, 14 days, secondary hemorrhage				
174	?	4 inches of humerus, olecranon, and coronoid.	Recovered, 6 months.	.....	Amputated upper ⅓ of arm Nov. 26, 1863; discharged service June 7, 1864.	6¾	The specimen shows necrosis of lower end of middle third of humerus, and that the fractures of the radius had united.
175	I	Portion of inner condyle of humerus.	Recovered.	.....	"Complete."	In 1864.	
176	I	Articular ends of the three bones.	?	.....	?	?	
177	I	Articular ends of the three bones.	?	.....	?	?	
178	⊢	Head of radius, olecranon, and coronoid; 1½ inches of humerus.	Recovered, 3 months.	.....	"Good."	3	Furloughed; all of the elbow excisions reported by Prof. Cabell were performed either by himself, J.S.Davis, J. E. or C. W. Chancellor, B. Wallen, or possibly John Lewis or M. McKennie.
179	?	2 inches of humerus; 2 inches shaft, and processes of ulna.	Died, 1st day, pyæmia.	.....	.....	?	Doubtful if this is the cause or date of death.
180	?	5 inches of lower end of humerus.	Recovered.	.....	"Fine prospects."	?	
181	?	2½ inches of end of ulna.	Died, soon after amputation, shock of operation.	.....	May 3, 1864, member amputated.	.....	Never rallied from last operation.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
182	Arch. für Klin. Chir. Lang. 16, 2, 444.	Mitscherlich, A.	German-Danish War.	Hartman, Sergt. 53d Infantry.	M.	April 18, 1864.	April 18, 1864.	P.	Shot wound of right joint, with fracture of end of ulna; ball entered above external condyle and shot away the upper half of the internal condyle, and passed out, lacerating the ulnar nerve.
183	Lang. Arch. für Klin. Chir. 16, 2, 367, 441, fig. 8.	Langenbeck, B. Von, Berlin.	Austrio-Prussian War, Field Lazareth, Stend'rup	Thiele, Herman, Rifleman 60th Infty., Berlin.	M. 22	April 18, 1864. St'rming of Duep-peler.	April 19, 1864.	P.	Shot wound of left elbow; ball entered about 1 inch above external condyle, and came out about 1½ inches below the internal condyle; destruction of bones of joint and comminution.
184	Trans. Med. Assoc. Maine, p. 25.	Sanger, E. F., Bangor, Me.	Port Hudson.	Kent, Edward A, 173d N. Y.	M. ?	April 24, 1864.	April 24, 1864.	P.	Fracture of upper end of radius and ulna.
185	Trans. Med. Assoc. Maine, p. 25.	Sanger, E. F., Bangor, Me.	Port Hudson.	Joy, B. F., 2 La. Scouts, C. S. A.	M. ?	April 24, 1864.	April 28, 1864.	Int.	Fracture of ends of ulna and humerus.
186	Letter, 1872.	Reported by Miller, John J., A. A. Surg. C. S. A., St. Louis, Mo.	Field Hospital, Wilder-ness.	Mooney, J.W. Pr. F, 13 Miss. C. S. A.	M. 26	5 hours be-fore.	May 6, 1864.	P.	Wound of left elbow-joint.
187	Letter, 1872.	Reported by Miller, John J., A. A. Surg. C. S. A., St. Louis, Mo.	Field Hospital, Wilder-ness.	Shultz, J. M., Pr. I, 17 Miss. C. S. A.	M. 21	1 hour be-fore.	May 6, 1864.	P.	Wound of right elbow-joint.
188	Letter, 1872.	Reported by Cabell, J. L., see Case 178.	General Hospital, Charlotts-ville.	Hoff, Jefferson G, 45th Ga., C. S. A.	M. 18	May 5, 1864.	May 7, 1864.	P.	Wound of joint.
189	Cat.-Surg. Sec. A. M. M. p. 168.	Amputation by McKee, J. C., A. Surg. U. S. Army.	Wilder-ness.	C——, J. G., Captain E, 86th N. Y.	M.	May 6, 1864. Wil-der-ness.	May 7, 1864.	P.	Fracture of left ulna and radius; upper fourth.
190	Letter, 1872.	Reported by Cabell, J. L., see Case 178.	General Hospital, Charlotts-ville.	Davis, A. T., H, 5th Alab. C. S. A.	M. 23	May 5, 1864.	May 9, 1864.	Int.	Fracture of lower end of humerus.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
182	.....	Excision of the joint.	Recovered, 6 weeks.	.....	Loose joint resulted; wound healed in 6 weeks, and motion was then tried, which was kept up continuously; in July passive motion was limited; reported that forced extension was made, and resulted in a flail-like joint; wore an apparatus, but removed this in 1866; Oct. 1873, joint still more loose; bones not in apposition at joint; the end of humerus, when the arm is pendent, moves forwards, and the upper ends of forearm bones spring backwards; the hand resembles that of one paralyzed from lesion of the ulnar nerve; small muscles of hand atrophied; sensation in hand, but grip is feeble; completely free, but feeble motion of fingers.	.....	Loeffler refers to this case, page 236.
183	I	Subperiosteal; fragments carefully separated from periosteum; 4 inches of humerus; near 4 inches of ends of ulna and radius.	Recovered, 7 months.	Forearm 3½	Sinus healed at 7 months; in 1865, joint worthless, but afterwards restored to usefulness by the use of electricity; flexion and pronation nearly normal in strength; arm extended, can only lift half a pound; when the member is flexed from the extended and horizontal position, dislocation at the elbow is liable to occur; member completely useful for all labor not requiring much force.	108	1st dressing, Esmarch splint; 4 weeks after, plaster of Paris bandage, with openings opposite joint.
184	T	1½ inches of ulna; 3 inches of radius.	Died.	.....	Member amputated.	?	
185	+	2 inches of ulna; 2 inches of humerus.	Recovered.	.....	"Doing well when last heard from."	?	
186	I	?	Recovered, 66 days.	.....	Partial success; furloughed.	2	
187	I	?	Recovered, 66 days.	.....	"Partial; furloughed."	2	
188	⊢	Articular ends of humerus, ulna, and radius.	Recovered, 2¼ months.	.....	"Good."	2¼	
189	?	Upper ¼ of radius and ulna.	Recovered, 4 months.	.....	Amputated middle third May 22; discharged Sept. 19, 1864.	4	
190	⊢	3 inches of humerus; articular surface of ulna and radius.	Recovered, 3 months.	.....	"Bony anchylosis."	3	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
191	Cat. Surg. Sec. A. M. M. p. 159.	Pancoast, G. L., Surg. U. S. V.	Hospital, Washington.	D——, A. R., Pr. F, 102 Pa.	M. ?	May 5, 1864. Wilderness.	June 17, 1864.	S.	Fracture of the humerus, involving joint.
192	Cat. Surg. Sec. A. M. M. p. 154.	Allen, H., Asst. Surgeon U. S. Army.	Hospital, Washington.	M——, J. H., H, 138th Pa.	M. 25	May 7, 1864. Wilderness.	May 13, 1864.	Int.	Shattered fracture of end of left humerus; outer half.
193	Cat. Surg. Sec. A. M. M. p. 171.	Unknown.	Field.	C——, S. J., Pr. D, 32d Mass.	M. 35	May 12, 1864. Spotsylvania	May 13, 1864.	P.	Fracture of lower end of right humerus.
194	Cat. Surg. Sec. A. M. M. p. 145.	Storrs, M., Surg. 8 Conn.	Field, Dury's Bluff.	H——, E. D., 2d Lieut. C, 8th Conn.	M.	May 14, 1864. D'rys Bluff.	May 14, 1864.	P.	Perforating fracture of outer condyle of left humerus.
195	Cat. Surg. Sec. A. M. M. pp. 155, 156.	Mursick, Geo. A. A. Surg. U. S. V.	Hospital, Washington.	M——, J., Pr. I, 90th Pa.	M. 40	May 6, 1864. Wilderness.	May 18, 1864.	Int.	Fracture of end of left humerus.
196	Cat. Surg. Sec. A. M. M. p. 155.	Armstrong, A. A. Surg. U. S. Army.	Hospital, Washington.	H——, E., Pr. A, 6th Vt.	M.	May 5, 1864. Wilderness.	May 18, 1864.	Int.	Fracture, involving the right olecranon and coronoid processes, and shaft of ulna.
197	Cat. Surg. Sec. A. M. M. p. 154.	Reported by Bradford, F. G. H., A. A. Surg. U. S. Army.	Hospital, Washington.	S——, T., Pr. A, 149th Pa.	M. ?	May 6, 1864. Wilderness.	May 20, 1864.	Int.	Fracture of right outer condyle, and head of ulna; by conoidal ball.
198	Letter, 1872.	Reported by Cabell, J. L., see Case 178.	General Hospital, Charlottsville, Va.	Ballard, G. W., H, 5th Alab. C. S. A.	M. 23	May 5, 1864.	May 22, 1864.	Int.	Wound involving joint.
199	Letter, 1872; Cat. Surg. Sec. A. M. M. p. 171.	Selden, A. F., Pultneyville, New Jersey.	Campbell Hospital, Washington.	Weaver, Samuel C., K, 45th Pa.	M. 48	May 6, 1864. Wilderness.	May 24, 1864.	Int.	Wound of right elbow.
200	Cat. Surg. Sec. A. M. M. p. 156.	Bradford, F. G. H., A. A. Surg. U. S. Army.	Hospital, Washington.	B——, J., Pr. G, 2d Vt.	M. ?	May 5, 1864. Wilderness.	May 25, 1864.	Int.	Shattered fracture of right olecranon.
201	Cat. Surg. Sec. A. M. M. p. 158.	Pancoast, G. L.	Hospital, Washington.	P——, J., Pr. C, 39th N. Y.	M. ?	May 5, 1864. Wilderness.	May 25, 1864.	Int.	Fracture of left olecranon; longitudinal and transverse fracture of humerus.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
191	?	Head and 1 inch of radius; 2 inches of (6 fragments) humerus; upper part of ulna.	Died, 65 days.				
192	?	2½ inches end of humerus.	Died, 17 days, pyæmia.				
193	?	End of humerus.	Recovered.	.....	Amputated Sept. 8, 1864; "discharged January 5, 1865; amputated for caries of ulna, radius, and necrosis of 6 inches of remaining humerus."	7⅔	Specimen shows caries of radius and ulna, and these bones partly absorbed and united at their borders; a sequestrum of lower 6 inches of humerus, with an involucrum of spongy bone.
194	?	3 inches end of humerus.	Recovered.	.....	"Useful arm."		
195	?	2½ inches end of humerus, and olecranon.	Died, 71 days, serous apoplexy.	.....	"Wound healed, and patient did well until taken suddenly with apoplexy; free motion of joint."	2½	Specimen of joint after death showed ligamentous union between end of humerus and bones of forearm; end of humerus rounded off and enlarged by new bone; medullary canal decreased by new bone.
196	?	2¾ inches of upper end of ulna.	Recovered, 7 months.	.....	"Wound healed; head of radius plays in olecranon fossa; extension and flexion almost perfect; pronation impaired; can lift 100 lbs. with right arm."	32½	
197	?	2½ inches of end of humerus.	Recovered, 15 months.	.....	Discharged Sept. 9, 1865.	15	
198	⊢	Total excision.	Died, 25 days, acute pleuritis, following phlegmonous erysipelas.				
199	|	3 inches of ulna, and part of both condyles of humerus.	Recovered.	.....	"July 5, 1864, amputation of arm at upper and middle third for gangrene of hand and forearm."	11	Transferred to Philadelphia June 27, 1864; specimen shows articular extremities carious for several inches.
200	?	3 inches of ends of radius and ulna.	Recovered.	.....	"Discharged at expiration of term of service."	?	
201	?	3 inches of end of humerus.	Recovered, 17½ months.	.....	Discharged Nov. 7, 1865.	17½	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
202	Cat. Surg. Sec. A. M. M. p. 155.	Smith, D. P., Surg. U. S. V.	Hospital near Alexandria.	J——, W. M., Pr. D, 1 Mich. Sharpshooters.	M. 17	May 6, 1864. Wilderness.	May 26, 1864.	Int.	Fracture of end of humerus; outer condyle carried away (left side); articular surfaces carious; some "callus."
203	Cat. Surg. Sec. A. M. M. p. 160.	Reported by Judson, O. A., Surg. U. S. V.	Hospital, Washington.	G——, T., Pr. H, 51st N. Y.	M. 41	May 6, 1864. Wilderness.	May 26, 1864.	Int.	Fracture of left outer condyle.
204	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Hammond General Hospital.	Bragg, Lewis.	M. 28	May 10, 1864.	May 28, 1864.	Int.	Wound involving left joint.
205	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Hammond General Hospital.	Essex, Alfred.	M. 26	May 12, 1864.	May 31, 1864.	Int.	Wound involving left joint.
206	Cat. Surg. Sec. A. M. M. p. 157.	Westerling, R A. A. Surg. U. S. Army.	Hospital, Washington.	D——, D. J., Corp'l E, 2d U. S. Sharpshooters (Volunteers).	M.	May 6, 1864. Wilderness.	June 3, 1864.	S.	Fracture of right olecranon and trochlea (torn off); caries of articular surfaces.
207	Letter, 1872.	Reported by Bontecou, R. B., amputation by Snow, T. H. A. A. Surg. U. S. Army.	On field, Cold Harbor.	Dickerson, Nathan S.	M. 27	June 3, 1864. Cold Harbor.	June 5, 1864.	P.	Wound involving joint.
208	Cat. Surg. Sec. A. M. M. p. 157.	Paucoast, G. L., Surg. U. S. V.	Hospital, Washington.	G——, T., Pr. E, 15th N. J.	M. 21	May 5, Wilderness.	June 7, 1864.	S.	Fracture of the left olecranon, with erosion of articular surfaces.
209	Cat. Surg. Sec. A. M. M. p. 160.	Smith, D. P., Surg. U. S. V.	Not stated.	H——, J., Pr. F, 112th N. Y.	M. 21	June 1, 1864. Cold Harbor.	June 9, 1864.	Int.	Fracture involving right elbow.
210	Letter, 1872.	Reported by Cabell, J. L., see Case 178.	General Hospital, Charlottsville.	George, J. D., C, 36th Va., C. S. A.	M. 18	June 5, 1864.	June 10, 1864.	Int.	Wound involving joint.
211	Letter, 1872.	Reported by Cabell, J. L., see Case 178.	General Hospital, Charlottsville.	Casper, James C, 36th Va., C. S. A.	M. 19	June 9, 1864.	June 12, 1864.	Int.	Wound involving joint.
212	Cat. Surg. Sec. A. M. M. p. 154.	Westerling, R A. A. Surg. U. S. Army.	Hospital, Washington.	W——, Z., Pr. F, 63d N. Y.	M.	June 2, Cold Harbor.	June 13, 1864.	Int.	Shattered fracture of left olecranon.
213	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Harwood General Hospital.	Ryder, Amos.	M. 23	June 5, 1864.	June 14, 1864.	Int.	Wound involving left joint.
214	Reported by Bontecou, R. B.	Rizer, Martin, Surg. 71st Pa.	Harwood Hospital, Washington.	Horton, Erastus, H, 71st Pa.	M. 25	June 4, 1864.	June 14, 1864.	Int.	Wound involving joint.
215	Cat. Surg. Sec. A. M. M. p. 156.	Pancoast, G. L., Surg. U. S. V.	Hospital, Washington.	Z——, C., Pr. M, 7th N. Y. Heavy Arty.	M.	June 3, 1864. Cold Harbor.	June 16, 1864.	Int.	Perforating wound of joint, with destruction of articular surfaces by ulceration.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
202	?	Articulating surface of radius; olecranon; 2 inches end of humerus.	Died, 8 days, ?				
203	?	Outer condyle.	Died, 115 days, pyæmia.	.....	"Specimen shows lower fourth of humerus absorbed; caries of anterior half of humerus to junction of upper thirds; a sequestrum 6 inches in length."		
204	+	1½ inches of humerus; 1½ inches of ulna; 1 inch of radius.	Recovered.	.....	"Useful arm."	When discharged	
205	+	1½ inches of humerus; 1½ inches of ulna; 1 inch of radius.	Died, 37 days, exhaustion.				
206	?	1½ inches of humerus; ½ inch of ulna; ½ inch of radius.	Died, 19 days, secondary hemorrhage				
207	I	2 inches end of humerus.	Died, 27 days, gangrene of member.	.....	"July 2, 1864, amputated for gangrene of the parts."		
208	?	Nearly 2 inches of humerus; head of radius, and upper portion of ulna.	Recovered, 8½ months.	.....	"Discharged service."	8½	
209	?	Olecranon, and part of coronoid process; condyles of humerus, and upper 3 inches of radius.	Recovered, 5 months.	.....	Discharged.	5½	
210	⊢	2½ inches end of humerus.	Recovered, 2 months.	.....	"Furloughed; good."	2	
211	⊢	1½ inches of humerus; head of radius, and part of olecranon.	Recovered, 3 months.	.....	"Motion very restricted."	3	
212	?	Head and 1½ inches of radius; 2½ inches end of ulna.	Recovered, 22 days.	.....	Discharged July 5, 1864.	.....	Probably joint not healed entirely.
213	+	1 inch of humerus; 1 inch of radius; 1½ inches of ulna.	Died, 10 days, exhaustion, and pyæmia.				
214	+	1½ inches of humerus; 1½ inches of ulna; 1 inch of radius.	Recovered.	.....	?		
215	?	Head and 1 inch of radius; 2 inches end of humerus; tip of olecranon.	Died, 9 days, secondary hemorrhage				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
216	Cat. Surg. Sec. A. M. M. p. 153; Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Harwood General Hospital.	Tarbell, James M., E, 2d U. S. Sharp-shooters (Volunteers).	M. 21	May 6, 1864. Wilderness.	June 18, 1864.	Int.	Fracture of the condyles, olecranon, and head of radius (7 carious fragments); right elbow.
217	Cat. Surg. Sec. A. M. M. p. 157; Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Harwood General Hospital.	Johnston, J. J., Corp'l K, 48th N. Y.	M. 26	June 3, 1864. Cold Harbor.	June 22, 1864.	Int.	Transverse perforating wound by ball, with caries of articular surfaces; left elbow-joint.
218	Cat. Surg. Sec. A. M. M. p. 160.	Reported by Judson, O. A., Surg. U. S. V.	Hospital, Washington.	W——, C., Pr. G, 4th N. Y. Heavy Arty.	M.	?	June 24, 1864.	S.	Comminuted fracture of right radius and ulna, upper portion of.
219	Personal Notes, and Letter from Dr. J. Philips, Stevens' Point, Wisconsin.	Culbertson, H., late Surg. U. S. Vols., Zanesville, O.	Harvey U. S. A. General Hospital, Madison, Wis.	Hathaway, Edwin, Corp'l H, 3d Wis. Cavalry, Stevens Point Wisconsin. "Good."	M. 31	Oct. 8, 1864. Accident'l Fort Scott.	June 29, 1864.	S.	Perforating wound of left elbow; partial anchylosis of joint, and necrosis of lower end of humerus; limited formation of callus in front of joint (Minié-ball).
220	Cat. Surg. Sec. A. M. M. p. 155; Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Hammond General Hospital.	Robinson, William, Pr. B, 2d Pa.	M. 19	June 17, 1864. Petersburg.	July 3, 1864.	Int.	Fracture af left outer condyle, with caries of articular portion.
221	Cat. Surg. Sec. A. M. M. p. 152.	Graves, Surg. C. S. A.	Probably on field.	D——, W. S., Pr. 60th Ga., C. S. A.	M. 18	July 9, 1864. Monocacy Junction.	July 9, 1864.	P.	Fracture of the right olecranon and inner condyle.
222	Cat. Surg. Sec. A. M. M. p. 154.	Moon, A. A. Surg. U. S. Army.	Hospital, Philada.	L——, P., Corp'l D, 3d N. Hamp.	M.	June 16, 1864. Bermuda Hundred.	July 12, 1864.	S.	Fracture of the right olecranon, with caries of joint.
223	Arch. für Klin. Chir. 16, 2, 443, fig. 7.	Langenbeck, B. Von, Berlin.	Broagger Lazareth, German-Danish War.	Froebrodt, William, Brandenberger Pioneer Batt., No. 3.	M.	April 18, 1864.	July 13, 1864.	S.	Shot fracture of right elbow-joint; ball entered front humerus about 1½ inches above internal condyle, and passed out; member greatly swollen; olecranon blown off; fracture of humerus, and separation of lower epiphysis; caries and suppuration; joint completely destroyed, and its surfaces rough.
224	Cat. Surg. Sec. A. M. M. p. 156.	Reported by Fay, G. W., A. A. Surg. U. S. Army.	Hospital, Baltimore	P——, A. N., Pr. K, 2d Heavy Arty.	M.	June 1, 1864. Cold Harbor.	July 16, 1864.	S.	Fracture of left outer condyle, and head of radius; articular surfaces destroyed by suppuration.
225	Cat. Surg. Sec. A. M. M. p. 159.	Greenleaf, C. R., Asst. Surgeon U. S. Army.	Hospital, Philada.	S——, M., Pr. C, 69th Pa.	M.	July 3, 1864. G'tysburg.	July 21, 1864.	Int.	Longitudinal fracture of the right inner condyle, which is superficially necrosed; by bullet.

f Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
16	+	1½ inches of humerus; 1 inch of ulna; 1 inch of radius.	Recovered.	2	"Inflexible arm; useful."	In 1864.	
17	+	1 inch of humerus; head of radius; coronoid, and olecranon.	Died, 7 days, exhaustion.	.....	"Amputated June 27, in upper third of arm, for sloughing."		
18	?	6 inches of upper end of ulna; 4 inches of upper end of radius.	Died, 25 days, pyæmia.				
19	|	Lower end of humerus, and upper ulna and radius.	Recovered, 7 months.	.....	"Wound healed; has considerable use of the left hand, and some of the arm; the forearm being moved mostly by the motions of the arm."	90	Case complicated by erysipelas of the member, which was controlled without sloughing; the theca of the tendons no doubt suffered from the inflammation attending the erysipelas; bones were divided in block and by chain saw.
20	+	2 inches of humerus; ½ inch of radius; 1½ inches of ulna.	Died, 12 days, exhaustion.	.....	Arm amputated July 13, middle third, for secondary hemorrhage.		
21	?	Head of radius; ulna at coronoid process; ½ inch of humerus.	Recovered.	.....	"Perfect use of limb."		
22	?	End of humerus; 1 inch of radius; ½ inch of ulna.	Died, 21 days, exhaustion.				
23	.....	Subperiosteal; 4.68 inches of humerus; 1.96 inches of ulna; head of radius.	Recovered.	.....	Operator says he has the honor of this operation, because it is the most unsuccessful resection of this joint he has seen; had a loose flail-like joint; arm hangs down loose by his side; on flexing arm, member becomes shortened; hand very strong and completely useful; with an apparatus does all light work with his hand; would not submit to after treatment.	11	This operation is reported by Loeffler to have been done by staff-surgeon Dr. Hegemann; Langenbeck says he did it.
24	?	2½ inches of humerus; 1 inch of radius; 2 inches of ulna, including olecranon.	Died, 45 days, pleuro-pneumonia.				
25	?	3 inches of humerus.	Recovered.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
226	Med. Record, New York, iii. 415.	Turner, Samuel, Texas.	?	H——, J., K, 6th Ark., C. S. A.	M.	July 21, 1864.	July 21, 1864.	P.	Fracture, involving joint; olecranon shot away.
227	Arch. für Klin. Chir. Lang. 16, 2, 422.	Langenbeck, B. Von, Berlin.	Johanniter Lazareth.	Rheinbaden, Von, 1 Lieut. 4th Braudenberger Infty. Regt. No. 24. Greatly exhausted and chills.	M.	June 29, 1864. At Alsen Isl'd.	1st, July 22, 1864.	S.	Shot wound of right joint; from shot, with fracture of the olecranon; tendon of triceps torn off; rest of joint not injured; synovitis followed; arm greatly swollen; free discharge; ulceration of synovial membrane at points.
							2d, Jan. 16, 1866.	....	2d. Necrosis of the humerus (a sequestrum formed).
							3d, Feb. 17, 1866.	....	.....
228	Cat. Surg. Sec. A. M. M. p. 155.	Lewis, J. B., Surg. U. S. V.	Hospital, Cumberland.	M——, H., Pr. H, 9th W. Va.	M. 19	July 20, 1864. Winchester.	July 28, 1864.	Int.	Shattered fracture of inner right condyle, and border of shaft above.
229	Cat. Surg. Sec. A. M. M. p. 155.	Weir, R. F., Asst. Surgeon U. S. Army.	Hospital, Frederick	D——, F., Pr. A, 1st Potomac Home Brigade.	M. 18	July 24, 1864. Winchester.	July 29, 1864.	Int.	Fracture of left inner condyle.
230	Letter, 1872.	Banks, William A., Rockland, Me	General Hospital, Parkersburg, W. Va.	Hetherly, Pr., probably 6th W. Va.	M. ab't 40	About July 1864.	About July 1864.	....	Penetrating wound of joint, with compound comminuted fracture.
231	Cat. Surg. Sec. A. M. M. p. 162.	Unknown. Amputated by Smith, A. A., A. A. Surg. U. S. Army.	Field excision.	K——, J., Pr. K, 170 N. Y.	M. 32	Aug. 16, 1864. Flussel's Mills	Aug. 16, 1864.	P.	Fracture of upper end of right ulna.
232	Cat. Surg. Sec. A. M. M. p. 166.	Unknown. Reported by Kennedy, D., A. A. Surg. U. S. Army.	Field.	M——, J., Pr. D, 1st Maine Cav.	M. 26	Aug. 16, 1864. W'tes Tavern.	Aug. 16, 1864.	P.	Fracture of olecranon and condyles (right side).
233	Cat. Surg. Sec. A. M. M. p. 169.	Unknown. Reported by Cral, W. H., A. A. Surg. U. S. Army.	Not stated.	P——, H., Pr. A, 14 Conn.	M. 36	1864.	Before Aug. 17, 1864.	....	Fracture of tip of olecranon; fissure of coronoid, and probably fracture of condyles of right elbow.
234	Cat. Surg. Sec. A. M. M. p. 165.	Reported by Downs, J. M., A. A. Surg. U. S. Army.	Probably Ream's Station.	H——, A. P., 2d Lieut. E, 8th H. Arty.	M. 20	Aug. 25, 1864. R'nes Station.	Aug. 26, 1864.	P.	Fracture of end of left humerus.
235	Letter, 1872.	Gardner, P., Porter, Ohio.	Brown Gap, Va.	Quillet, D.M., Captain.	M. 42	1864.	Sept. 1864.	P.	Wound of joint.

f Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
26	?	2½ inches of humerus, and some fragments subsequently.	Recovered.	.....	"Good use; ploughs, writes, lifts heavy weights; uses member in every way, but can't flex it."	18	
27	I	Subperiosteal; joint surface of humerus, and remainder of olecranon sawed off; in all 2½ inches.	Recovered, 21 months from 1st operation (wound not quite healed).	2½	A solid new humerus reformed; involucrum about ulna, and new olecranon formed; summer of 1867 went into service as a captain; hand very strong, and completely useful; active use of elbow; can place hand on shoulder; extension almost complete; pro- and supination somewhat impaired; still a fistula; March, 1871, still in active service.	79½	This is Loeffler's 13th Case; plaster dressing; fever decreased progressively; appetite returned, and sleep; strength improved; July 30, chills from cold winds (was in a tent), which lasted until middle of Aug.; limb became œdematous, and abscesses formed in it; strength sank; quinine and wine given freely; chills ceased by 20th of August; winter of 1864 and 1865 had three attacks of erysipelas, wound not healed then; January, 1866, arm still swollen, and wound open.
	.....	2d. The new bone opened, and a sequestrum 7.07 in. in length; and 2¾ inches of upper end of ulna; a sequestrum.					
	I	3d. 1½ inches of end of radius; a sequestrum.					
28	?	2 inches end of humerus.	Died, 23 days, pyæmia.				
29	?	Olecranon and 1½ inches of humerus.	Recovered, 10½ months.	.....	"Discharged."	10½	
30	I	2 inches of humerus; 3 inches of radius and ulna.	Died, after 10 days, exhaustion, from secondary hemorrhage	.....	Amputated 10th day for secondary hemorrhage.		
31	?	Upper 3 inches of ulna.	Died, 39 days, pyæmia.	.....	Amputated 24th day for secondary hemorrhage.	.....	Specimen shows caries of end of humerus and radius, and a sequestrium of the upper end of ulna, with a slight involucrum.
32	?	Olecranon and condyles.	Recovered.	.....	"Amputated for secondary hemorrhage, August 28, 1864."		
33	?	Lower end of humerus.	Died, exhaustion, Oct. 24, 1864.	.....	Amputated by Ensign, W. H.		
34	?	2½ inches of humerus.	Recovered.	.....	Amputated by Surgeon Mosely, Sept. 1, 1864, for secondary hemorrhage.		
35	^	Upper end, and 2½ inches of ulna.	Recovered.	.....	"Useful arm."	After recovery.	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
236	Reported by Bontecou, R.B., 1872; Letter from patient.	Confederate Surgeon.	Near Richmond, Va.	Titus, S. N., Rutland, Meigs Co., Ohio.	M. 35	Oct. 7, 1864.	Oct. 7, 1864.	P.	Wound of right joint.
237	Cat. Surg. Sec. A. M. M. p. 156.	Study, J. M., Asst. Surgeon U. S. Vols.	Not stated.	S——, J. W., Pr. M, 7th Ind. Cavalry.	M.	Oct. 22, 1864. Near Memphis.	Oct. 31, 1864.	Int.	Irregular fracture of extremity of shaft, with complete fracture through trochlea of left humerus.
238	Cat. Surg. Sec. A. M. M. p. 157.	Reported by Frantz, J. H., Asst. Surgeon U. S. Army.	Hospital, Portsm'th	D——, W., Pr. C, 36th United States Col'd Troops.	M. 20	Sept. 29, 1864. Deep Bottom.	Nov. 3, 1864.	Int.	Probably fracture of right outer condyle; caries of articular surface of humerus.
239	Cat. Surg. Sec. A. M. M. p. 153.	Reported by Frantz, J. H., Asst. Surgeon U. S. Army.	Hospital, Portsm'th	R——, M., Pr. A, 38th United States Col'd Troops.	M. 22	Sept. 29, 1864. Deep Bottom.	Nov. 4, 1864.	Int.	Wound involving right joint; articulation entirely destroyed by suppuration.
240	Letter, 1872.	Lyster, Henry F., Detroit, Mich.	Petersburg, Va.	Graham, Albert S.	M. 25	Nov. 8, 1864.	Nov. 1864.	P.	Fracture of outer condyle.
241	Letter, 1872.	Thompson, S. M., Shelbyville, Kentucky.	Field Hospital, Atlanta, Georgia.	Russel, A., Con. Soldier.	M. 20	Nov. 9, 1864. Atlanta, Ga.	Nov. 9, 1864.	P.	Fracture of lower end of humerus.
242	Cat. Surg. Sec. A. M. M. p. 159.	Reported by Wagner, C., Asst. Surgeon U. S. Army.	Hospital, Beverly, N. Jersey.	C——, W. R., Corp'l H, 4th Rhode Island.	M. 23	Sept. 30, 1864. Poplar Sp'gs Va.	Dec. 13, 1864.	Int.	Gangrene, following a flesh wound of the left forearm; tip of olecranon carious.
243	Cat. Surg. Sec. A. M. M. p. 158.	Page, Chas., Asst. Surgeon U. S. Army.	Hospital, Alexandria.	R——, W. D., Pr. D, 81st New York.	M. 21	Nov. 26, 1864. Brandy Stat'n Accident'l	Nov. 26, 1864.	P.	Two longitudinal fractures on either side of shaft of lower extremity of humerus; trochlea destroyed; outer condyle shattered, and inner separated; right side.
244	Reported by Bontecou, R. B.	Campbell.	At Camp, Washington.	Nicol, Robert B.	M. 32	Dec. 20, 1864. At Camp W'shington.	Dec. 20, 1864.	P.	Wound involving left joint.
245	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Harwood General Hospital.	Hodgkiss, D., G, 45th Pa.	M. ab't 35	.....	1864.	S.	Wound involving joint.
246 to 248	Gross' Statistics.	Reported by Loeffler.	German-Danish War.	3 cases not tabulated.	M.	.....	1864.	P.	Shot wounds.
249 to 279	Gross' Statistics.	Reported by Loeffler.	German-Danish War.	31 cases not tabulated.	M.	.....	1864.	S.	Shot wounds.

Elbow-Joint for Gunshot Wounds—continued.

Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
I	Total excision; 3 inches, including joint.	Recovered.	.....	"Thankful arm not amputated; can raise hand to head by muscular action; hand stiff, and not much use."	90	
?	Olecranon and 2 inches end of humerus.	Recovered, 6½ months.	.....	"Discharged."	6½	
?	Olecranon; 2½ inches of humerus.	Recovered.	.....	?		
?	Olecranon and coronoid, and humerus just above condyles.	Recovered.				
I	Portion of outer condyle.	Recovered.	.....	"Complete."	1865.	
H	End of humerus; through sigmoid cavities, and olecranon of ulna.	Recovered.	.....	"Stiff elbow-joint at right angles; has good use of arm; able to do all ordinary labor."	72	
?	Coronoid and olecranon, and 2½ inches shaft of ulna.	Recovered, 5¾ months.	.....	Discharged.	5¾	
?	2½ inches of humerus; 1 inch of ulna; small portion of head of radius.	Recovered.	.....	Re-enlisted in Co. K. 5th Regt. 1st Army Corps.	?	
+	Lower end of humerus.	Recovered.	4 or 5	"Good arm; bony repair."	24	
+	Upper end of ulna and radius, and a slice off humerus.	Recovered.	.....	"Good recovery, with useful limb."	.....	Transferred to General Hospital Phila., Aug. 12, 1864. Dr. C. A. Rice, late Surgeon C. S. A., states in a letter that the recoveries from excision of this joint were more tedious than from the shoulder excisions, and that often secondary amputation was required in the former.
.....	Excision of joint.	3 Recovered.	.....	?		
.....	Excision of joint.	9 Died, 22 Recovered.	.....	?		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
280	Letter, 1872.	Gibbs, Ed. A.	Field, Fort Fisher.	King, Thomas E.	M. 35	Jan. 13–15, 1865. Fort Fisher.	Jan. 13–15, 1865.	P.	Shell fracture of radius and ulna.
281	Letter, 1872.	Reported by Zill, H. C., St. Louis, Mo.	On field, Savannah Camp'gn.	Soldier 3d Div. 3d Army Corps.	M. 40	Mar. 1865.	Mar. 1865.	P.	Wound involving joint.
282	Cat. Surg. Sec. A. M. M. p. 153.	Reported by Allen, H., Asst. Surgeon U. S. Army.	Hospital, Washington.	M——, J. L., Pr. C, 67 Pa.	M. 40	Mar. 25, 1865, Petersburg.	April 5, 1865.	Int.	Fracture of right external condyle.
283	Cat. Surg. Sec. A. M. M. p. 152.	Vanderkieft, B. A., Surg. U. S. Vols.	Hospital, Annapolis, Md.	M——, J. W., Pr. H, 17 Me.	M.	April 6, 1865. Burksville. Va.	April 20, 1865.	Int.	Fracture of head of right ulna.
284	Reported by Thompson, Paduca, Ky.; see Med. Record N. Y., iii. 414.	Probably by Bush, Dr., Gallatin, Tennessee.	Field.	Walker, Jas., General Commanding "Stonewall" Brigade, C. S. A.	M.	April 9, 1865.	April 9, 1865.	P.	Wound of left joint.
285	Cat. Surg. Sec. A. M. M. p. 157.	Pancoast, G. L., Surgeon U. S. Vols.	Hospital, Washington.	W——, J., I, 15th N. Y. Heavy Arty.	M.	Mar. 31, 1865. Hatchers Run.	April 22, 1865.	Int.	Shattered fracture of lower end of humerus; by ball.
286	Letter, 1872.	Reported by Bontecou, R. B.	On field.	Anthony, James H.	M. 29	Mar. 30, 1865.	April 1865.	P.	Wound involving right elbow.
287	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Harwood General Hospital.	Pilgrim, Fred.	M. 22	April 1, 1865.	May 5, 1865.	S.	Fracture of the humerus (left).
288	Cat. Surg. Sec. A. M. M. p. 154.	Pancoast, G. L.	Hospital, Washington.	O——, F., Pr. E, 93d Pa.	M.	Mar. 25, 1865. Petersburg.	May 6, 1865.	S.	Wound of right elbow; articular surfaces destroyed by suppuration.
289	Letter, 1872.	Roberts, Clark, Winchester, Illinois.	Winchester, Illinois.	Williams, Starkey P., Winchester, Illinois. "Good."	M. 8	July 28, 1865. Accidental.	July 28, 1865.	P.	Oblique fracture of shaft of humerus; the outer condyle carried away; from some form of gunshot missile.
290	Hosp. Records by Surg. Gray, U. S. Army.	Buck, Gurdon, New York.	N. York Hospital.	Walsh, Miles.	M. 22	.....	Oct. 9, 1865.	....	Anchylosis, resulting from an old gunshot wound of elbow.
291 to 453	Cir. No. 6, p. 55.	Reported by Asst. Surgeon G. A. Otis, U. S. Army.	War Rebellion 1861.	163 cases not included in this table.	M.	.....	1861 to 1865.	....	Shot wounds.
454 to 455	Statistics, S. W. Gross.	Tabulated by Horwitz.	U. S. Navy, War Rebellion 1861.	2 cases.	M.	.....	1861 to 1865.	P. or S.	Shot wounds.
456 to 468	Statistics, S. W. Gross.	Tabulated by Sorrel.	War Rebellion 1861–65.	13 cases not tabulated. Soldiers C. S. Army.	M.	.....	1861 to 1865.	P.	Shot wounds.
469 to 493	Statistics, S. W. Gross.	Tabulated by Sorrel.	War Rebellion 1861–65.	25 cases not tabulated. Soldiers C. S. Army.	M.	.....	1861 to 1865.	S.	Shot wounds.

f Elbow-Joint for Gunshot Wounds—continued.

...o. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
80	?	3 inches of radius and ulna.	Recovered.	.....	"Carries hand to head; takes off hat, and feeds himself with member."	84	
81	H	?	Not stated.	.....	"Never heard of his death."		
82	?	Humerus just above condyles.	Recovered.				
83	?	Ulna just below coronoid.	Died, 37 days, pyæmia.				
84	?	Total excision; 2¼ inches of bone.	Recovered.	.....	"Uses limb almost as well as before wounded, except can't raise arm above head as freely."	60	From the report it is probable that this operation was done anterior to the date stated.
85	?	Extremity, and 1 inch of shaft of humerus.	Recovered.	.....	?		
86	+	Quite a portion of extremity of humerus.	Recovered.	.....	"Good recovery."	At least 8	
87	+	End of humerus, and portion of radius and ulna.	Recovered.	.....	"Good recovery; can flex and rotate forearm."	In 1865.	
88	?	Head of radius; olecranon; 1 inch end of humerus.	Recovered.				
89	I	"About 3 inches of humerus; head of radius, and part of head of ulna."	Recovered, 6 weeks.	3	Ends of bones roll upon each other somewhat as the radius does upon the ulna; has almost perfect use of the arm, and claims he can do more with this than the other arm.	72	The union is by cartilage.
90	I	Ends of bone excised with chain-saw.	Recovered, 48 days.	.....	"Puts hand to ear, and straightens (nearly) member; regaining use of arm rapidly."	1½	
91 to 153	?	Partial and complete excisions.	137 Recovered, 26 Died.	.....	?	.....	Among the number reported by Asst.-Surg. Otis, 16 amputations were performed.
154 to 155	.....	Partial or complete excisions.	2 Recovered.	.....	?		
156 to 158	.....	Partial or complete excisions.	2 Died, 11 Recovered.				
159 to 193	.....	Partial or complete excisions.	23 Recovered, 2 Died.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
494 to 514	Gross' Statistics.	Reported by Stromeyer, L., Hanover, Germany.	Austrio-Prussian War.	7 cases.	M.	.....	1866.	P.	Shot wounds.
				14 cases.	M.	.....	1866.	S.	Shot wounds.
515	Letter, 1872.	Procher, F. Peyre, Charleston.	City Hospital, Charleston, S. C.	Unknown.	F. 28	4 days before.	1869.	Int.	Wound involving elbow.
516	Lang. Arch. für Klin. Chir., 16, 2, 346.	Nussbaum, Von J., Munich, Austria.	Village Bazilles, France.	F——, E., Polytechnik'r Volunteer, engaged in carrying the wounded. Good constitution.	M. 20	Sept. 1, 1870.	Sept. 1, 1870.	P.	Shot wound in right joint.
517	Lang. Arch. für Klin. Chir., 16, 2, 347.	Not stated.	Franco-Prussian War.	Nagle, Ernest, 3d Baden Infty Regt.	M. ?	.....	1870.	?	Shot wound of left elbow.
518	Am. Jour. Med. Sci. April, 1873, 474; Lancet, 1872, 370; Notes & Recol. Amb. Surg. 106.	MacCormac, William, London.	Franco-Prussian War.	Soldier 3d Chaussers d'Afrique.	M. 23	Sept. 1, 1870. Sedan	Sept. 14, 1870.	Int.	Wound of elbow and shoulder joints; from shell, which destroyed the deltoid; soft parts much lacerated about elbow; bones much comminuted (right side).
519	Notes & Recol. pp. 107, 123.	Not stated; reported by Macleod.	Floing, Prussian Field Ambulance.	Deroy, Lewis.	M.	Sept. 1, 1870.	Sept. 3, 1870.	P.	Ball wound of right elbow.
520	Notes & Recol. pp. 112, 130.	Macleod.	Caserne d'Asfeld.	French Soldier.	M.	Sept. 14, 1870. Balan.	Sept. 14, 1870.	P.	Wound of joint.
521	Notes & Recol. pp. 112, 130.	Macleod.	Caserne d'Asfeld.	French Soldier.	M.	Sept. 15, 1870. Balan.	Sept. 15, 1870.	P.	Wound of joint.
522	Notes & Recol. pp. 107, 130.	Reported by Macleod.	"From without." Probably near Balan.	Fauvartel, French Soldier.	M.	Sept. 1870.	Sept. 1870.	P.	Wound of joint; from shell.
523	Notes & Recol. Macleod, pp. 95, 127, 130, 94.	Reported by Macleod.	Caserne d'Asfeld.	French or German Soldier.	M.	Sept. or Oct. 1870.	Sept. or Oct. 1870,	Int.	Penetrating wound of elbow.
524	Notes & Recol. Macleod, pp. 95, 127, 130, 94.	Reported by Macleod.	Caserne d'Asfeld.	French or German Soldier.	M.	Sept. or Oct. 1870.	Sept. or Oct. 1870.	Int.	Penetrating wound of elbow.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
494 to 514	.....	Partial or complete excisions.	7 Recovered.				
	.....	Partial or complete excisions.	10 Recovered, 4 Died.				
515	I	2 inches end of humerus.	Died, pyæmia.				
516	?	"Made a resection of the joint."	Recovered, 6 months.	.....	Flexion and extension of joint almost normal; rotation movement (pro- and supination) lost; forearm between pro- and supination; muscular atrophy of arm; motions of finger and hand normal; draws; plays a stringed instrument.	6	Referred to by Seggle.
517	?	Excision of joint.	Recovered.	.....	"Not a great degree of atrophy of arm; a complete new joint formed, with voluntary flexion, extension, pro- and supination; muscular development good; can lift a chair 1 foot high, with open hand, quickly and without pain; raises hand to top of head; can do light house and field work with left hand."	About 36	
518	I	4 inches of upper end of humerus; at elbow thin slice of condyles, and head of radius; 4 inches of ulna; all simultaneously.	Recovered.	.....	Elbow thoroughly healed; ulna reproduced; extensive flexion, pronation, and supination of forearm; power of hand being rapidly regained; sinus at shoulder-joint leading to dead bone; forward and backward motion of arm; can't raise arm laterally (deltoid injured).	18	Periosteum preserved as far as possible.
519	— transverse.	Total excision.	Recovered, 33 days.	.....	As case did not do well, arm amputated Sept. 20, 1870, and left hospital Oct. 6, 1870.	1	
520	?	Total excision.	Recovered.	.....	?		
521	?	Total excision.	Recovered.				
522	— transverse.	Total excision.	Died, exhaustion.	.....	"Died without further operative interference."		
523	?	Probably total excision.	Recovered.				
524	?	Probably total excision.	Recovered.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
525	Notes & Recol. Macleod, pp. 95, 127, 130, 94.	Reported by Macleod.	Caserne d'Asfeld.	French or German Soldier.	M.	Sept. or Oct. 1870.	Sept. or Oct. 1870.	Int.	Penetrating wound of elbow.
526	Notes & Recol. Macleod, pp. 95, 127, 130, 94.	Reported by Macleod.	Caserne d'Asfeld.	French or German Soldier.	M.	Sept. or Oct. 1870.	Sept. or Oct. 1870.	Int.	Penetrating wound of elbow.
527	Notes & Recol. Macleod, pp. 95, 127, 130, 94.	Reported by Macleod.	Caserne d'Asfeld.	French or German Soldier.	M.	Sept. or Oct. 1870.	Sept. or Oct. 1870.	Int.	Penetrating wound of elbow.
528	Notes & Recol. Macleod, pp. 95, 127, 130, 94.	Reported by Macleod.	Caserne d'Asfeld.	French or German Soldier.	M.	Sept. or Oct. 1870.	Sept. or Oct. 1870.	Int.	Penetrating wound of elbow.
529	Notes & Recol. Macleod, pp. 95, 127, 130, 94.	Reported by Macleod.	Caserne d'Asfeld.	French or German Soldier.	M.	Sept. or Oct. 1870.	Sept. or Oct. 1870.	Int.	Penetrating wound of elbow.
530	Lancet & Obs., Cincinnati, Feb. 1871; Letter, operator 1872 & 1874.	Smith, T. Curtis, Middleport, O late Surgeon 16th O. V. I.	Patient's residence	Lloyd, Thomas.	M. 22	Oct. 6, 1870. Accidental.	Oct. 7, 1870.	P.	Perforating wound of left elbow; ulnar and median nerves; median vein, and brachial and recurrent branches (arteries) divided; comminuted fracture of olecranon, and upper inch of ulna; articular surface of humerus bare and bruised; radio-humeral joint torn open; from near wound (shot); soft parts greatly torn; no pulse at wrist.
531	Krieg's Chirur. Erinnerungen, von G. Fischer, p. 35, 59, 61.	Reported by Fischer, G., Hanover, Germany.	Village Floing.	Soldier Franco-Prussian War.	M. ?	15 days before operation.	1870.	Int.	Penetrating wound of joint.
532	Krieg's Chirur. Erinnerungen, von G. Fischer, p. 35, 59, 61.	Reported by Fischer, G., Hanover, Germany.	Hospital Castle, Versaill's	Krug, Gustave, 1 Neaderschl (Infty. Regt.) No. 46.	M. ?	Oct. 21, 1870.	Nov. 10, 1870.	Int.	Penetrating wound of joint.
533	Krieg's Chirur. Erinnerungen, von G. Fischer, p. 35, 59, 61.	Reported by Fischer, G., Hanover, Germany.	Hospital Castle, Versaill's	German Soldier.	M. ?	11 days before.	1870.	Int.	Penetrating wound of joint.
534	Krieg's Chirur. Erinnerungen, von G. Fischer, p. 35, 59, 61.	Reported by Fischer, G., Hanover, Germany.	Hospital Castle, Versaill's	German Soldier.	M.	13 days before.	1870.	Int.	Penetrating wound of joint.
535	Krieg's Chirur. Erinnerungen, von G. Fischer, p. 35. 59.	Reported by Fischer, G., Hanover, Germany.	Hospital Castle, Versaill's	German Soldier.	M.	1870.	1870.	P.	Penetrating wound of joint.
536	Krieg's Chirur. Erinnerungen, von G. Fischer, p. 35, 59.	Reported by Fischer, G., Hanover, Germany.	Hospital Castle, Versaill's	German Soldier.	M.	1870.	1870.	P.	Penetrating wound of joint.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
525	?	Probably total excision.	Died.	.....	.....	.....	Very many of the wounded suffered from pyæmic complications at Asfeld.
526	?	Probably total excision.	Died.				
527	?	Probably total excision.	Died.				
528	?	Probably total excision.	Died.				
529	?	Probably total excision.	Died.				
530	I	2 inches of ulna; head of radius; articular surface of humerus.	Recovered.	.....	Hand and wrist good; mines coal, making nearly full hand; later, elbow anchylosed at an angle of 30°; forearm and hand slightly atrophied; fingers can be but half extended, but can be fully flexed, and with much force so as to hold a pick, shovel, etc.; sensation greatly impaired, but that of the little finger and ulnar side of forearm entirely lost.	42	
531	T	Total excision.	Recovered, 6 weeks.	.....	Discharged with wound healed.	1½	
532	I	Subperiosteal; 1½ inches of humerus; ends of ulna and radius.	Recovered, 10 months.	.....	"The whole humerus became necrotic, and was extracted; at 3 months the elbow became anchylosed; wound not quite healed at 10 months; no flexion, extension, or rotation; fingers but little movable; can only hold a sheet of paper."	10	
533	T	Total excision.	Died, 18 days, pyæmia.				
534	T	Total excision.	Died, 4 weeks, probably exhaustion.	.....	At 8 days erysipelas of member; necrosis of end of humerus followed.	.....	He became delirious; bed-sores appeared, and bleeding followed.
535	T	Total excision.	Died, 10 days, pyæmia.				
536	T	Total excision.	Died, 2¼ days, pyæmia.	.....	"Case complicated by hemorrhage from brachial artery, which was arrested by pressure; wound became diphtheritic; had his 1st chill 11th day."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
537	Fractures par armes à feu, Chipault, 135.	Chipault, A., Orleans, France.	Ambulance des Petites-Sœurs des Pauvres, Orleans, France.	Marcel, Roger, 3d Zouaves, French. "Gen'l state bad, and has chills."	M. 20	Nov. 28, 1870. Beaune-la-Rolande Fr.	Jan. 31, 1871.	S.	Perforating antero-posterior wound of left elbow; by ball (no large vessels or nerves wounded); elbow swollen and painful; forearm œdematous; fracture of olecranon at its base; erosion of cartilage of articular surface of humerus, head of radius and sigmoid cavity of ulna; free suppuration.
538	Letter from Operator, 1874.	Satterthwaite Thomas E., 50 E. 31st St., New York.	Franco-Prussian War.	Prussian Soldier, Private.	M. ?	.....	Feb. 1871.	S.	Perforating wound, with shattering of the left elbow; from rifle-ball; followed with consolidation of the joint, and flexion of member at an obtuse angle.
539	Krig's Chirur. Erinnerungen, von G. Fischer, S. 35, 59.	Reported by Fischer, G., Hanover, Germany.	Castle Versaill's	German Soldier.	M.	1870.	1870.	P.	Wound of joint.
540	Krig's Chirur. Erinnerungen, von G. Fischer, S. 35, 59.	Reported by Fischer, G., Hanover, Germany.	Castle Versaill's	German Soldier.	M.	1870.	1870.	P.	Wound of joint.
541	Krig's Chirur. Erinnerungen, von G. Fischer, S. 35, 59.	Reported by Fischer, G., Hanover, Germany.	Castle Versaill's	German Soldier.	M.	1870.	1870.	P.	Wound of joint.
542	Letter, 1872.	Kinlock, R.A. Charleston, S. Carolina.	?	?	M. ?	?	?	S.	Disease from wound; ball resting near elbow.
543	Fractures par armes à feu, Chipault, 128.	Chipault, Antony, Orleans, France.	Ambulance de la Visitation Orleans, France. Franco-Prussian War.	Bourgaux, Alexis, 27th Infantry, 2d Battalion, French. "Bad general state."	M. 24	Dec. 4, 1870. At Orleans, Fr.	Jan. 25 1871.	S.	Excessive suppuration; crushing of epicondyle and external border of olecranon; erosion of the head of ulna and radius; from perforating wound of right elbow; by ball.
544	Arch. für Klin. Chir., 16, 2, 447.	Langenbeck, B. Von, Berlin.	King's Klinic, Berlin.	Strombeck, Von Lieut. 91st Prussian Inf'ty Regt. "Fever."	M. 24	Dec. 16, 1870. At Vendome.	Nov. 15, 1871.	S.	Shot-shattered fracture of left elbow, from Chassépot ball, with dislocation of the joint; had three other wounds; shot wound of left ankle, which healed readily, with motion of joint; and a flesh wound of each thigh; external dislocation of radius, and humerus seemed to be luxated forwards; member nearly straight; can be flexed to an angle of 125°; hand and forearm pronated; forearm ¾ inch shortened; very little motion of fingers; sensibility unchanged.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
537	I	Subperiosteal; humerus above the level of the trochlear surface (1¾ inches); 1½ inches of radius; 2¾ inches of ulna.	Recovered, 4 months.	.....	General state excellent; wound healed; can execute all the movements of the fingers, but which are limited; can oppose the thumb to the index finger; later, all the motions improved.	8½	
538	I	Subperiosteal; 1¾ inches; equal portion from each side of the joint.	Died, in 3 weeks, pyæmia.	.....	"Did well for a week, when symptoms of pyæmia set in."	.....	"Shock of operation severe; more severe than that attending the primary operations for excisions, which Dr. S. has observed."
539	T	Total excision.	Recovered.	.....	"Motion of elbow; useful."	8 to 10	
540	T	Total excision.	Recovered.	.....	"Motion of elbow; useful."	8 to 10	
541	T	Total excision.	Recovered.	.....	"Motion of elbow; useful."	8 to 10	
542	⊢	Total excision.	Recovered.	.....	"Limited motion."		
543	I	Subperiosteal; head and neck (1½ inches) of radius; ulna to a lower level (1¾ inches) to above condyles of humerus (1½ inches).	Recovered, 4 months.	.....	"Incisions and abscesses healed; general health very good; movements of arm upon forearm limited; can execute all movements with fingers; opposition of thumb to index possible; movements of fingers improving; writes with the hand."	7	
544	II	Splinters of bone came away; subperiosteal; head of radius; humerus as high as condyles; fractured and ununited portion of ulna as low as coronoid; also the new bone.	Recovered, 2 months (wound healed).	.....	"Wound improved from operation, and on 14th day fever ceased; beginning of Jan. 1872, two small portions of external condyle exfoliated, when wound healed; January 15, complete motion of joint; no looseness in any motion of joint; form of joint good; end of humerus reformed, but not ends of ulna and radius; extension of forearm not complete, except when member pendent and muscles relaxed; can voluntarily touch front of neck with fingers; pro- and supination imperfect, as radius is bound to end of humerus; hand and forearm complete in function, and strong as before operation; went into active service."	.....	Heuter's incisions; ulna was also fractured, and new bone thrown out, but fracture ununited; plaster of Paris dressings not used; drainage-tube introduced; wound united with sutures; arm in hollowed splint slightly bent; later, plaster of Paris dressing, with openings; in 6 weeks this removed: end of December began passive motion; induced electricity used.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
545 to 549	Arch. für Klin. Chir., 16, 2, 427.	Reported by Mossakowski	Franco-Prussian War.	5 French Soldiers who came from Metz to Basel.	M.	.....	1870 to 1871.	....	Shot wounds of joint.
550 to 560	Arch. für Klin. Chir., 16, 2, 429.	Reported by Berthold.	Franco-Prussian War.	11 German Soldiers 10th Army Corps.	M.	.....	1870 to 1871.	....	Shot wounds of joint.
561 to 581	Arch. für Klin. Chir., 16, 2, 429.	Reported by Seggel.	Franco-Prussian War.	21 cases 1st German Army Corps.	M.	.....	1870 to 1871.	....	Shot wounds of joint.
582 to 595	Med. Record, N. Y., ix. 236, from Schmidt's Jahrb. ii. 73.	Beck, B., Freiburg, Germany.	Franco-Prussian War.	14th German Army Corps.	M.	.....	1870 to 1871.	P.	Shot wounds of joint.
596	Med. Record, N. Y., ix. 236, from Schmidt's Jahrb. ii. 73.	Beck, B., Freiburg, Germany.	Franco-Prussian War.	14th German Army Corps.	M.	.....	1870 to 1871.	Int.	Shot wound of joint.
597 to 598	Med. Record, N. Y., ix. 236, from Schmidt's Jahrb. ii. 73.	Beck, B., Freiburg, Germany.	Franco-Prussian War.	14th German Army Corps, 2 cases.	M.	.....	1870 to 1871.	S.	Shot wounds of joint.

of Elbow-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
545 to 549	.....	Joint resected.	5 Recovered.	.....	Useful, but not so much so as by the conservative treatment.	.....	Says 38 treated conservatively, with anchylosis, and that the results were sooner obtained and more complete use of the hand and fingers ensued, than through resection.
550 to 560	.....	Joint resected.	11 Recovered.	.....	Useful, but not so much so as by the conservative treatment.	.....	Operator says, of 37 cases, 25 treated conservatively, nearly all ended in anchylosis, 9 crippled, and 16 good use of member.
561 to 581	.....	Joint resected.	21 Recovered.	.....	Useful, but not so much so as by the conservative treatment.	.....	Operator says, of 49 cases, 21 resected and 28 treated conservatively, with following results: anchylosed 12, crippled 9, motion of joint completely useful 7, partial motion partially useful.
582 to 595	.....	Joint resected.	13 Recovered, 1 Died, pyæmia.	.....	One amputated; so far as could be learned, final results satisfactory.	.....	Prof. Langenbeck says in those crippled, this joint was afterwards resected successfully in some of the cases, and that hence the member should always be kept in the bent position while under treatment; advocates the subperiosteal operation of this joint; also attributes some of the ill results following excision of this joint to the non-use of the member after the operation, and advocates the passive and active use as soon as possible; he claims that anchylosis of member in rectangular position is a better result than resection with loose elbow-joint; also that the preference given to the conservative treatment was partly due to the less severe nature of the injuries in those so treated; Prof. Billroth attributes the mortality resulting from excisions of this joint, during this war, to the delay in performing the operation.
596	.....	Joint resected.	Recovered.	.....	One amputated; so far as could be learned, final results satisfactory.		
597 to 598	.....	Joint resected.	1 Recovered, 1 Died, repeated hemorrhages.	.....	One amputated; so far as could be learned, final results satisfactory."		

Tabular Statement of Excision

Remarks.—The following cases of this table are examples of excision for "Deformity," viz., Nos. 136, 225, 248, 257, 276, 304, 363, 396, 430, 432, 450, 467, and 468.

The following are cases of excision for "Injury:" Nos. 1, 3, 5, 8, 11, 13, 14, 15, 18, 33, 41, 60, 79, 90, 99, 121, 122, 123, 129, 139, 145, 146, 178, 184, 192, 223, 224, 227, 236, 241, 271,

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Nou. Dict. de Méd. et de Chir. Prac. t. 9, p. 808, t. 13, p. 509; Hodges, p. 45.	Wainman, Shripton, England.	England.	?	?	?	About 1758.	P.	Complicated and irreducible luxation of humerus.
2	Hodges, p. 45; Heyfeld. ta. 47; Velpeau's Surg. ii. 797.	Justamond, London.	Westminster Hospital, London, England.	England.	?	?	1775.	S.	Caries.
3	Hodges, p. 45; Velpeau's Surg. ii. 797.	Tyre, Gloucester.	England.	?	?	?	Prob. about 1775.	P.	Compound dislocation.
4	Heyfeld. Part. ta. 21.	Hey, W., Leeds.	England.	England.	?	?	1783.	S.	Caries.
5	Bell's Surgery, vi. 243; Velpeau's Surg. ii. 796.	Reported by Bell, Benj., Edinburgh.	Scotland.	Scotland.	?	?	Before 1788.	P.	Irreducible luxation of ulna backwards; olecranon protruding through skin.
6	Heyfeld. Total ta. 1; Nou. Dict. de Méd. et de Chir. Pratique, t. 9, p. 808.	Moreau, G. F., Sr., Bar-sur-Ornain, France.	France.	France.	M. 23	.....	1794.	S.	Caries.
7	Heyfeld. Part. ta. 1.	Moreau, G. F., Sr.	France.	France.	?	.....	1794.	S.	Caries.
8	Velpeau's Surg. ii. 795.	Reported by Champion, L., France.	France.	?	M. ?	.....	1796.	....	Sabre cut wound of the radius; articulation not involved.
9	Heyfeld. Total ta. 2; Hodges, p. 46.	Moreau, Jr.	France.	France.	M. 26	.....	June 1797.	...	Caries.
10	Heyfeld. Total ta. 3.	Moreau, G. F., Sr.	France.	France.	F. 18	?	?	S.	Caries.
11	Heyfeld. Part. ta. 23.	Champion, L.	France.	France.	....	.....	.....	P.	Complicated luxation.
12	Heyfeld. ta. 7.	Park, H., Liverpool.	England.	England.	?	?	?	S.	Caries.
13	Heyfeld. Part. ta. 22.	Evans.	?	?	?	?	1801.	....	Complicated luxation.
14	Heyfeld. Part. ta. 39; Velpeau's Surg. ii. 797.	Hey, W.	England.	England.	?	?	1801.	....	Complicated fracture.
15	Heyfeld. Part. ta. 5; Velpeau's Surg. ii. 797.	Park, H., Liverpool.	England.	England.	?	?	Before 1806.	P.	Complicated fracture.
16	Heyfeld. Part. ta. 40; Velpeau's Surg. ii. 795.	Moreau, Son.	France.	France.	?	?	1806.	S.	Caries.
17	Velpeau's Surg. ii. 789.	Champion, L., France.	France.	France.	?	.....	Before 1813.	S.	Caries.
18	Velpeau's Surg. ii. 797; Heyfeld. Part. ta. 6.	Champion, L., France.	France.	France.	?	?	1816.	P.	Complicated luxation.
19	Hodges' Exc. p. 46; Gross' Surg. ii. 1085.	Stansfield, J., Leeds, England.	England.	England.	?	.....	1818.	S.	For disease.
20	Heyfeld. ta. 10; Velpeau's Surg. ii. 793.	Roux, Ph. J., France.	France.	France. Phthisis pulmonalis.	M. ?	.....	1819	....	Caries.

of Elbow-Joint for Disease, Injuries, and Deformity.

272, 277, 279, 319, 324, 349, 355, 362, 365, 369, 378, 382, 383, 386, 387, 388, 389, 390, 393, 401, 402, 405, 408, 409, 418, 419, 426, 428, 431, 433, 440, 441, 443, 446, 449, 453, 457, 459, 472.

The other cases in this table refer to excision for "Disease."

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	Lower extremity of humerus just above the olecranon fossa.	Recovered.	.....	Limb was as flexible as if nothing had ever been amiss.	?	
2	?	Olecranon and 2 inches of ulna.	Recovered.	.....	"Good; extension and flexion nearly destroyed; rotation unimpaired."	?	
3	?	2½ inches lower end of humerus, including condyles.	Recovered.	.....	"Effected a perfect cure."		
4	?	Lower end of humerus.	Recovered.	.....	"Good."		
5	None.	Olecranon process.	Recovered.	.....	?		
6	H	Complete excision.	Recovered, 7 months.	.....	"Good."	7	
7	H	Extremity of radius and humerus.	Recovered, 6 weeks.	.....	"Perfect; mobility complete."	1½	
8	?	1½ inches upper end of radius.	Recovered.	.....	"Preserved flexion and extension; lost rotation; continued his profession of gendarme."		
9	H	Complete excision.	Recovered slowly.	.....	"Perfect."	?	
10	H	Complete excision.	Recovered.	.....	"Perfect."	?	
11	?	Lower end of humerus.	Recovered.	.....	"Good."		
12	I	Complete excision.	Recovered.	.....	"Good."	?	
13	?	Inferior extremity of humerus.	Recovered.	.....	"Good."	?	
14	?	Internal condyle.	Recovered.	.....	"Good."		
15	+	The upper and articular fragment of the humerus, and apex of olecranon.	Recovered.	.....	"The motions of the joint were almost completely established."		
16	?	External condyle.	Recovered.	.....	"Perfect."		
17	?	Complete excision.	Recovered.	.....	?		
18	?	Lower end of humerus, including condyles and two lower thirds of the cavity of the olecranon.	Recovered.	.....	"The movements were restored perfectly."		
	.....	Complete excision.	Recovered.				
	H	Complete excision.	Recovered.	.....	Not stated.	.....	Recovered from the operation, but died of phthisis after 5 mos.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
21	Heyfeld. ta. 11; Velpeau's Surg. ii. 793.	Roux, Ph. J., France.	France.	France.	M.	.....	1826.	....	Caries.
22	Heyfeld. ta. 12; Velpeau's Surg. ii. 793.	Roux, Ph. J., France.	France.	France.	F. 19	.....	1829.	....	Caries.
23	Heyfeld. ta. 13; Velpeau's Surg. ii. 793.	Roux, Ph. J., France.	France.	France.	F.	.....	.....	....	Caries.
24	Heyfeld. ta. 15 to 27.	Roux, Ph. J., France.	France.	France.	....	.....	.....	....	Caries.
25	Heyfeld. ta. 15 to 27.	Roux, Ph. J., France.	France.	France.	....	.....	.....	....	Caries.
26	Heyfeld. ta. 15 to 27.	Roux, Ph. J., France.	France.	France.	....	.....	.....	....	Caries.
27	Heyfeld. ta. 15 to 27.	Roux, Ph. J., France.	France.	France.	....	.....	.....	....	Caries.
28	Heyfeld. ta. 15 to 27.	Roux, Ph. J., France.	France.	France.	....	.....	.....	....	Caries.
29	Hodges' Exc. p. 47.	Chorley, Leeds.	Leeds Infirmary	England.	?	.....	1819.	....	For disease.
30	Heyfeld. ta. 8.	Dupuytren, France.	France.	France.	?	.....	1819.	....	Caries.
31	Heyfeld. ta. 9.	Dupuytren, France.	France.	France.	?	.....	1819.	....	Caries.
32	Velpeau's Surg. by Pattison, 271; Western Med. & Phys. Jour. 354; Hodges' ta. 7.	Crampton, Philip, Dublin, Ireland.	Dublin General Hospital.	Ireland.	M, 23	10 mos. standing.	Feb. 4, 1823.	....	Caries of right joint.
33	Heyfeld. Part. ta. 77.	Textor, K., Würzberg, Germany.	Germany.	Germany.	M. 45	.....	1823.	....	Complicated luxation.
34	Heyfeld. Part. ta. 7.	Crampton, Philip, Dublin.	Dublin General Hospital.	Ireland.	?	.....	1827.	....	Caries.
35	Heyfeld. ta. 28.	Delpech, Prof. Paris, France.	France.	France.	....	.....	.....	....	Caries.
36	Heyfeld. ta. 29.	Delpech, Paris. France.	France.	France.	....	.....	.....	....	Caries.
37	Heyfeld. ta. 30.	Delpech, Paris, France.	France.	France.	....	.....	.....	....	Caries.
38	Syme's Surg. Works, 671; Hodges.	Syme, James, Edinburgh.	Edinb'gh Surgical Hospital.	Y——. Strength and appetite fair.	M. 24	14 mos. standing. No cause kn'n.	Nov. 3, 1828.	....	Caries of left elbow-joint; lower limb œdematous.
39	Syme's Surg. Works, 673.	Syme, James, Edinburgh.	Edinb'gh Surgical Hospital.	L——, A. "Gen'l health restored."	M. 8	Feb. 1828. From fall.	1st, Oct. 20, 2d, Nov. 27, 1828.	....	Caries of left joint.
40	Syme's Surg. Works, 675; Hodges' ta. 33; Am. Jour. Med. Sci. v. 229.	Syme, James, Edinburgh.	Edinb'gh Surgical Hospital.	Fitzpatrick, O A ship carpenter from Liverpool.	M. 40	About 1 year's standing. No cause kn'n.	Few days after Jan. 1, 1829.	....	Caries and abscess of left joint.
41	Cooper's Dis. & Fract. 414.	McIntyre, Newcastle, England.	Newcastle, England.	Spence, Jas., England.	M. 49	Mar. 10, 1829.	Mar. 10, 1829.	P.	Compound fracture of bones of joint.
42	Syme's Surg. Works, 676.	Syme, James, Edinburgh.	Surgical Hospital, Edinb'gh.	Burns, Janet, Carnwarth, Scotland.	F. 25	1 year's standing.	After May 8, 1829.	....	Caries of the joint.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
21	H	Complete excision.	Recovered.	.....	Was a knife grinder for 10 or 12 years.	12 years.	
22	H	Complete excision.	Recovered.	.....	"Resumed her profession as seamstress, and afterwards served as a chambermaid."		
23	H	Complete excision.	Died, 3 days after, of hemorrhage	.....	"Amputated for sudden hemorrhage."		
24	H	Complete excision.	Died, from consequences of operation.				
25	H	Complete excision.	Recovered.	.....	?		
26	H	Complete excision.	Recovered.				
27	H	Complete excision.	Recovered.				
28	H	Complete excision.	Recovered.				
29	?	Complete excision.	?	.....	?		
30	H	Complete excision.	Recovered.	.....	?		
31	H	Complete excision.	Recovered.	.....	?		
32	H	3 inches of humerus; olecranon and surface of articular cartilages of radius and ulna.	Recovered, 7 months.	.....	"Uses hand and spoon; slightly raises forearm; signed his own discharge."	7	
33	Λ	Head of radius.	Recovered.	.....	"Unsuccessful; anchylosis in straight position."		
34	?	Partial humerus and olecranon.	Recovered.	.....	"Good."		
35	?	Complete excision.	Recovered.	.....	"Good."		
36	?	Complete excision.	Recovered.	.....	"Good."		
37	?	Complete excision.	Recovered.	.....	"Good."		
38	H	Ulna as far as coronoid process; humerus above tuberosities; head of radius.	Recovered.	.....	"Uses hand perfectly; regained command of elbow."	11	
39	+	1st. Olecranon and loose pieces. 2d. Coronoid process; head of radius; articulating surface of humerus.	Recovered.	.....	"Wound nearly healed in 3 weeks; elbow nearly stiff; other joints of member perfect; muscles of member retain full strength."	Several	
40	H	Head of radius; articular surfaces of ulna and humerus, and ulnar tuberosity.	Recovered, 3 months.	.....	"Rotation, extension, and flexion hardly, if at all, impaired."	13	Vague rumors that disease returned, and that patient is under treatment in some one of the Dublin Hospitals.
41	None, parts lacer.	Humerus as high as condyles; 2 inches of radius and ulna.	Recovered.	.....	"Has good use of his arm."	56	
42	H	Complete excision.	Recovered.	.....	"Regained use of joint almost completely."	Over 12	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
43	Lond. Med.Gaz. iv. 381.	Probably Hawkins, C. H., 26 Grosvenor St. W. London.	Saint George's Hospital, London.	McLean, Isabel, Gen'l health impaired.	F. 26	?	July 6, 1829.	....	Caries, ulceration cartilages, and abscesses of joint.
44	Syme's Surg. Works, 677.	Syme, James, Edinburgh.	Surgical Hospital, Edinb'gh.	Wells, John.	M. 9	Sev. mos. b'fore from fall.	July, 1829.	....	Caries and sinuses of left joint; member much swollen.
45	Syme's Surg. Works, 679.	Syme, James, Edinburgh.	Surgical Hospital.	Johnston, Elizabeth, Falkirk. "Strength rapidly failing."	F. 15	6 mos. before; no kn'n cause	Sept. 1829.	....	Suppurative arthritis of right joint; skin ulcerated, and limb largely swollen.
46	Heyfeld. ta. 35.	Syme, James, Edinburgh.	Surgical Hospital.	?	M. 2	.....	1829.	....	Suppurative arthritis.
47	Heyfeld. Part. ta. 2.	Jaeger, Michael, Berlin.	Germany.	Germany.	M. 37	.....	1829.	....	Caries.
48	Heyfeld. Part. ta. 41.	Jaeger, Michael, Berlin.	Germany.	Germany.	....	.....	1829.	....	Caries.
49	Velpeau's Surg. ii. 797.	Ansaiux. France.	France.	France. Patient wasted away from suppuration.	?	60 days b'fore operation.	Before 1829.	S.	Caries, from effects of a burn; eschar torn off; olecranon separated spontaneously.
50	Syme's Surg. Works, 682.	Syme, James, Edinburgh.	Surgical Hospital.	Page, James, Auchtermuchty, Scotland.	M. 8	.....	Jan. 12, 1830.	....	Caries; right elbow much enlarged and stiff; sinuses.
51	Syme's Surg. Works, 682.	Syme, James, Edinburgh.	Surgical Hospital.	Alexander, James, Arbroath, Scotland.	M. 9	18 mos. standing.	Feb. 9, 1830.	....	Caries and sinuses of joint.
52	Syme's Surg. Works, 683.	Syme, James, Edinburgh.	Surgical Hospital.	Mallock, John Perth, Scotland. Emaciated and careworn.	M. 40	7 years before, from fall.	June 25, 1830.	....	Suppurative arthritis of left joint; elbow enlarged; sinuses; abscesses.
53	Syme's Surg. Works, 710.	Spence, ——, Ottey, Yorkshire.	England.	Fox, Nancy, Tulnee, near Leeds.	F. 36	30 years' standing, from an injury.	June, 1830.	....	Caries; enlargement and fistulæ of joint; probably from partial dislocation.
54	Syme's Surg. Works, 686.	Syme, James, Edinburgh.	Surgical Hospital.	Forret, David, Cupar, Scotland. "Pale and excessively thin; health failing rapidly."	M. 28	9 mos. before; no cause kn'n.	July 19, 1830.	....	Suppurative arthritis of right joint; abscesses; sinuses; degeneration of synovial membrane.
55	Syme's Surg. Works, 688.	Syme, James, Edinburgh.	Surgical Hospital.	Walker, ——, Dunkeld, Scotland.	M. 8 or 9	From injury 5 w'ks before.	Aug. 1830.	S.	Injury of the ulna (left) involving joint; soft parts ground off over joint.
56	Syme's Surg. Works, 689.	Syme, James, Edinburgh.	Surgical Hospital.	Finlay, Wm., Cockpen, Scotland.	M. 23	6 mos. before; no cause kn'n.	Sept. 6, 1830.	....	Suppurative arthritis; abscesses; degeneration of synovial membrane; separation of cartilages.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
43	I	Olecranon; condyles of humerus; head of radius.	Probably Recovered.	.....	"Wound healed; patient's health much improved."	1	
44	H	Whole spongy end of ulna; end of humerus; head of radius.	Recovered.	1	"Almost complete restoration of all motions and power of member."	Several years.	
45	H	End of ulna and humerus, and head of radius.	Recovered, 1 month.	.....	"She regained excellent use of the joint; in June, 1830, returned to hospital with disease of the wrist-joint, and a sinus leading into the radius, which was thought to require amputation above elbow, which was done."	After 8	Disease of wrist brought on by doing too much work; dissection of elbow showed no disease present in that joint.
46	H	Complete excision.	Recovered.	.....	"Undetermined."		
47	?	Lower end of humerus and radius.	Recovered, 2½ months.	.....	"Perfect."	2½	
48	⊥	External condyle.	Recovered.	.....	"Good; anchylosis at right angle."	?	
49	?	1½ inches of humerus.	Recovered.	.....	"Permanent flexion of forearm from the destruction of biceps tendon by the burn; rotation sufficiently marked."		
50	H	Complete excision.	Recovered, 2 months.	.....	"Use of hand not impaired; brings it to head; very limited motion of elbow."	6	
51	H	"All the articulating surfaces."	Recovered, 3 months.	.....	"Motion a good deal limited; the limb equally as strong as the other, and as useful for many purposes as the other."	10¼	
52	⊔ I	Articulating extremities of the three bones.	Died, 36 days, pyæmia.				
53	H	Condyles; olecranon; upper end of ulna and head of radius.	Recovered.	.....	"Considerable power of flexion and extension; can go through with her ordinary avocations."	7	
54	+	Humerus above condyles; ulna below coronoid process; head of radius.	Recovered.	.....	"Can carry arm to head; and feed himself with it, joint very flexible, and capable of motion in any direction."		
55	?	Articulating extremities of the three bones.	Recovered, 3 weeks.	.....	Motions of arm perfect, and it is daily gaining strength.	4	
56	H	Complete excision; ulna freely.	Recovered, 51 days.	.....	Subsequent to Oct. 27, 1830, the arm very movable, and daily acquiring more strength, which is already considerable."	After 1¾	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
57	Syme's Surg. Works, 690.	Syme, James, Edinburgh.	Surgical Hospital.	Rogers, Wm., Constitut'nal state bad.	M. 13	6 mos. before.	Sept. 21, 1830.	....	Chronic arthritis; swelling and sinuses of joint; caries.
58	Syme's Surg. Works, 691.	Syme, James, Edinburgh.	Surgical Hospital.	Nimmo, John.	M. 12	6 mos. before.	Oct. 1, 1830.	....	Chronic arthritis, swelling, and sinuses; left joint; caries.
59	Heyfeld. ta. 60.	Fergusson, William, 16 George St., W. London.	King's College, London.	England.	M. 8	.....	1830.	....	Caries.
60	Heyfeld. ta. 82.	Marore, France.	France.	France.	F. 14	.....	.....	....	Complicated fracture.
61	Heyfeld. ta. 83.	Moisisowitz.	?	?	....	.....	.....	....	.....
62	Heyfeld. ta. 85.	Santon.	?	?	....	.....	.....	....	Caries.
63	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	.....
64	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	.....
65	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	.....
66	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
67	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
68	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
69	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
70	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
71	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
72	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
73	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
74	Heyfeld. ta. 47 to 59; Velpeau's Surg. ii. 794.	Textor, K., Würzburg, Bavaria.	Germany.	Germany.	....	.....	.....	....	Caries.
75	Med.-Chir. Rev. xix. 256, 1833.	Sterling, John, Glasgow.	Royal Infirmary Glasgow.	D——, F.	M. 11	?	Prob. July 19, 1832.	....	Disease of left joint.
76	Med.-Chir. Rev. xix. 256, 1833.	Sterling, John, Glasgow.	Royal Infirmary Glasgow.	A——, J. "Phthisical."	?	.....	Oct. 14, 1832.	....	Rheumatic arthritis of left joint, with ulceration of cartilages.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
57	H	Upper ¼ of ulna; olecranon and radius; portion of end of humerus.	Died, 10 days, exhaustion and irritation.	.....	Limb amputated Sept 30, —.		
58	H	Complete excision.	Recovered, 27 days.	.....	"After this date the progress in regaining use of arm very satisfactory."	1	
59	H	Complete excision.	Recovered.	.....	"Good mobility of joint."	?	
60	?	Complete excision.	Recovered.	.....	"Good."	?	
61	.....	Complete excision.	?				
62	.....	Complete excision.	Recovered.	.....	"Good."		
63	∧	Total excision.	Recovered.	.....	"Good."		
64	∧	Total excision.	Recovered.	.....	"Good."		
65	∧	Total excision.	Recovered.	.....	"Good."		
66	∧	Total excision.	Recovered.	.....	"Good."		
67	∧	Total excision.	Recovered.	.....	"Good."		
68	∧	Total excision.	Recovered.	.....	"Good."		
69	∧	Total excision.	Recovered.	.....	"Good."		
70	∧	Total excision.	Recovered.	.....	"Good."		
71	∧	Total excision.	Recovered.	.....	"Good."		
72	∧	Total excision.	Recovered.	.....	Limb amputated.		
73	∧	Total excision.	Died, pyæmia.	.....	?		
74	∧	Total excision.	Died, phthisis.	.....	?		
75	?	Lower end of humerus; upper ulna and radius.	Recovered.	.....	"Successful."	7½	
76	?	Complete excision.	Died, 39 days, phthisis.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
77	Bost. Med. and Surg. Journal, vi. 243; Am. Jour. Med. Sci., x. 249; Heyfeld. ta. 84.	Kerr, David, Aberdeen.	Scotland.	Scotland.	M. 16	10 mos. standing.	1831.	....	Caries.
78	Heyfeld. ta. 61.	Jaeger, Michael, Berlin.	Germany.	Germany.	M. 15	.....	1833.	....	Caries.
79	Cooper's Dis. & Fract. 415.	McIntyre, Newcastle.	Newcastle Infirmary	Forster, Joseph.	M. 21	Mar. 18, 1834. from blow.	Mar. 18, 1834.	P.	Compound comminuted fracture of the joint.
80	Hodges' Exc. p. 46, and table; Heyfeld. ta. 88.	Warren, John C., Boston.	Boston.	Mass.	....	.....	Oct. 16, 1834.	....	Caries.
81	Heyfeld. ta. 62.	Jaeger, Michael, Berlin.	Germany.	Germany.	M. 17	.....	1834.	....	Caries.
82	Heyfeld. ta. 63.	Jaeger, Michael, Berlin.	Germany.	Germany.	M. 17	.....	1834.	....	Caries.
83	Heyfeld. ta. 64.	Jaeger and Ried.	Germany.	Germany.	M.	.....	1834.	....	Caries.
84	Heyfeld. ta. 65.	Dietz, Germany.	Germany.	Germany.	....	.....	.....	....	Caries.
85	Heyfeld. ta. 66.	Dietz, Germany.	Germany.	Germany.	....	.....	.....	....	Caries.
86	Heyfeld. Part. ta. 48.	Textor, K., see Case 33.	Germany.	Germany.	....	.....	1834.	....	Caries.
87	Am. Jour. Med. Sci., xix. 341.	Harris, Thomas, Philadelphia.	Penna. Hospital.	Plunkett, Mary.	F. 26	?	June 5, 1835.	....	Caries following synovitis, with ulceration of cartilages of joint.
88	Lancet, ii. 56, 1854; Hodges' ta. 42.	Key, C. Aston, London.	Guy's Hospital.	England.	M. 30	?	June 9, 1835.	....	Chronic arthritis of right joint.
89	Heyfeld. ta. 86.	Morgan.	?	?	....	.....	1835.	....	Caries.
90	Heyfeld. Part. ta. 24.	Hublier.	?	?	....	.....	.....	....	Complicated luxation.
91	Heyfeld. Part. ta. 49.	Blasius, Halle, Germany.	Germany.	Germany.	....	.....	1836.	....	Caries.
92	Lancet, i. 877, 1836-7.	Liston, Robert, London.	North London Hospital.	S——, A. Seamstress. Health improved since admission.	F. 24	2 years' standing.	Jan. 7, 1837.	....	Rheumatic arthritis, with degeneration of synovial membrane (right).
93	Heyfeld. ta. 75 to 80.	Fricke, Hamburg.	Germany.	Germany.	....	.....	No later than 1837.	....	Caries.
94	Heyfeld. ta. 75 to 80.	Fricke, Hamburg.	Germany.	Germany.	....	.....	No later than 1837.	....	Caries.
95	Heyfeld. ta. 75 to 80.	Fricke, Hamburg.	Germany.	Germany.	....	.....	No later than 1837.	....	Caries.
96	Heyfeld. ta. 75 to 80.	Fricke, Hamburg.	Germany.	Germany.	....	.....	No later than 1837.	....	Caries.
97	Heyfeld. ta. 75 to 80.	Fricke, Hamburg.	Germany.	Germany.	....	.....	No later than 1837.	....	Caries.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
77	?	Complete excision.	Recovered.	.....	"Good."	Jan.	
78	⊥	Complete excision.	Recovered.	.....	"Good."	24	Died 2 years after of phthisis.
79	Wound enlarged.	"Head of humerus; 3 inches of radius and ulna."	Recovered, 3 months.	.....	"Arm slightly movable at joint; in bent position; can use it in any direction with great strength."	3	
80	?	Complete excision.	Died.				
81	⊥	Complete excision.	Recovered.	.....	"Good."		
82	⊥	Complete excision.	Died, phthisis.				
83	?	Complete excision.	Recovered.	.....	"Good; mobility established after two years."	24	
84	H	Complete excision.	Recovered.	.....	"Good."		
85	H	Complete excision.	Died, phthisis.				
86	∧	Partial excision; portion of radius and ulna.	Recovered.	.....	"Good."		
87	H	Olecranon process; head of radius, and diseased surfaces of ulna and humerus.	Recovered, 6 months.	.....	"Arm very little deformed; considerable motion of new joint; able to work hard at her accustomed work."	6	
88	?	Complete excision.	Recovered, 6 months.	.....	"Brings hand to head; writes; considerable voluntary motion; sinuses closing; health good."	11	
89	?	Complete excision.	Recovered.	.....	"Good."		
90	.....	Partial excision; lower end of humerus.	Recovered.	.....	"Good."		
91	.....	Extremities of both bones of forearm.	Recovered.	.....	"Good."		
92	⊢	Head of radius; olecranon and to level of coronoid process; humerus through condyles.	Uncertain.	.....	.....	.....	Last report but one day after operation.
93	?	Complete excision.	Recovered.	.....	"Good."		
94	?	Complete excision.	Recovered.	.....	"Good."		
95	?	Complete excision.	Recovered.	.....	"Good."		
96	?	Complete excision.	Recovered.	.....	"Good."		
97	?	Complete excision.	Died.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
98	Med.-Chir.Rev. xxxiii.549, 1840.	Busk, London.	Dreadnaught Hospital Ship.	"A man."	M. ad't	.....	Nov. 1837.	....	Not stated.
99	Heyfeld. Part. ta. 19.	Morgan, England.	England.	England.	M. 41	.....	1837.	P.	Complicated fracture, involving joint.
100	Heyfeld. ta. 89.	Davidson.	England.	England.	....	.....	.....	....	Caries.
101	Heyfeld. Part. ta. 25.	Metz, H., Germany.	Germany.	Germany.	....	.....	Before 1838.	....	Caries.
102	Heyfeld. ta. 67 to 74.	Dietz, Germany.	Germany.	Germany.	....	.....	Up to 1838.	....	Caries.
103	Heyfeld. ta. 67 to 74.	Dietz, Germany.	Germany.	Germany.	....	.....	Up to 1838.	....	Caries.
104	Heyfeld. ta. 67 to 74.	Dietz, Germany.	Germany.	Germany.	....	.....	Up to 1838.	....	Caries.
105	Heyfeld. ta. 67 to 74.	Dietz, Germany.	Germany.	Germany.	....	.....	Up to 1838.	. ..	Caries.
106	Heyfeld. ta. 67 to 74.	Dietz, Germany.	Germany.	Germany.	....	.....	Up to 1838.	....	Caries.
107	Heyfeld. ta. 67 to 74.	Dietz, Germany.	Germany.	Germany.	....	.....	Up to 1838.	....	Caries.
108	Heyfeld. ta. 67 to 74.	Dietz, Germany.	Germany.	Germany.	....	.....	Up to 1838.	....	Caries.
109	Lancet, i. 292, 1838–9.	Liston, Robt., London.	Univ. College Hospital, London.	B——, J. Gen'l health greatly impaired.	M. 31	2½ years' standing.	Oct. 15, 1838.	....	Caries; abscess and thickening of articular surfaces of right joint; result of rheumatic arthritis.
110	Braith. Retro., Part 6, p. 148; Am. Jour. Med. Sci., N. S., v. 208; Hodges' ta. 17.	Robert, Ferd., Marburg, Germany.	Germany.	Germany.	F. 28	Some mos. standing, fall on elb'w	About April, 1840.	....	Caries; sinuses; joint swollen (right).
111	Hodges' ta. 108; Heyfeld. Res. & Ampt. 145.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	F. 33	.....	April 14, 1840.	....	Chronic arthritis (morb. cox.) of right joint.
112	Am. Jour. Med. Sci., N. S., ii. 20; Ibid. v. 208; Hodges' ta. 31.	Roux, Ph. J., Paris, France.	France.	France.	F. 41	.....	July, 1839, to Sept. 1840.	....	Caries of bones of left elbow.
113	Am. Jour. Med. Sci., N. S., ii. 20; Ibid. v. 208; Hodges' ta. 32.	Roux, Ph. J., Paris, France.	France.	France.	M. 22	.....	July, 1839, to Sept. 1840.	....	Swelling of right joint, with abscesses and fistulæ.
114	Am. Jour. Med. Sci., N. S., ii. 20; Ibid. v. 208.	Roux, Ph. J., Paris, France.	France.	France.	M. 59	.....	July, 1839, to Sept. 1840.	....	Morb. cox. of left joint, with enormous fungous growths and fistulæ.
115	Am. Jour. Med. Sci., N. S., ii. 20; Ibid. v. 208; Hodges' ta 29.	Roux, Ph. J., Paris, France.	France.	France.	M. 35	.....	July, 1839, to Sept. 1840.	....	Caries of the three bones of left joint.
116	Am. Jour. Med. Sci., N. S., ii. 20; Ibid. v. 208; Hodges' ta. 28.	Roux, Ph. J., Paris, France.	France.	France.	M. 26	.....	July, 1839, to Sept. 1840.	....	Morb. cox. of left joint, with abscess.
117	Am. Jour. Med. Sci., N. S., ii. 20; Ibid. v. 208.	Roux, Ph. J., Paris, France.	"Hôtel Dieu."	France.	M. 40	.....	July, 1839, to Sept. 1840.	....	Morb. cox. of right joint, with abscess.
118	Braith. Retro., Pt. 2, p. 123.	Cooper, B., London.	London.	England.	M. ?	.....	No later Nov. 7, 1840.	....	Caries.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
98	?	Upper end of radius and ulna, and lower end humerus; right side.	Recovered.	.....	Flexion to right angle; extension complete; pronation and supination; arm only not so strong as other.	36	
99	?	Extremity of humerus, and all of end of ulna.	Recovered.	.....	"Good."		
100	?	Complete excision.	Recovered.	.....	"Good."		
101	?	Lower end of humerus, and all of upper end of ulna.	Recovered.	.....	"Good."		
102	H	Complete excision.	Recovered.	.....	"Good."		
103	H	Complete excision.	Recovered.	.....	"Good."		
104	H	Complete excision.	Recovered.	.....	"Good."		
105	H	Complete excision.	Recovered.	.....	"Good."		
106	H	Complete excision.	Recovered.	.....	Anchylosis resulted.		
107	H	Complete excision.	Recovered.	.....	Anchylosis resulted.		
108	H	Complete excision.	Recovered.	.....	Anchylosis resulted.		
109	⊢	Head of radius and ulna; articular surface and condyles of humerus.	Recovered.	.....	Arm in sling; health improving.	¾	Longitudinal internal or external transverse incision (see Lancet, 1850, vol. i. 614).
110	?	Humerus above condyles; ulna below coronoid process; radius at neck.	Recovered, 18 months.	.....	"Free motion of member in all directions; carries hand to head; lifts chair; grip of hand medium; pronation moderate."	26	Holds her sewing with the hand; wears a leather splint around elbow.
111	.....	Total excision.	Recovered, 9 months.	.....	Fibrous joint; useless limb; at end of 3 years amputated.	36	
112	⊢	Total excision.	Recovered, 5 months.	.....	"Re-establishment of all the motions."	5	Longitudinal external and external transverse incisions (Lancet, 1850, vol. i. 614).
113	⊢	Total excision.	Recovered, 11 months.	.....	"Complete success."	11	
114	⊢	Total excision.	Recovered.	.....	"Success."	4½	
115	⊢	Total excision.	Died.	.....	.....	.....	Hodge (Thore) gives age 27.
116	⊢	Total excision.	Recovered, 4½ months.	.....	"Complete success."	4½	
117	⊢	Total excision.	Recovered.	.....	"Still in hospital; wound nearly healed."		
118	H	1 inch of olecranon, and the diseased portion of ulna and humerus.	Uncertain.	.....	"Doing well same day."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
119	Hodges' ta. 43; Med.-Chir. Rev. xxxiii. 247, 1840.	Key, C. Aston, London.	Guy's Hospital, London.	England.	M. 26	.....	No later than 1840.	....	Caries of right elbow.
120	Heyfeld. Part. ta. 62.	Textor, K., see Case 33.	Germany.	Germany.	M. 19	.....	1840.	....	Caries of right elbow.
121	Heyfeld. Part. ta. 68.	Textor, K., Sr. see Case 33.	Germany.	Germany.	....	.....	1840.	....	Complicated fracture.
122	Heyfeld. Part. ta. 69.	Jaeger, Michael, see Case 48.	Germany.	Germany.	F. 70	.....	1840.	....	Complicated fracture.
123	Heyfeld. Part. ta. 70.	Lehmann, Germany.	Germany.	Germany.	....	.....	.....	....	Complicated luxation.
124	Heyfeld. Part. ta. 72.	Textor, K., Sr. see Case 33.	Germany.	Germany.	....	.....	.....	....	Caries of joint.
125	Heyfeld. Part. ta. 72.	Textor, K., Sr. see Case 33.	Germany.	Germany.	....	.....	.....	....	Caries of joint.
126	Heyfeld. Part. ta. 72.	Textor, K., Sr. see Case 33.	Germany.	Germany.	....	.....	.....	....	Caries of joint.
127	Heyfeld. Part. ta. 73.	Textor, Son.	Germany.	Germany.	....	.....	.....	....	Caries of joint.
128	Heyfeld. Part. ta. 73.	Textor, Son.	Germany.	Germany.	....	.....	.....	....	Caries of joint.
129	Heyfeld. Part. ta. 78.	Roux, Ph. J. Paris, France.	France.	France.	....	.....	.....	....	Complicated luxation.
130	Letter, 1872; Am. Jour. Med. Sci., N. S., ii. 249.	Buck, Gurdon 46 W. 29th St. New York.	N. York Hospital.	Wharton, John.	M. 25	.....	Jan. 16, 1841.	....	Abscess of the right joint, with caries.
131	Heyfeld. table Total Excision, 15 to 27; Velpeau's Surg. ii. 793.	Roux, Ph. J., Paris, France.	France.	France.	....	.....	.....	S.	Caries.
132	Lancet, i. 887, 1841–42.	Liston, Robt. London.	Univer. College Hospital.	H——, Wm. "General health improved by treatment."	M. 12	8 mos. standing, no cause stat'd	Dec. 6, 1841.	S.	Abscess and ulceration of ligaments of right joint.
133	Heyfeld. Part. ta. 8.	Textor, K., see Case 33.	Germany.	Germany.	....	.....	1841.	....	Caries.
134	Hodges' ta. 44; Heyfeld. Part. ta. 9.	Key, C. A., see Case 119.	Guy's Hospital, England.	England.	M. 43	.....	1841.	....	Caries of left elbow.
135	Lancet, ii. 798, 1841–42.	Liston, Robt., London.	Univer. College Hospital.	F——, Wm., "General health greatly impaired."	M. 18	2 years' standing.	May 6, 1842.	....	Abscesses; caries of joint, with sinuses; from sprain.
136	Am. Jour. Med. Sci., N. S., v. 297; Records New York Hospital, by Surg. Gray; Letter from Operator; Heyfeld. Part. ta. 71; Rank. Abstract, v. 97, 1847.	Buck, Gurdon see Case 130.	N. York Hospital.	McCormick, John.	M. 28	Over 1 year before.	Oct. 2?, 1842.	S.	Anchylosis of joint, with limb in straight position.
137	Hodges' Exc. p. 47, ta. 26; Pancoast's Oper. Surg. p. 123.	Pancoast, Joseph, Philadelphia.	Philadelphia.	United States. Lived 20 miles from Philadelphia; much constitutional irritation.	M. ad't	.....	1842.	....	Fungus of the joint, with caries of the ends of the three bones; abscesses about joint; synovial membrane soft and pulpy (right side).

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
119	?	Complete excision.	Recovered.	.....	Successful in a great degree.	.....	"Resumed occupation—postman."
120	∧	Decapitation of the ulna.	Recovered.	.....	"Perfect; mobility perfect."		
121	∧	Olecranon process.					
122	⊥	Olecranon process.	Died.				
123	?	Olecranon process.	Recovered.	.....	"Good."		
124	∧	Olecranon process.	Recovered.	.....	"Good."		
125	∧	Olecranon process.	Recovered.	.....	"Good."		
126	∧	Olecranon process.	Recovered.	.....	"Good."		
127	?	Olecranon process.	Recovered.	.....	"Partial success."		
128	?	Olecranon process.	Recovered.	.....	"Partial success."		
129	T	Decapitation of radius.	Recovered.	.....	"Unsuccessful; anchylosis of joint; member in straight position."		
130	H	Complete excision.	Recovered, 4 months.	.....	"Considerable use of joint; could sweep and write, and with aid of other hand flexed arm and brought the hand to mouth."	4½	
131	H	Total excision.	Died, from the consequences of the operation.	.....	?	.....	This case is added here as it was omitted in numbering the cases of this table.
132	⊢	Ends of humerus, ulna, and radius.	Recovered.	.....	"Doing well Feb. 12, 1842."	2¼	
133	∧	End of humerus and the olecranon.	Recovered.	.....	"Good."		
134	?	Olecranon and end of humerus.	Recovered, 6 weeks.	.....	"Good."	.....	"Can raise a heavy stool above his head."
135	⊢	"Heads of the bones."	Recovered.	.....	"After several weeks, increased strength and utility of arm and hand; can write; arm more plump; health improved."		
136	I	1¼ inches, including olecranon process, and a bony projection towards inner condyle; adhesions broken up.	Recovered.	.....	"At this time the man was satisfied with the result; could bring hand to forehead; joint flexed at right angle; pronation and supination not impaired."	12	Cavity of joint entered and arm bent to more than right angle.
137	H	Condyles and articular surface of humerus; olecranon and carious head of ulna; head of radius.	Recovered, 3 months.	.....	"Left for his home on 9th day; has a strong and useful limb, with free flexion and extension at elbow."	Many	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
138	Heyfeld. ta. 90.	Heyfelder, J. F., Erlangen, Germany.	Germany.	Germany.	M. 13	.....	1843.	....	Caries and anchylosis of joint.
139	Heyfeld. Part. ta. 50.	Emmert, Germany.	Germany.	Germany.	....	.....	1844.	....	Complicated luxation.
140	Heyfeld. ta. 91 to 93.	Blasius, Halle, Germany.	Germany.	Germany.	....	.....	.....	....	Caries of joint.
141	Heyfeld. ta. 91 to 93.	Blasius, Halle, Germany.	Germany.	Germany.	....	.....	.....	....	Caries of joint.
142	Heyfeld. ta. 91 to 93.	Blasius, Halle, Germany.	Germany.	Germany.	....	.....	.....	....	Caries of joint.
143	Letter, 1872; Rank. Abst., No. 5, pp. 95 and 97.	Buck, Gurdon see Case 130.	N. York Hospital.	Folley, B. Good constitution. Buffalo, N. Y.	M. 25	2 years' standing. no kn'n cause	July 25, 1844.	....	Caries, abscess, and sinuses of right joint.
144	Lancet, iii. 89, 1846.	Potter, H. G., Newcastle-upon-Tyne.	Newcastle Infirmary, England.	P——, W. General health good.	M. 32	2 years before, no cause kn'n.	May 27, 1845.	....	Ulceration of cartilages of joint; same denuded; osteitis.
145	Lancet, iv. 175, 1846.	Key, C. A., see Case 119.	Guy's Hospital, London.	A boy, England.	M. 9	.....	Probably before 1845.	P.	Compound comminuted fracture of internal condyle.
146	Lancet, iv. 175, 1846.	Lawrence, William, London.	Saint Bartholomew's Hospital.	E——, Jos., London. Healthy.	M. 11	Dec. 8, 1845.	Dec. 8, 1845.	P.	Compound fracture of right joint; condyle of humerus chipped off; by cog-wheels; soft parts torn.
147	Heyfeld. Part. ta. 63.	Meyer, A., Würzberg, Germany.	Germany.	Germany.	F. 11	.....	1845.	....	Caries.
148	Lancet, ii. 54, 1854; Hodges' ta. 16.	Cook, Edw'd, Dean Street South, S. E. London.	Guy's Hospital.	England.	M. ab't 45	1 year before.	1846.	....	Destruction of cartilages and suppuration, following acute inflammation of joint.
149	Heyfeld. Part. ta. 3; Hodges' ta. 30.	Textor, K., see Case 33.	Germany.	Germany.	M. 10	.....	1846.	....	Caries.
150	Heyfeld. Part. ta. 64; Hodges' No. 104.	Heyfelder, J. F., Erlangen, Germany.	Germany.	Germany.	M. 23	.....	1846.	....	Caries of right joint.
151	Lancet, viii. 255, 1848; Hodges' ta. 92.	Fergusson, William, see Case 59.	King's College, Hospital.	C——, Wm., London. "Wretched state of health."	M. 16	.....	Aug. 14, 1847.	....	Caries of right joint and ulna; no cause stated.
152	Lancet, i. 395, 1855; Hodges' ta. 13.	Syme, James, Edinburgh.	Edinburgh Surgical Hospital.	E——, A., Scotland.	M. 38	.....	1846.	?	Chronic arthritis of left elbow.
153	Hodges' ta. 107; Heyfeld. Res. and Amp., p. 142.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	M. 43	.....	Nov. 17, 1847.	....	Chronic arthritis (morb. cox.) of right joint.
154	Lancet, ii. 54, 1854; Heyfeld. ta. 110.	Cock, Edw., see Case 148.	Guy's Hospital.	C——, Peter.	M. 37	2 years' standing.	Dec. 28, 1847	....	Chronic arthritis (from fall) of left joint; caries.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
138	⊣	Complete excision.	Recovered.	.....	"Perfect; operator saw patient digging 6 years after."	72	
139	?	Ends of ulna and radius.	Recovered.	.....	"Good; member continued to perform its functions."	?	
140	?	Complete excision.	Recovered.	.....	"Good."		
141	?	Complete excision.	Recovered.	.....	"Good."		
142	?	Complete excision.	Recovered.	.....	"Good."		
143	I	1½ inches of humerus; 1 inch of olecranon, and the coronoid process; head of radius.	Recovered.	.....	Long after heard of at Buffalo, with a good and useful arm, and working elbow.	Over 12	
144	H	Olecranon and articular surface of ulna; head of radius; through condyles of humerus.	Recovered, 3 months.	.....	"Able to work a little, and has used the shovel with the affected arm."	3	
145	None; thro' torn soft parts.	Internal condyle by separating its attachments.	Recovered.	.....	"Did well."		
146	None.	External condyle by incising its attachments.	Recovered, 3 months.	.....	"Arm firmly fixed at right angle; rotation perfect; wound cicatrizing."	3	
147	?	Decapitation of ulna.	Recovered.	.....	"Perfect; mobility of joint."		
148	H	End of ulna; head of radius; articular surface, and condyles of humerus.	Recovered, 6 months.	.....	"With aid of a stout leather socket, able to earn his living by the use of his arms."	12	Several years after operation he returned with an accumulation of sero-sanguineous fluid about the site of the joint, from excessive lifting; he recovered from this disease.
149	∧	Articular ends of humerus and radius.	Died, 8 days, convulsions				
150	⊣	"Head of ulna."	Recovered, 16 weeks.	.....	"Perfect; mobility continued after 27 days."	4	
151	I	Upper ⅔ of ulna, and articulating surface of humerus.	Recovered, 7 months.	.....	"Motions limited; has the most perfect use of his hand; in good health in fall of 1847."	7	
152	H	Total excision.	Recovered, rapidly.	.....	"Knows no difference in his two arms; useful arm."	?	
153	.....	Total excision.	Recovered, 2 months.	.....	"Useful arm; works on railroad."	2	
154	H	Complete excision.	Recovered, 9 months.	.....	"Anchylosis of joint at more than a right angle; says he can make more shoes per day than any man in London."	72	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
155	Letter, 1872; Hosp. Records by Gray, Surg. U. S. A.	Buck, Gurdon, see Case 130.	New York Hospital.	Cochran, Bridget.	F. 19	.....	Nov. 19, 1848.	....	Caries of joint.
156	Lancet, ii. 42, 1850; Hodges' ta 72.	Spiers, J. R., England.	Greenock Infirmary.	L——, Thos., England. In a favorable state for operation.	M. 17	9 mos. standing, no cause stat'd	Aug. 27, 1849.	S.	Abscess and caries of the joint (left).
157	Hodges' ta. 93; Med. Times and Gaz., Jan. 3, 1852.	Fergusson, W., see Case 59.	King's College Hospital.	England.	M. 12	.....	Sept. 1 1849.	....	Chronic arthritis (morb. cox.) of right joint.
158	Lancet, i. 79, 1850.	Fergusson, W., see Case 59.	King's College Hospital.	England.	M. ab't 30	Long standing.	Oct. 13, 1849.	S.	Caries of olecranon; abscesses and sinuses of joint.
159	Rank. Abs. xii. 111.	Thompson, Dublin.	Tyrone Infirmary, Dublin.	McGhinty, Jas., Ireland. General health pretty good.	M. 13	.....	Dec. 28, 1849.	?	Caries and sinuses of left joint; member swollen.
160	Heyfeld. ta. 100; Hodges' No. 119.	Maisonneuve, France.	France.	France.	F. 32	.....	Oct. 22, 1849.	....	Suppurative arthritis.
161	Heyfeld. ta. 101.	Maisonneuve, France.	France.	France.	M. 40	.....	1849.	....	Suppurative arthritis.
162	Heyfeld. ta. 102.	Maisonneuve, France.	France.	France.	....	.....	.....	....	Caries.
163	Heyfeld. ta. 103.	Maisonneuve, France.	France.	France.	....	.....	.....	....	Caries.
164	Letter, operator, 1872; N. Y. Hosp. Records, by Surg. Gray.	Buck, Gurdon, see Case 130.	New York Hospital.	Dougherty, Geo. W.	M. 38	.....	Jan. 7, 1850.	....	Caries.
165	Lancet, i. 613, 1850.	Hancock, H., 76 Harley St., W. London.	Charing-Cross Hospital.	England. "Good state; tolerable."	M. ab't 40	16 years' standing, idiopathic	Jan. 23, 1850.	....	Caries of joint and cartilage (left); external condyle absorbed.
166	Hodges' ta. 100; Schillbach Res. der Knoch., p. 183.	Schillbach, L., Germany.	Germany.	Germany.	M. 30	.....	Mar. 11, 1850.	....	Chronic arthritis (morb. cox.) of right joint.
167	Lancet, ii. 98, 1850.	Lawrence, Wm., London.	Saint Bartholomew's Hospital.	England. "Tolerably healthy."	M. 18	1 year's standing, from fall.	April 26, 1850.	....	Caries, sinuses, and abscess of joint.
168	Lancet, Oct. 12, 1856; Hodges' ta. 12.	Walton, H. Haynes, 1 Brook St., Hanover Sq., W. London.	Saint Mary St. Hospital, London.	England.	M. 19	.....	May 19, 1850.	....	Chronic arthritis of right joint.
169	Lancet, i. 271, 1853; Hodges' ta. 2.	Stanley, London.	London.	England. Fair state.	M. 24	5 years' standing, from blow and fall.	June 22, 1850.	....	Caries and abscesses of joint.
170	Lancet, ii. 130, 1851; Ashhurst's Erichsen, p. 737.	Erichsen, J. Eric, 6 Cavendish Place, W. London.	University College Hospital, London.	T——, Joseph. "Good state of health; a coachman."	M. 31	5 years before.	June 1850.	S.	Fibro-cellular degeneration of synovial membrane, and cartilages of joint (right), with bad position of member; from sprain.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
155	I	2 inches of humerus, and olecranon process; head of radius preserved.	Recovered, 3 months.	.....	"Long after filled a cook's situation, and her mistress did not know she had a lame joint."	Over 3	
156	H	The diseased ends of the three bones.	Recovered, 8 months.	.....	Can flex arm freely, and lift 55 lbs. with it.	16	
157	.....	Total excision.	Recovered, 1 year.	.....	Useful hand; anchylosis.	12	
158	H	Olecranon process.	Doubtful.	.....	?	Same day oper'n.	
159	⊢	"Ulna half-inch below base of olecranon; head of radius, and humerus above fossa for olecranon."	Recovered.	.....	Can use wheelbarrow and carry light weights; has perfect use of limb and hand; flexion and pronation sufficient; supination excessive.		
160	⊣	Complete excision.	Recovered.	.....	"Good; flexion, extension, and supination perfect."		
161	⊣	Complete excision.	Recovered.	.....	"Good."		
162	⊣	Complete excision.	Died.				
163	⊣	Complete excision.	Recovered.	.....	?		
164	I	Lower end of humerus; coronoid and olecranon; ulna and head of radius.	Recovered, 5 months.	.....	January 23, 1850, amputation at shoulder-joint.	5	
165	H	Lower articular surface of humerus; olecranon and head of radius.	Uncertain.	.....	Doing well 12 days after.	½	
166	.....	Total excision.	Recovered, 9 months.	.....	Useful arm; resumed his trade of carpenter.	9	
167	H	Olecranon; head of radius; condyles and articular end of humerus.	Uncertain.	.....	?	Same day.	
168	?	Total excision.	Recovered, 2 months.	.....	"Anchylosis of joint; wrist and fingers useful."	2	
169	H	Olecranon and coronoid processes, and few pieces of ulna.	Recovered, 8 months.	.....	Anchylosis of joint in rectangular position of member.	7½	
170	⊥	Head of radius; articular surface of ulna, humerus, and olecranon.	Recovered, 9 months.	.....	Wound healed; extremely useful limb; flexion and extension; uses hand for ordinary purposes; lifts a coal scuttle; carries pail of water; able to drive and do all duties of his employment nearly as well as if his arm in normal condition.	24	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
171	Heyfeld. ta. 107.	Chassaignac, France.	France.	France.	M. 45	.....	1850.	S.	Suppurative arthritis.
172	Heyfeld. ta. 108.	Maisonneuve, France.	France.	France.	F. 25	.....	1850.	S.	Caries.
173	Heyfeld. Part. ta. 76.	Heine, C., Würzberg.	Germany.	Germany.	....	.....	.....	S.	Caries.
174	Rank. Abstract, No. 16, p. 166; Lancet, i. 52, 1853.	Smith, Henry, 82 Wimpole St., W. Lond.	Westminster General Dispensary.	Blareau, Omer. "Thin and pale; health giving way."	M. 10	4 mos. before.	July 30, 1851.	S.	Caries; abscesses; swelling of left joint; from a blow; humerus necrosed through half its extent.
175	Lancet, i. 335, 1853.	Erichsen, J. Eric, see Case 170.	University College Hospital, London.	D——, J. Healthy looking.	F. 5	6 mos. before.	Dec. 3, 1851.	S.	Caries; abscess; sinuses of right joint; from injury.
176	Lancet, i. 335, 1853; Hodges' ta. 66.	Erichsen, J. Eric, see Case 170.	University College Hospital, London.	H——, Margaret. Scrofulous diathesis.	F. 8	2 years before.	1st, Dec. 17, 1851. 2d, Mar. 3, 1852.	S.	Caries; abscess; sinuses and false anchylosis; right joint.
177	Hodges' ta. 87; Association Journal, June 23, 1854.	Russell, J., United States.	U. S.	U. S.	M. 49	.....	May 30, 1851.	....	Chronic arthritis (morb. cox.).
178	Lancet, ii. 55, 1854; Heyfeld. ta. 106.	Cock, Edw., see Case 148.	Guy's Hospital, London.	L——, Ralph. Healthy.	M. 50	Feb. 9, 1852.	Feb. 9, 1852.	P.	Compound fracture of lower end of humerus, involving right joint (joint crushed); from fall.
179	Lancet, i. 335, 1853.	Erichsen, J. Eric, see case 170.	University College Hospital, London.	H——, Wm. "Delicate appearance."	M. 12	3 years before.	Feb. 25, 1852.	S.	Caries; abscess; sinuses of right joint; no cause (in the beginning) stated; anchylosis.
180	Hodges' ta. 91; Med. Times and Gaz., May 1, 1852.	Jones, C. M., Jersey Island, England.	Hospital, Jersey Island.	Jersey Island.	M. 38	.....	Mar. 30, 1852.	....	Chronic arthritis (morb. cox.) of left joint.
181	Lancet, i. 333, 1853.	South, J. F., Blackheath Park, S. E. London.	Saint Thomas Hospital, London.	D——, Wm. "Health failing, and much debility."	M. 35	10 mos. standing.	April 3, 1852.	S.	Caries; abscess; sinuses of left joint (no cause stated).
182	Lancet, i. 270, 1853; Hodges' ta. 1; Braith. Retro., Part 27, p. 115.	Fergusson, Wm., see Case 59.	King's College Hospital.	B——, Mary.	F. 44	7 years' standing.	May 29, 1852.	....	Caries; necrosis; abscess of joint; no cause stated.
183	Hodges' ta. No. 114.	Wood, Jas. R., New York.	New York.	United States.	M. 10	.....	May, 1852.	....	Chronic arthritis of right joint.
184	Braith. Retro., Part 27, pp. 114, 117; Lancet, i. 269, 1853; and i. 50, 1855.	Fergusson, Wm., see Case 59.	King's College Hospital.	Gaskin, Geo., Sailor.	M. 34	7 years before.	Oct. 9, 1852.	S.	Luxation of humerus and anchylosis of joint, with member in straight position.
185	Braith. Retro., Part 31, p. 104.	Jones, G. M., Jersey Island, Channel.	Jersey Hospital.	?	F. 50	?	About Oct. 1852.	S.	Chronic arthritis.
186	Braith. Retro., Part 27, p. 116; Lancet, i. 271, 1853.	Fergusson, Wm., see Case 59.	King's College Hospital.	Gough, Ann.	F. 30	2 years standing.	Nov. 27, 1852.	S.	Degeneration of synovial membrane and cartilages, with caries of right joint.
187	Heyfeld. ta. 109.	Maisonneuve, France.	France.	France.	M. 31	.....	1852.	S.	Caries.
188	Heyfeld. ta. 112.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	F. 61	.....	1852.	S.	Caries.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
171	I	Complete excision.	Recovered.	.....	"Good."		
172	H	Complete excision.	Recovered.	.....	"Good."		
173	.....	Decapitation of olecranon.	?	.....	?		
174	H	Head of radius; olecranon and lower end of humerus.	Recovered.	.....	"At the 3d week joint doing well, when he fell, injuring the member, so that it was necessary to disarticulate at the shoulder-joint."		
175	⊥	Olecranon and articular surfaces of ulna and humerus; radius not touched.	Died, 14 days, pyæmia.				
176	⊥	1st. Portion of ulna, for caries. 2d. Remains of head of ulna, and articular surface of humerus and radius.	Recovered, 4 months.	.....	"Firmly cicatrized, and has very useful motions of the joint."	4	
177	.....	Not stated.	Died, 10 months after.	.....	Amputated for pain.	10	
178	Enlarged the wound.	3 inches of humerus; olecranon and coronoid process; 18 fragments in all.	Recovered, 6 months.	.....	"Complicated by acute inflammation of member from hand to shoulder; just beginning to use his hand and arm; not able to work."	18	
179	⊥	Olecranon and portion of outer condyle.	Recovered, 7 weeks.	.....	"Arm regained a good deal of strength, and is used for most ordinary purposes."	1¾	
180	.....	Total excision.	Recovered, 6 months.	.....	Useful arm; works like other people.	6	
181	T	Olecranon; head of radius; humerus just above condyles.	Died, 16 days, erysipelas.				
182	H	Olecranon; end of humerus and radius.	Recovered, 8 months.	.....	"Wound cicatrized; motions of joint gradually returning; useful arm."	8	"Operator condemned for not amputating."
183	?	Complete excision.	Recovered, 2 months.	.....	Good strength and motion.	2	
184	H	Articular end of humerus; upper end of ulna and head of radius (wedge-shaped).	Recovered, 3 months.	.....	At 3 months action of joint sufficient for most ordinary purposes; at 2 years motion of arm considerably increased.	24	
185	?	Not stated.	Recovered, 2 years.	.....	"Movable joint, and can do the duties of cook at a large house."	24	
186	H	Articulating processes of radius, ulna, and humerus.	Recovered.	.....	Doing well at 49 days.	1¾	
187	H	Total excision.	Recovered.	.....	"Good."		
188	H	Total excision.	Died.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
189	Lancet, ii. 54, 1854.	Cock, Edwd., see Case 148.	Guy's Hospital.	Worn down, in bad condition.	M. ab't 60	Long standing.	No later than Feb. 1853.	S.	Extensive caries of bones of joint.
190	Lancet, ii. 54, 1854.	Cock, Edwd., see Case 148.	Guy's Hospital.	F——, R., Health and strength much impaired.	M. 34	Over 3 mos. standing.	Feb. 8, 1853.	S.	Extensive disease of joint; from rheumatic arthritis.
191	Gross' Surgery, ii. 1083; Am. Jour. Med. Sci., N. S., xxvii. 554.	Carnochan, J. M., New York.	New York.	Strumous.	M. 30	.....	1853.	S.	Caries, necrosis, and eburnation of the entire ulna; supposed to be the result of a severe sprain.
192	Gross' Surgery, ii. 1083; Smith's Oper. Surg., ii. 655.	Compton, N. Orleans.	New Orleans.	A boy.	M. 15	2 mos. before.	1853.	S	Severe compound comminuted fracture of the ulna and radius, with protrusion of bones; also had other injuries.
193	Hodges' ta. 88; Assoc. Jour., June 23, 1854.	Russell, J., United States.	U. S.	United States.	M. 22	.....	June 23, 1853.	....	Chornic arthritis (morb. cox.).
194	Hodges' ta. 103; Schillbach Rect der Knoch, 202.	Schillbach, L. Germany.	Germany.	Germany.	M. 27	.....	Aug. 10, 1853.	....	Chronic arthritis (morb. cox.); right joint.
195	Heyfeld. ta. 113.	Teale, T. P., Park Row, Leeds.	Leeds, England.	England.	....	.....	1853.	S.	Caries.
196	Heyfeld. Part. ta. 33; Hodges' ta 105.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	M. 34	.....	1853.	S.	Caries of left joint.
197	Lancet, i. 549, 1854; Heyfeld. ta. 116.	Fergusson, William, see Case 59.	King's College Hospital.	R——, Fanny, System suffering from irritation of limb and pain.	F. 25	10 mos. standing.	Feb. 25, 1854.	....	Pulpy degeneration of synovial membrane, and cartilages of right joint; ends of bones eroded, not carious; no cause known.
198	Lancet, i. 550, 1854; Heyfeld. ta. 117.	Fergusson, William, see Case 59.	King's College Hospital.	H——, Saml. Some constitutional irritation.	M. 19	2 years before.	Mar. 4, 1854.	....	Pulpy degeneration of right joint, with erosion of bones, but no caries; from injury.
199	Hodges' ta. 95; A. Tobold, De Artic. Cub. Resect., p. 17.	Langenbeck, B. Von, Berlin.	Germany.	Germany.	M. 16	.....	May 19, 1854.	....	Chronic arthritis (morb. cox.); left joint.
200	Hodges' ta. 90; Med. Times and Gaz., August 19, 1854.	Fergusson, William, see Case 59.	King's College.	England.	M. ?	.....	June, 1854.	....	Chronic arthritis (morb. cox.).
201	Heyfeld. ta. 115, and Work, p. 187.	Heyfelder, J. F., Erlangen.	Clinic of Erlangen.	Hartmann, Jean.	M. 24	.....	July 14, 1854.	....	Chronic suppurative arthritis of right joint; caries and fistulæ.
202	Hodges' ta. 14; Med. Times & Gaz., March 31, 1855.	Not stated.	?	?	M. 21	.....	1854.	....	Chronic arthritis.
203	Butcher's Cons. Surg. p. 175.	Butcher, R.G. Lower Fitzwilliam St., Dublin.	Mercer's Hospital, Dublin.	F——, J. Had had tertiary syphilis; health broken up.	M. 56	8 years before.	July 14, 1854.	S.	Caries and abscess of right joint; from wrench of the joint.
204	Butcher's Cons. Surg. p. 183.	Butcher, R.G. Lower Fitzwilliam St., Dublin.	Mercer's Hospital, Dublin.	Sheridan, Robert. Great constitutional irritation and prostration.	M. 24	Old dis. re-excised 6 w'ks before.	Admitt'd April 20, 1854.	S.	Anchylosis and caries of inner half of inner condyle of right humerus; abscess; from recent fall.

f Elbow-Joint for Disease, Injuries, and Deformities—continued.

.o. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
9	H	Ends of radius and ulna; entire end of humerus and condyles, and portion of shaft.	Died, 6 weeks after, of phlebitis.	.....	Amputated at two weeks, as his system had not force enough to effect the restoration of the joint.	2	The cavity in region of joint, operator says, was too large for the reparative powers of the patient.
0	H	Ends of the three bones.	Recovered, 10 months.	.....	"At 10 months arm looked as though some exfoliation of bone would occur before healing; can't use arm."	10	
1	I	Entire ulna.	Recovered.	.....	"The functions of the hand and forearm were preserved in a remarkable degree."		
2	I	Both bones of the forearm, except lower end of radius; subperiosteal excision.	Recovered.	3	Entire use of hand; could open and shut it, and grasp objects firmly; a firm forearm; member remained at a right angle; could be flexed through 8 or 10 degrees of an arc of a circle.		
3	?	Not stated.	Recovered, 1 year.	.....	Useful arm; fair motion.	12	
4	.....	Partial excision.	Recovered, 5 months.	.....	Useful arm; motions very limited.	5	
5	?	Total excision.	Recovered.	.....	"Good."		
6	⊣	Lower end of humerus.	Recovered, 10 weeks.	.....	"Good; motions only tolerable."	2½	
7	H	Olecranon, ends of humerus and ulna, and head of radius.	Recovered.	.....	"Good."		
8	H	Olecranon, ends of humerus and ulna, and head of radius.	Recovered.	.....	"Good."		
9	.....	Total excision.	Recovered, 7 months.	.....	"Useful arm; motion free and strong."	7	
0	.....	Not stated.	Died, 1 month, pneumonia.				
1	H	Total excision.	Recovered.	.....	Amputation of member at 6 months by Prof. Thirsh, for neuralgia of the extremity.	After 6	The inspection of the limb showed that nerves of the soft parts were involved at the joint.
2	.....	Excision.	Died, 1 month, pyæmia.				
3	H	Humerus a little above condyles; olecranon and head of radius.	Recovered, 6 weeks.	.....	"Motion of forearm and hand; functions of limb preserved."	Over 6	
4	I	Inner condyle, and inner half of articulating surface, and portion of shaft above this to the median line of humerus.	Recovered, 9 months.	.....	"Motion of joint; able to do work of a laborer; extension not perfect."	Over 108	Operated on within a day or two after admitted.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
205	Letter, 1872, Operator.	Sayre, L. A., 285 5th Ave., New York.	At patient's home.	W——, John, 396 Houston St., N. York.	M. 42	4 years before.	July, 1854.	S.	Chronic arthritis; from injury of joint.
206	Hodges' ta. 117.	Statham, S.F., London.	England.	England.	F. 74	.....	Aug. 16, 1854.	....	Chronic arthritis (morb cox.); left joint.
207	Letter, 1872, Operator.	Sayre, L. A., 285 5th Ave., New York.	At patient's home.	H——, DeWitt, 214 Bleeker St., New York.	M. 11	Jan. 1854.	Oct. 1854.	S.	Chronic arthritis of joint result of a fall.
208	Hodges' ta. 48; Boston Med. & Surg. Jour., lv. 122.	Biglow, H.J., Boston, Mass.	General Hospital. Boston, Mass.	?	M. 24	?	1854.	....	Chronic arthritis of right joint.
209	Hodges' ta. 46; Letter.	Biglow, H. J., Boston, Mass.	General Hospital, Boston, Mass.	.....	M. 52	.....	?	....	Chronic arthritis.
210	Hodges' ta. 47.	Biglow, H.J., Boston, Mass.	General Hospital, Boston, Mass.	Has phthisis.	M. 35	.....	?	....	Chronic arthritis of right joint.
211	Heyfeld. ta. 114.	Fothergill, England.	England.	England.	....	.....	1854.	....	Caries.
212	Heyfeld. ta. 121.	Heusser, Hombrechtikon, Switzerland.	Switzerland.	Switzerland.	F. 13	?	1854.	....	Caries.
213	Heyfeld. ta. 122.	Heusser, Hombrechtikon, Switzerland.	Switzerland.	Switzerland.	M. ?	.....	1854.	....	Caries.
214	Heyfeld. ta. 123.	Heusser, Hombrechtikon, Switzerland.	Switzerland.	Switzerland.	F. 61	.....	1854.	....	Caries.
215	Heyfeld. ta. 124.	Heusser, Hombrechtikon, Switzerland.	Switzerland.	Switzerland.	....	.....	1854.	....	Caries.
216	Heyfeld. ta. 125 to 128.	Pitha, Prof., Vienna.	Austria.	Austria.	....	.....	1854 to 1855.	....	Caries.
217	Heyfeld. ta. 125 to 128.	Pitha, Prof., Vienna.	Austria.	Austria.	....	.....	1854 to 1855.	....	Caries.
218	Heyfeld. ta. 125 to 128.	Pitha, Prof., Vienna.	Austria.	Austria.	....	.....	1854 to 1855.	....	Caries.
219	Heyfeld. ta. 125 to 128.	Pitha, Prof., Vienna.	Austria.	Austria.	....	.....	1854 to 1855.	....	Caries.
220	Hodges' ta. 15; Med. Times & Gaz., May 12, 1855.	Hancock, H., 76 Harley St., W. London.	Charing-Cross Hospital.	England.	M. 20	.....	Mar. 1855.	....	Chronic arthritis.
221	Am. Jour. Med. Sci., N. S., xxxii. 374; Hodges' ta. 36.	Bellamy, C.H. Columbus, Ga	Kings County Hospital, N. York.	S——, Mrs. Catherine.	F. 28	.....	May 12, 1855.	....	Caries and anchylosis; member in straight position.
222	Lancet, March 22, 1856; Hodges' ta. 57.	Heath, N. Y., Newcastle, England.	Newcastle Infirmary England.	England.	M. 11	.....	May 15, 1855.	....	Chronic arthritis of right joint.
223	Hosp. Records by Surg. Gray.	Halstead, Thaddeus M., 42 W. 23d St., New York.	N. York Hospital.	United States.	M. 29	.....	May 22, 1855.	P.	Injury from fragments of rock while blasting; left joint.
224	Boston Med. & Surg. Jour.	Kimball, G., Lowell, Mass.	Lowell, Mass.	F——, W. Healthy and strong.	M. 24	June 3, 1855.	June 3, 1855.	P.	Lacerated and penetrating wound of joint; from chain hooks.

f Elbow-Joint for Disease, Injuries, and Deformities—continued.

	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
5	I	Nearly 1 inch of humerus; head of radius and ulna on level with section of radius.	Recovered.	.....	"Perfectly useful joint; occupied in laying carpets until a few months before his death."	144	Died in 1868 of dropsy from fatty liver.
6	.....	Total excision.	Recovered, 8 months.	.....	Useful arm; motion at elbow; stiff fingers.	8	
7	I	Articulating surfaces of joint.	Recovered.	.....	"Very limited motion, but perfectly useful arm."	192	Motion limited, as passive motion was neglected.
8	?	Humerus above condyles. Ulna and radius; 1 inch.	Recovered, 5 months.	.....	Useful arm; motions limited.	12	Died of dropsy 1 year after operation.
9	.....	Partial.	Died, 4 weeks, exhaustion.				
0	.....	Partial.	Died, 5 weeks, phthisis.				
1	?	Complete excision.	Recovered.	.....	"Good."		
2	?	Complete excision.	Recovered, 7 weeks.	.....	"Good."		
3	?	Complete excision.	Recovered.	.....	Member amputated for return of disease.		
4	?	Complete excision.	Recovered, 5 weeks.	.....	"Good."		
5	?	Complete excision.	Recovered.	.....	"Good."		
6	?	Complete excision.	Recovered.	.....	?		
7	?	Complete excision.	Recovered.	.....	?		
8	?	Complete excision.	Recovered.	.....	?		
9	?	Complete excision.	Recovered.	.....	?		
0	.....	Total excision.	Recovered, 3 months.	.....	"Good motion."		
1	H	Humerus as high as carious; ulna to coronoid; head of radius.	Recovered, 5½ months.	.....	Can perform flexion, extension, pronation, and supination.	After 5½	3 months advanced in pregnancy; delivered safely in November, 1855.
2	.....	Partial excision.	Recovered, 8 months.	.....	Limited flexion.	8	
3	I	Uncertain.	Recovered, 4½ months.	.....	"Makes considerable use of left arm."	4½	
4	None; joint torn open.	Humerus just above condyles; head of radius; end of ulna.	Recovered, 7 months.	.....	"Joint healed; useful flexion; motion of fingers and wrist perfect; extension impaired; can do day work at shovelling gravel or sand."	7	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
225	Lancet, i. 55, 1857.	Holthouse, C., 3 George St., Hanover Sq., W. London.	British Hospital, Smyrna.	Mahomet ——, Smyrna, Turkey.	M. 37	?	1st, Aug. 7, 1855. 2d, Sept. 12, 1855.	....	Anchylosis; member at an angle of 160°; result of smallpox.
226	Lancet, ii. 228, 1855; Heyfeld. ta. 172; Hodges' ta. 9.	Birkett, John, 59 Green St., Grosvenor Sq W. London.	Guy's Hospital.	England.	F. 20	?	Aug. 1855.	....	Caries of olecranon and humerus (right side).
227	Boston Med. & Surg. Jour., lv. 12.	Hitchcock, A., Fitchburg, Mass.	Fitchburg, Mass.	Lawrence, Henry.	M. 47	?	Oct. 25, 1855.	P.	Compound comminuted fracture of left joint; incurred in coupling cars.
228	Lancet, ii. 71, 1855.	Fergusson, William, see Case 59.	King's College Hospital.	B——, A.	F. 30	Fall before.	1855.	....	Synovial degeneration, with sinuses and suppuration of joint; from injury.
229	Boston Med. & Surg. Jour., lv. 122; Hodges' ta. 49.	Biglow, H. J., Boston, Mass.	General Hospital, Boston, Mass.	Tubercular.	M. 29	.....	Prob. 1855.	....	Caries of right joint.
230	Heyfeld. ta. 146.	Syme, James, Edinburgh.	Surgical Hospital.	Scotland.	....	.....	1855.	....	Caries of joint.
231	Heyfeld. ta. 147.	Smith, H., London, see Case 174.	King's College Hospital.	.....	F.	.....	1855.	....	Suppurative arthritis.
232	Heyfeld. ta. 148; Hodges' ta. 8.	Erichsen, J. E. see Case 170.	Univ. College Hospital.	England.	M. 4½	.....	1855.	....	Caries of left joint.
233	Heyfeld. ta. 150.	Addenbrooke, E. H., Birmingham, England.	England.	England.	M. 9	.....	1855.	....	Caries of joint.
234	Heyfeld. ta. 151.	Hilton, John, 10 New Broad St., E. C. London	London.	England.	M. 13	.....	1855.	....	Caries of joint.
235	Heyfeld. ta. 152.	Walton, H. H., 1 Brooke St., Hanover Sq., W. London.	England.	England.	M. 9	.....	1855.	....	Traumatic caries.
236	Heyfeld. ta. 158; Lancet, ii. 501, 1855.	Canton, Edw., 30 Montague Place, W. C. London.	Charing-Cross Hospital, London.	G——, Geo.	M. 14	.....	1855.	S.	Complicated fracture, with laceration of soft parts, and division of ulnar nerve.
237	Heyfeld. ta. 154; Hodges' ta. 27.	Webber, O.	Germany.	Germany.	M. 50	?	1855.	....	Caries of right joint.
238	Heyfeld. Part. ta. 18.	Bruns, Prof., see Case 240.	Germany.	Germany.	M. 20	.....	1855.	....	Caries.
239	Heyfeld. Part. ta. 34.	Heyfelder, J. F., Erlangen.	Germany.	Germany.	M. 26	.....	1855.	....	Caries.
240	Heyfeld. Part. ta. 35.	Bruns, Prof., Tübingen.	Germany.	Germany.	M. 14	.....	1855.	....	Caries.
241	Heyfeld. Part. ta. 36.	Addenbrooke, E. H., Birmingham, England.	England.	England.	M. 22	.....	1855.	P.	Complicated fracture.
242	Hodges' ta. 50; Med. Times & Gaz., May 3d, 1856.	Hughes.	England.	England.	F. 15	.....	1855.	....	Chronic arthritis.
243	Hodges' ta. 51; Med. Times & Gaz., May 3d, 1856.	Teal, T. P., 20 Park Row, Leeds.	England.	England.	F. 20	.....	1855.	....	Chronic arthritis.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
25	⊐	Bone sawn through from condyle to condyle; nothing removed.	Recovered.	.....	"Pronation and supination perfect; limited passive flexion and extension."	1	2d operation was the forced flexion of the joint.
26	⊢	Olecranon and diseased portion of humerus.	Recovered, over 11 months.	.....	Member amputated after 11 months; head of radius found carious.	Over 11	
27	⊢	Fragment of humerus, and to fossa for olecranon; ulna to level with head of radius; latter not injured.	Recovered, 6 months.	.....	Can lift a bucket of water arm extended; extension nearly complete; flexion through circle of 120°; healed; arm gaining in strength.	6	
28	?	Complete excision.	Too soon to state.	.....	?		
29	?	Humerus above condyles; ulna and radius one inch.	Recovered, 6 months.	.....	Amputated for return of the disease.	6	
30	H	Total excision.	Recovered.	.....	"Good."		
31	?	Total excision.	Recovered.	.....	"Wound healed by 1st intention; passive motion at about 15 days; good."		
32	I	Total excision.	Recovered, 3 months.	.....	"Amputated for return of the disease."	3	
33	?	Total excision.	Recovered.	.....	"Perfect."		
34	?	Total excision.	Recovered.	?	"Perfect."	?	
35	?	Total excision.	Recovered.	.....	"Perfect."		
36	?	"Ends of the bones."	Recovered.	.....	Voluntary motion; flexion to right angle; pronation and supination partial.	?	
37	?	Total excision.	Recovered, 4½ months.	.....	"Good; uses his arm as well as any one."	4½	
38	?	End of humerus, and all of end of ulna.	Recovered.	.....	Amputated for anchylosis in straight position of member.		
39	?	End of humerus.	Recovered.	.....	Amputated.		
40	?	End of humerus.	Recovered.	.....	"Partial success."		
41	?	End of humerus.	Recovered.	.....	"Partial success."	?	
42	.....	Total excision.	Recovered, 6 months.	.....	"Useful arm; good recovery."		
43	.....	Total excision.	Recovered, 6 months.	.....	"Useful arm; movements of joint almost perfect."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
244	Hodges' ta. 52; Med. Times & Gaz., May 3d, 1856.	Teal, T. P., 20 Park Row, Leeds.	England.	England.	F. 20	.....	1855.	....	Chronic arthritis.
245	Heyfeld. ta. 165; Hodges' ta. 61; Med. Times & Gaz., May 3d, 1856.	Meade, R. H., Bradford, Yorkshire.	England.	England.	M. 14	.....	1855.	....	Chronic arthritis.
246	Letter, 1872, Operator.	Sayre, L. A., see Case 205.	At his home.	W——, Jas., 18 Charles St. New York.	M. 14	18 mos. standing.	Jan. 1856.	....	Chronic arthritis, with sinuses; from injury.
247	Lancet, Oct. 4, 1856; Hodges' ta. 58.	Nott, Barnes, London, England.	Westminster Hospital.	England.	F. 23	.....	May, 1856.	....	Chronic arthritis.
248	Hodges' Exc., p. 53; Heyfeld. ta. 153.	Fergusson, William, see Case 59.	King's College Hospital.	England.	M. 30	10 mos. before.	June 7, 1856.	....	Anchylosis from dislocation of ulna backwards and radius forwards.
249	Lancet, Oct. 4, 1856; Hodges' ta. 59.	Nott, Barnes, London.	Westminster Hospital, London.	England.	F. 10	.....	May 14, 1856	....	Chronic arthritis of right joint.
250	Hodges' ta. 115.	Wood, James R., New York.	N. York.	United States.	M. 14	.....	July, 1856.	....	Chronic arthritis.
251	Lancet, ii. 210, 1856.	Hutchinson, F 29 Woburn Place, W. C. London.	Metropolitan Free Hospital, London.	?	F. 50	.....	Aug. 1856.	....	Synovitis and thickening of synovial membrane; ulceration of cartilages and denuded bone.
252	Rank. Abst. No. 25, p. 160; Hodges' ta. 55; Braith. Retro. No. 35, p. 70.	Fergusson, William, see Case 59.	King's College Hospital.	England.	F. 11	8 mos. standing.	Oct. 4, 1856.	....	Chronic arthritis, with caries of joint.
253	Rank. Abstract, No. 25, p. 160; Heyfeld. ta. 169; Hodges' ta. 56; Braith. Retro. No. 35, p. 70.	Erichsen, J. E., see Case 170.	Univ. College Hospital.	An old man.	M. 63	.....	Oct. 16, 1856.	....	Caries and anchylosis of left joint.
254	Rank. Abstract, No. 25, p. 160; Heyfeld. ta. 167; Braith. Retro. No. 35, p. 70.	Paget, James, 1 Harewood Place, W. London.	Saint Bartholomew's Hospital.	England.	M. 25	.....	Oct. 1856.	....	Caries.
255	Letter, 1872, Operator.	Post, Alfred C., 291 Madison Ave. New York.	Private practice.	.....	M. 13	?	.....	....	Caries.
256	Lancet, i. 159, 1856.	Canton, Edw., 30 Montague Place, W. C. London.	Charing-Cross Hospital.	England.	F. 17	.....	Prob. 1856.	....	Disease of joint.
257	Lancet, ii. 182, 1856.	Syme, James, Edinburgh.	Edinb'gh.	K——, T.	F. 17	.....	1856.	....	Anchylosis of left joint; member straight; from disease.
258	Heyfeld. ta. 155.	Wilms, Berlin.	Germany.	Germany.	....	.....	1856.	....	Caries.
259	Heyfeld. ta. 156.	Bartels, Berlin.	.....	.....	....	.....	1856.	....	Caries.
260	Heyfeld. ta. 157.	Bruns, Prof., see Case 240.	Germany.	Germany.	F. 19	.....	1856.	....	Caries.
261	Heyfeld. ta. 159.	Erichsen, J. E., see Case 170.	Univ. College Hospital.	England.	M. 11	.....	1856.	....	Caries.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
244	.....	Total excision.	Recovered, 4 months.	.....	"Useful arm; can write and sew."		
245	.....	Total excision.	Recovered, 3 months.	.....	"Useful arm; promises improvement."		
246	I	1½ inches of humerus; head of radius; ulna on level with section of radius.	Recovered.	.....	"Very useful joint, with good but not perfect motion."	72	
247	.....	Complete excision.	Recovered, 6 weeks.	.....	"Promises improvement."	1½	
248	?	Total excision.	Recovered, 6 months.	.....	"Discharged with a good degree of motion: hand could be brought to whiskers; pronation and supination."	6	
249	?	Total excision.	Died, Aug. 1856, consumption.				
250	.....	"Excision."	Recovered, 7 weeks.	.....	"Very free motion."	1½	
251	T	Ends of the three bones.	Uncertain.	.....	"Swelling subsided, and doing well in every respect, soon after operation."		
252	I	Complete excision.	Recovered, 2 months.	.....	"Rapid healing, and fair motion was obtained."	2	
253	I	Complete excision.	Recovered, 2 months.	.....	"Has fair motion of elbow."	2	
254	I	Complete excision.	Recovered.	.....	Healing process slowly progressing; "good."	2	
255	I	Lower end of humerus, and upper ulna and radius.	Recovered.	.....	Carries a bushel basket filled with potatoes with the arm, or a bucket of water.		
256	?	Total excision.	Recovered.	.....	Sloughing of wound on 4th day; then (later) progressing very well.	1	
257	H	Ends of the three bones after sawing through the bones at the middle of the olecranon.	Uncertain.	.....	.....	(1 day)	
258	?	Total excision.	Recovered.	.....	"Good."		
259	?	Total excision.	Recovered.	.....	"Good."		
260	?	Total excision.	Recovered.	.....	"Good."		
	I	Total excision.	Recovered.	.....	"Good."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
262	Heyfeld. ta. 160; Hodges' ta. 11.	Solly, Samuel, London.	London.	England.	F. 57	.....	1856.	....	Caries.
263	Heyfeld. ta. 161.	Stubbs.	?	?	M. 18	.....	1856.	....	Morbus coxæ.
264	Heyfeld. ta. 162; Lancet, i. 327, 1857.	Garner.	North Staffordshire Infirmary England.	Healthy.	M. 12	12 mos. standing.	July 28. 1856.	....	Caries.
265	Heyfeld. ta. 163.	Wright, W. K., 35 Brixton Road, S. W. London.	England.	England.	F. 21	.....	1856.	....	Caries of joint.
266	Heyfeld. ta. 164.	Bickersteth, E. R., Liverpool, England.	Liverpool	England.	M. 24	.....	1856.	....	Caries of left joint.
267	Heyfeld. ta. 166.	Meade, R. H., see Case 245.	England.	England.	M. 12	.....	1856.	....	Caries.
268	Heyfeld. ta. 170.	Holthouse, C., 3 George St., Hanover Sq., W. London.	England.	England.	F. 17	.....	1856.	....	Caries.
269	Heyfeld. ta. 171; Hodges' ta. 60.	Lawrence, William, London.	Saint Bartholomew's Hospital, London.	England.	F. 25	.....	1856.	....	Caries of right joint.
270	Heyfeld. ta. 173; Hodges' ta. 10.	Moore, England.	England.	England.	F. 31	.....	1856.	....	Caries and anchylosis of right joint.
271	Heyfeld. Part. ta. 37.	Frera.	.....	.....	....	.....	1856.	P.	Complicated luxation.
272	Heyfeld. Part. ta. 38.	Windsor, England.	England.	England.	M. 14	.....	1856.	P.	Complicated luxation, with "fracture of the forearm."
273	Heyfeld. Part. ta. 44.	Husband, W. D., York, England.	England.	England.	M. 8	.....	1856.	....	Caries.
274	Heyfeld. Part. ta. 45.	Puparef, Russia.	Russia.	Russia.	M. ?	.....	1856.	....	Caries.
275	Hodges' ta. 53; Med. Times & Gaz., Aug. 9, 1856.	Erichsen, J. E., see Case 170.	Univ. College Hospital.	England.	? 5	.....	1856.	S.	Chronic arthritis (morb. cox.).
276	Letter, 1872, Operator; Med. Record, N. Y., i. 185; Med. and Surg. Reporter, xiv. 411.	Post, Alfred C., see Case 255.	Clinic Univ. Medical College, N. York.	Conway, Catherine.	F. 11	.....	Feb. 7, 1857.	....	Anchylosis in straight position; from fracture.
277	Letter, 1872.	Hall, David, Lewes, Del.	On board schooner, Egg Harbor.	A sailor.	M. 18	.....	1856 or 1857.	P.	Compound dislocation of the humerus, with laceration of soft parts; from fall from aloft ship.
278	Lancet, i. 520, 1857.	Lawrence, William, London.	Saint Bartholomew's Hospital, London.	"Young woman."	F. ?	2 years' standing.	Mar. 4, 1857.	....	Pulpy degeneration of synovial membrane; denuded cartilages; disease of olecranon.
279	Arch. für Klin. Chir. Lang., 16, 2, p. 420.	Langenbeck, B. Von, Berlin.	Klinic, Berlin.	Müeller, Jos., Cabinetmaker Berlin, Prussia.	M. 54	Feb. 22, 1857.	Mar. 6, 1857.	Int.	Penetrating wound of the left joint (also had incised wound on back of head); external opening over elbow; wound size of a pea.
280	Records N. Y. Hospital. by Surgeon Gray.	Markoe, T.M., 20 W. 30 St., New York.	N. York Hospital.	West, Wm. Syphilitic subject; crude tubercles in both lungs.	M. 34	.....	Mar. 27, 1857.	....	Chronic arthritis of joint.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
262	?	Total excision.	Recovered, 2 months.	.....	Anchylosis of joint resulted; elbow not much use.	2	
263	?	Total excision.	Recovered.	.....	"Good;" passive motion at 12th day.		
264	?	Total excision.	Recovered, 3 months.	.....	"Good; motions limited."	3	"Perfect use of hand; wound quite healed."
265	?	Total excision.	Recovered.	.....	"Good."	6	
266	?	Total excision.	Recovered.	.....	Passive motion in 8 days; "good."		
267	?	Total excision.	Recovered.	.....	"Good."		
268	?	Total excision.	Recovered.	.....	"Good."		
269	?	Total excision.	Recovered, 4 months.	.....	"Good;" Hodges says, "unpromising."		
270	?	Total excision.	Recovered, 3 months.	.....	"Good; anchylosis."	3	
271	?	Lower end of humerus.	Recovered.	.....	"Good."		
272	?	Lower end of humerus.	Recovered.	.....	"Good."		
273	?	External condyle.	Recovered.	.....	Recovered with anchylosis.		
274	?	External condyle.	Recovered.	.....	"Amputation."		
275	?	Partial excision.	Recovered, 2 months.	.....	Amputated for disease of soft parts.	2	
276	I	Half-inch of lower end of humerus at 1st operation, and at 2d 1 inch more.	Recovered.	.....	"A very movable and useful arm."	120	
277	None: clean lacer'n transversely	About 2 inches, including condyles.	Recovered, 3 months.	.....	"Recovered with a useful arm."	3	He had also compound fracture of femur, and fracture of 2 ribs, and 2 teeth knocked out.
278	I	Olecranon process.	Recovered.	.....	"Wound nearly healed."	1	
279	?	Total excision.	Died, 36 days, pyæmia.	.....	.....	.....	Wound left open: fever diminished until 16th of March; wound granulating; March 23, slight fever, with catarrhal symptoms; March 30, chills, which continued until death.
280	I	Humerus ¾ inch above joint; upper end of ulna; head of radius.	Died, 63 days, did not react (exhaustion).	.....	Amputation by Alanson's method.	.....	Autopsy showed resected end of humerus necrotic 2¼ inches.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
281	Lancet, i. 237, 1858; Braith. Retro., Part. 37, p. 109.	Fergusson, William, see Case 59.	King's College Hospital.	W——, Marg. "Scrofulous."	F. 21	.....	May 16, 1857.	....	Abscess, synovitis, and general inflammation of joint; arm at right angle.
282	Hodges' ta. 34; Chicago Med. Jour. Sept. 1858.	Brainard, Daniel, Chicago.	Chicago.	United States.	M. 26	.....	May 26, 1857.	....	Chronic arthritis.
283	Lancet, i. 41, 237, 1858.	Edwards, A. M., Edinburgh.	Parents' home, Edinb'gh.	L——, Mary, Edinburgh.	F. 14 w.	1 mo. standing.	June 25, 1857.	....	Abscess and synovitis; from twist of left joint in dressing; joint disorganized, and cartilages gone; great suffering.
284	Lancet, i. 237, 1858.	Clark, F. LeGros, 14 St. Thomas St., S. E. London.	Saint Thomas' Hospital, London.	England.	M. 15	1 year's standing.	1857.	S.	Chronic arthritis.
285	Surgery, ii. 1084.	Gross, Samuel D., 11 & Walnut, Philadelphia.	Jefferson College Clinic.	Young man. Health dilapitated.	M. ad't	Several years' standing.	1857.	S.	Chronic arthritis, with caries and sinuses.
286	Lancet, i. 238, 1858; Ibid. ii. 253, 1857; Braith. Retro. Part 37, p. 110.	Fergusson, William, see Case 59.	King's College Hospital.	P——, Jane. Scrofulous.	F. 14	Long standing.	June 27, 1857.	....	Old anchylosis in straight position of member, and acute abscess of left joint.
287	Letter, 1872.	Sayre, L. A., see Case 205.	531 Broadw'y N. York.	J——, Ellen, Morristown New Jersey.	F. 11	.....	June, 1857.	S.	Acute suppurative synovitis; from injury ending in caries.
288	Lancet, ii. 250, 1857.	Hillman, W. A., 1 Argyll St., W. London.	Westminster Hospital.	England.	M. 3½	9 mos. standing.	July 7, 1857.	....	Caries, with thickening and infiltration of soft parts.
289	Lancet, ii. 250, 1857.	Erichsen, J. E., see Case 170.	Univ. College Hospital.	England.	F. 10	8 mos. standing.	July 8, 1857.	....	Caries of left joint; free suppuration.
290	Lancet, ii. 250, 1857; Heyfeld. ta. 174.	Erichsen, J. E., see Case 170.	Univ. College Hospital.	England.	M. 35	3 years' standing.	July 8, 1857.	....	Caries and pulpy degeneration of right joint.
291	Lancet, ii. 475, 1857; Ibid. i. 237, 1858; Hodges' ta. 10.	Forster, J. C., 29 Upper Grosvenor St., W. London.	Guy's Hospital.	Little boy. Scrofulous.	M. 10	Some mos.	July 28, 1857.	....	Scrofulous caries of joint (right).
292	Lancet, ii. 473, 1857.	Erichsen, J. E., see Case 170.	Univ. College.	England.	M. 8	7 or 8 mos. standing.	1857.	....	Re-excision for caries of left joint.
293	Lancet, i. 237, 1858; Ibid. ii. 191; Ibid. i. 470, 1859.	Tudor, John, Dorchester, England.	Dreadnaught Hospital Ship.	B——, A Lascar East Indian. Unfavorable state.	M. 30	?	Aug. 26, 1857.	....	Caries and denudation of cartilages of left joint; abscess.
294	Lancet, ii. 425, 1857; Ibid. i. 238, 1858; Braith. Retro. Part 37, p. 110.	Fergusson, William. see Case 59.	King's College Hospital.	R——, Wm., Syphilitic subject.	M. 26	6 years' standing. re-excised 3 mos. before.	Aug. 30, 1857.	....	Abscess and pulpy degeneration of right joint.
295	Lancet, ii. 422, 1857; Ibid. i. 244, 1858.	Ure, London.	Saint Mary's Hospital, London.	W——, G.	M. 13	18 mos. before.	Sept. 2, 1857.	....	Ulceration of cartilages, and pulpy degeneration of left joint from fall on elbow.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
281	I	Olecranon and articular surface of ulna; 1 inch end of humerus; end of radius.	Recovered, 4 months.	.....	Has almost perfect power of flexion, extension, and rotation.	Over 4	
282	.....	Total excision.	Recovered, 14 months.	.....	"Useful arm; nearly all the motions of joint."	14	
283	H	Ends of all bones.	Recovered, 3½ months.	.....	"Moves arm about freely; flexion of joint: can raise thumb to mouth."	3½	
284	?	Ends of all bones.	Recovered.	.....	"Did well; turned out well."		
285	⌣	Upper half of radius and outer condyle of humerus.	Recovered.	.....	"Not known."		
286	I	Sawed off the anchylosed joint, including the ends of the three bones.	Recovered, 3 months.	.....	"Can raise hand to head; plenty of motion in joint; wound not quite healed."	3	
287	I	Articulating surfaces of bones only.	Recovered.	.....	"Useful joint."	180	
288	I	Diseased ends of (3) bones.	Recovered.	.....	"A good recovery has been made."	Over 1	
289	⊢	Ends of 3 bones.	Uncertain.				
290	⊢	Ends of 3 bones.	Died, phthisis.				
291	H	Total excision.	Recovered, 6 months.	.....	"Did well after operation; turned out well; useful arm."	6	
292	?	At a previous operation, portion of joint removed; new ends of bone remaining and diseased.	Uncertain.	.....	?		
293	+	Ulna 1 inch below coracoid process; head of radius; humerus 3½ inches.	Recovered, 8½ months.	.....	Carries bucket of water, and lifts a heavy chair underhanded.	8½	Case retarded by erysipelas.
294	I	All the ends of the diseased bones.	Recovered, 2 months.	.....	"Wound nearly healed; can flex arm slightly, and with a little assistance can bring hand to mouth."	2	
295	I	Humerus through tuberosities; olecranon and remains of sigmoid cavity of ulna; head of radius.	Recovered, 2 months.	.....	"Can use his knife and fork; uses a stick; can put hand in pocket."	Long after 2	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
296	Lancet, ii. 191, 1858.	DeMorgan, Campbell G., 51 Upper Seymour St., W. London.	Middlesex Hospital.	"A man."	M. ad't	.....	Dec. 10, 1857.	....	Chronic arthritis.
297	Reported by an eye-witness of the operation & Prof. Dawson, Cincinnati, O.	Blackman, G. C., Cincinnati, O.	Good Samarit'n Hospital, Cincinnati, O.	"A girl." United States. Still in the same hospital	F.	.....	1857.	....	Chronic arthritis and caries of joint.
298	Hodges' ta. 39; Med. Times & Gaz., May 8th, 1858.	Long.	England.	England.	M. 16	.....	1857.	....	Chronic arthritis.
299	Hodges' ta. 41; Med. Times & Gaz., May 8th 1858.	Smith.	England.	England.	F. 20	.....	1857.	....	Chronic arthritis.
300	Hodges' ta. 70; Med. Times & Gaz., June 5th, 1858.	Lowdell.	England.	England.	F. 14	.....	1857.	....	Chronic arthritis.
301	Hodges' ta. 71; Med. Times & Gaz., June 5th, 1858.	Not stated.	?	?	F. 15	.....	1857.	....	Chronic arthritis.
302	Heyfeld. ta. 175.	Langenbeck, B., Berlin.	Germany.	Germany.	F.	.....	1857.	....	Caries.
303	Heyfeld. ta. 176.	Langenbeck, B., Berlin.	Germany.	Germany.	F. ?	.....	1857.	....	Caries.
304	Heyfeld. ta. 177.	Langenbeck, B., Berlin.	Germany.	Germany.	M. 24	.....	1857.	....	Anchylosis.
305	Heyfeld. ta. 178 to 187.	Langenbeck, B., Berlin.	Germany.	Germany.	...	.....	.....	....	.....
306	Heyfeld. ta. 178 to 187.	Langenbeck, B., Berlin.	Germany.	Germany.	....	.....	.....	....	.....
307	Heyfeld. ta. 178 to 187.	Langenbeck, B., Berlin.	Germany.	Germany.	....	.....	.....	....	.....
308	Heyfeld. ta. 178 to 187.	Langenbeck, B., Berlin.	Germany.	Germany.	....	.....	.....	....	.....
309	Heyfeld. ta. 178 to 187.	Langenbeck, B., Berlin.	Germany.	Germany.	....	.....	.....	....	.....
310	Heyfeld. ta. 178 to 187.	Langenbeck, B., Berlin.	Germany.	Germany.	....	.....	.....	....	.....
311	Heyfeld. ta. 178 to 187.	Langenbeck, B., Berlin.	Germany.	Germany.	....	.....	.....	....	.....
312	Heyfeld. ta. 178 to 187.	Langenbeck, B., Berlin.	Germany.	Germany.	....	.....	.....	....	.....
313	Heyfeld. Part. ta. 79, and Work, p. 189.	Küchler, Darmstadt, Germany.	Germany.	Germany.	M. 18	.....	1857.	....	Caries of head of radius.
314	Lancet, i. 126, 1859.	Williamson, George, England.	Fort Pitt Hospital, England.	M——, D., Sergeant 14th English Regt.	M. 34	Over 6 mos.	Jan. 9, 1858.	....	Caries of olecranon, and pulpy degeneration of left joint; no cause known.
315	Oper. & Cons. Surg. p. 183; Hodges' ta. 73.	Butcher, R.G. Dublin, Ireland.	Mercer's Hospital, Dublin.	——, Bridget, Kilkenny. Emaciated; worn; vomiting.	F. 25	3 years' standing.	Jan. 18, 1858.	....	Caries and free suppuration of joint; no known cause; right.
316	Lancet, i. 445, 1858.	Curling, T.B., 39 Grosvenor Square, W. London.	London Hospital.	"Very delicate."	F. 17	10 years' standing.	Jan. 21, 1858.	....	Partial anchylosis; caries; pulpy degeneration and absorption of cartilages of right joint; from injury.
317	Lancet, ii. 299, 1858; Hodges' ta. 45.	Birkett, John, see Case 226.	Guy's Hospital.	.....	M. 17	18 mos. standing.	Aug. 17, 1858.	....	Caries and pulpy degeneration of left joint, with sinuses.
318	Lancet, i. 126, 1859; Gross' Surgery, ii. 1083.	Williamson, George, England.	Fort Pitt Hospital, England.	W——, H., Sergt., Staff Armorer. "Healthy appearance."	M. 26	11 mos. standing.	Aug. 30, 1858.	....	Caries of right joint, and necrosis of entire ulna; from acute hepatitis and pleuritis.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
296	?	Heads of radius, ulna, and humerus.	Recovered, 5 months.	.....	"Case complicated with large pectoral abscess."	5	
297	?	Complete excision.	Recovered.	.....	Does ordinary housework in hospital.	168	
298	?	Total excision.	Recovered, 6 weeks.	.....	"Flexion and extension free."		
299	?	Total excision.	Recovered, 1 month.	.....	"Useful arm; recovery rapid and complete."	1	
300	.....	Not stated.	Recovered, 3 months.	.....	Fair motion; improving daily.	3	
301	.....	Not stated.	Died, 3 months, hectic and exhaustion.				
302	I	Total excision.	Recovered.	.....	"Perfect."		We have dropped two (2) of Langenbeck's cases, here reported by Heyfelder, to prevent possible duplication of Müller's case, and that done May 19, 1854.
303	I	Total excision.	Recovered.	.....	"Perfect."		
304	I	Total excision.	Recovered.	.....	"Good."		
305	.....	Total excision.	Recovered.	.....	"Success."		
306	.....	Total excision.	Recovered.	.....	"Success."		
307	.....	Total excision.	Recovered.	.....	"Success."	.....	
308	.....	Total excision.	Recovered.	.....	"Success."		
309	.....	Total excision.	Recovered.	.....	"Success."		
310	.....	Total excision.	Recovered.	.....	"Success."		
311	.....	Total excision.	Recovered.	.....	"Success."		
312	.....	Total excision.	Recovered.	.....	"Success."		
313	?	Head of radius.	Recovered.	.....	"Perfect; recovered all the movements of the elbow."		
314	I	Articular end of humerus; surface of radius and remaining portion of coronoid.	Recovered, 2 months.	.....	Wound healed; perfect use of hand, shoulder-joint, and fingers; arm rigid, in tolerably bent position.	2	Patient refused to exercise passive motion, as it was too painful.
315	H	3¼ inches of humerus; ulna to level of sigmoid curve; head of radius.	Recovered, 5 months.	.....	"Performs every motion with member, but cannot raise it entirely upwards."	9	
316	I	"Ends of 3 bones freely."	Recovered, 8 months.	.....	"Greater part of wound healed; later, turned out well."	8	
317	I	Ends of three bones and 2d portion of ulna.	Recovered, 2 months.	.....	"Useful arm; can carry hand to mouth."	2	
318	I	Entire ulna; 1½ inches of humerus; head and neck of radius.	Recovered.	.....	"At 12 days using fingers; wound healed externally; just able to raise forearm; can move joint."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
319	Reported by Prof. Cabell, Univ. of Va.	Bullock, W. H., Savannah, Ga.	Savannah Georgia.	Lent, F., Interior of Georgia.	M. 19	6 w'ks before operat'n.	1858.	S.	Comminuted fracture at elbow; from fall.
320	Heyfeld. ta. 193, and p. 180.	Heyfelder, J. F., Erlangen.	Hospital at Erlangen.	Nefidieff, Anton.	M. 24	?	Sept. 15, 1858.	....	Caries and fistulæ of right joint.
321	Heyfeld. ta. 192; Hodges' ta. 99.	Heyfelder, J. F., Erlangen.	Erlangen.	.....	M. 25	.....	1858.	....	Caries of left joint.
322	Heyfeld. ta. 194; Ashhurst's Erichsen, 737.	Erichsen, J. E., see Case 170.	Univ. College Hospital.	England. "Most scrofulous habit."	M. 14	.....	1858.	....	Necrosis of humerus, and caries of end of radius and ulna.
323	Heyfeld. ta. 195.	Esmarch, F., Kiel, Denmark.	Germany	Germany.	F. 24	.....	1858.	....	Suppurative arthritis.
324	Heyfeld. ta. 196.	Esmarch, F., Kiel, Denmark.	Germany.	Germany.	M. 56	.....	1858.	P.	Complicated fracture.
325	Heyfeld. Part. ta. 46.	Strohschneider, Russia.	Russia.	Russia.	M. 19	.....	1858.	....	Caries.
326	Lancet, i. 237, 1858.	Coote, Holmes 52 Margate St. W. London.	Saint Bartholomew's Hospital.	A Soldier.	M. 28	8 years' standing.	1857 or 1858.	S.	Disease of elbow.
327	Trans. Path. Soc. London, x. 223.	Price, P. C., London.	London.	England. Exhausted.	F. 47	.....	1858.	....	Chronic arthritis of right joint.
328	Hodges' ta. 82; Med. Times & Gaz., April 30, 1859.	Johnston.	England.	England.	M. 18	.....	1858.	....	Chronic arthritis (morb. cox.).
329	Hodges' ta. 101; Schillbach Resect. der Knoch, p. 187.	Schellbach, L. Germany.	Germany.	Germany.	M. 26	.....	1858.	....	Chronic arthritis (morb. cox.) of right joint.
330	Hodges' ta. 102; Schillbach Resect. der Knoch, p. 187.	Schellbach, L. Germany.	Germany.	Germany.	M. 59	.....	1858.	....	Chronic arthritis (morb. cox.) of left joint.
331	Heyfeld. Part. ta. 74, Work, p. 189.	Heyfelder, J. F., Erlangen.	Erlangen	Bagdanoff, Antoniere.	M. 20	Sept. 15, 1858.	Sept. 29, 1858.	....	Abscess over the right olecranon, with caries and fracture of that process; from a fall.
332	Oper. & Consv. Surg., p. 192.	Butcher, R. G., Dublin.	Mercer's Hospital, Dublin.	Reynolds, M. Threatened with death; emaciated.	M. 20	10 mos. standing.	July 22, 1859.	S.	Caries and necrosis of left joint; result of a slight wrench.
333	Lancet, ii. 247, 1859.	Paget, Jas., see Case 254.	Saint Bartholomew's Hospital.	Florid complexion; scrofulous.	M. 19	3 mos. standing.	Aug. 25, 1859.	S.	Acute strumous disease of left joint; bones not diseased; abscess; sinuses; and ulceration of cartilages.
334	Lancet, 790, 1863.	Holmes, T., 31 Clarges St., Mayfair, W. London.	Hospital for Sick Children.	A——, Henry. Health good.	M. 4½	Since was 14 mos. old.	Nov. 14, 1859.	....	Caries and sinuses of left joint; arm straight, and almost stiff.
335	Heyfeld. ta. 197.	Esmarch, F., Kiel.	Denmark.	Denmark.	F. 58	.....	1859.	....	Caries.
336	Heyfeld. Work p. 180, ta. 198.	Heyfelder, J. F., Erlangen.	Smallpox Hospital, Erlangen	Fimozœff, Nicolas.	M. 21	1 or 2 w'ks.	July 6, 1859.	....	Abscess and caries of left joint; from smallpox.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
19	?	Total excision.	Recovered.	.....	Perfect use and motion of the joint and member; served during the war in one of the Georgia Regiments.	156	A second operation was done for stiffness of the joint.
20	I	Total excision.	Died, 8 months, pyæmia.	.....	Motion limited and painful; parts united by firm and dense fibrous tissue.	8	Patient taken with pulmonary troubles, and died in May, 1859; autopsy showed tubercular cavity in ends of ulna and humerus.
21	I	Total excision.	Recovered, 7 months.	.....	"Good; as powerful and useful as other arm."	7	
22	⊥	The 3d operation for this case; 3 inches shaft of humerus; ends of radius and ulna.	Recovered, 6 months.	.....	Had a most useful arm; regained flexion, extension, pro- and supination.	30	6 months after this excision, thigh amputated for disease of the bone; at 2½ years died of caries of the spine.
23	?	Total excision.	Recovered, 11 weeks.	.....	?		
24	?	Total excision.	Recovered.	.....	"Forearm too movable; functions of member possible by aid of an apparatus; partial success."		
25	?	External condyle.	Died, pyæmia.				
26	I	Total excision.	Recovered.	.....	"Recovery good."	After Sept. 20, 1857.	
27	.....	Total excision.	Died, 5 days, exhaustion.				
28	.....	Not stated.	Recovered, 10 weeks.	.....	Amputated for disease of soft parts.	2½	
29	.....	Total excision.	Recovered, 3 months.	.....	"Complete use of elbow."	3	
30	.....	Total excision.	Died, 1 month, pyæmia.				
31	I	Olecranon process.	Recovered, 3 months.	.....	"Movements of forearm still limited, but improving by the use of baths and mercurial frictions."	3	
32	+	3½ inches of humerus; olecranon and coronoid processes; 1 inch of ulna; head of radius.	Recovered, 7 months.	.....	Arm improving; able to lift and grasp with it; performs all the under movements, and in a limited way is regaining upward motions.	7	
33	?	Articulating surfaces of the three bones.	Uncertain.	.....	.....	.....	Few days only after operation.
34	T	Ends of the 3 bones.	Died, 17 days, of convulsions.				
35	?	Total excision.	Recovered.	.....	"Good."		
36	+	Total excision.	Died, 14 days, pyæmia.				

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
337	Heyfeld. Work p. 181, ta. 199.	Heyfelder, O., St. Petersb'g, Russia.	Russia.	Kouradieff, Katharina.	F. 7	.....	July 16, 1859.	....	Caries of left joint.
338	Heyfeld. ta. 200; Hodges' ta. 18.	Humphry, G. M., Cambridge, England.	England.	England.	M. 45	.....	1859.	....	Caries of right joint.
339	Heyfeld. ta. 202; Hodges' ta. 19.	Humphry, G. M., Cambridge, England.	England.	England.	M. 25	.....	1859.	....	Caries and anchylosis of left joint.
340	Heyfeld. ta. 201; Hodges' ta. 79.	Sandfort.	England.	England.	M. 32	.....	1859.	....	Caries of right joint.
341	Heyfeld. ta. 203; Hodges' ta. 89.	Smith, H., London, see Case 174.	London.	England.	F. 21	.....	1859.	....	Caries.
342	Heyfeld. ta. 204; Hodges' ta. 20.	King, England.	England.	England.	M. 16	.....	Oct. 4, 1859.	....	Caries and anchylosis of right joint.
343	Heyfeld. ta. 205; Hodges' ta. 21.	Wright, England.	England.	England.	M. 13	.....	June 21, 1859.	....	Caries.
344	Med. & Surg. Reporter, Phila. iii. 252; Hodges' ta. 112.	Wood, J. R., New York.	N. York.	?	M. 23	.....	Nov. 27, 1859.	....	Chronic arthritis (morb. cox.) of left joint.
345	Med. & Surg. Reporter, Phila. iii. 252; Hodges' ta. 116.	Wood, J. R., New York.	N. York.	?	M. 40	.....	1859.	?	Chronic arthritis.
346	Lancet, Jan. 15, 1859; Hodges' ta. 67.	Liston, Robt., Edinburgh.	Royal Infirmary	Scotland.	M. 40	.....	Re-port'd in 1859.	....	Chronic arthritis of right joint.
347	Heyfeld. ta. 206; Hodges' ta. 22.	Cadge, Wm., Norwich, England.	England.	England.	M. 29	.....	1859.	....	Chronic arthritis.
348	Heyfeld. ta. 207.	Husband, W. D., York, England.	York, England.	England.	M. 13	.....	1859.	....	Caries.
349	Braith. Retro. No. 43, p. 120.	Porter, G. H., Meath, England.	Meath Hospital.	Thompson, George, England. Very much collapsed.	M. 35	.....	Jan. 7, 1860.	P.	Compound fracture of left joint; from fall; condyles fractured.
350	Hodges' ta. 113; Med. & Surg. Reporter, iii. 252.	Wood, James R., New York.	N. York.	United States.	M. 18	.....	Jan. 8, 1860.	....	Chronic arthritis of left joint.
351	Letter, 1872.	Sayre, L. A., see Case 205.	At home.	R——, Emma, Gramercy Park Hotel, New York.	F. 9	.....	Jan. 1860.	S.	Caries, following acute suppuration, and synovitis.
352	Hodges' ta. 109.	Cadge, W., Norwich.	England.	England.	F. 21	.....	Mar. 19, 1860.	....	Chronic arthritis (morb. cox.) of left arm.
353	Letter, 1872.	Walter, A.G., 66 and 68 6th Avenue, Pittsburg, Pa.	Private patient.	Bedel, Jacob, Pittsburg, Pa. Cachectic tubercles in upper lobes both lungs.	M. 40	.....	April 7, 1860.	S.	Caries of joint (left), following synovitis.
354	Barwell's Dis. Joints, 163, 429.	Barwell, Richard, 22 Old Burlington St London.	Charing-Cross Hospital.	Hogan, Daniel, London. Strumous.	M. 30	15 years' standing.	May 26, 1860.	S.	Chronic synovitis; absorption of cartilages; sinuses; caries (limited); suppuration of left joint, originally from a twist; synovial degeneration.

f Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
7	⊣	Total excision.	Died, 17 days, scorbutus.	.....	.....	.....	Bled at the nose.
8	?	Total excision.	Recovered, 1 year.	.....	"Useful arm."	12	
9	?	Total excision.	Died, 9 months, phthisis.	.....	"Parts not in a hopeful state."	9	
0	?	Total excision.	Recovered.	.....	"Amputated."		
1	?	Total excision.	Recovered.	.....	"Useful arm; fair motion."		
2	?	Total excision.	Recovered, 2 months.	.....	"Useful arm; fair amount of motion."	2	
3	?	Partial excision.	Recovered, 9 months.	.....	"Anchylosis; good use of hand and forearm."	13	
4	?	Condyles and upper portions of ulna and radius.	Recovered, 10 months.	.....	"Useful arm; excellent motion."	10	
5	?	Total excision.	Recovered.	.....	At 2 weeks amputated for disease of soft parts.		
6	.....	Complete excision.	Recovered.	.....	"Equal to its fellow."		
7	?	Total excision.	Recovered, 6 weeks after amputation	.....	"Amputated for profuse suppuration at six mos."	7½	
8	?	Total excision.	Recovered, 2 months.	.....	"Good."		
9	⊢	Humerus above condyles; head of radius and olecranon.	Recovered, 6 months.	.....	"Had a very useful limb; flexion to great extent; could use limb often in his business—house painting."	6	
0	.....	Excision.	Recovered, 2½ months.	.....	"Considerable motion."	2½	
1	I	Articulating faces of radius and ulna, and condyles of humerus.	Recovered.	.....	"Nearly perfect motion of joint."	144	
2	?	Total excision.	Recovered, 1 month.	.....	"Useful arm; does household duties with ease."	1	
3	H	"Humerus above condyles; radius at neck; surface of ulua and olecranon; also large mass of degenerated tissue surrounding joint."	Recovered, 2 months.	.....	Some motion in new joint, anchylosis not having taken place; two fistulæ remained; no disease of bone detected.	2	
4	H	Lower articular end of humerus; the olecranon; head of radius; coronoid process "spared."	Recovered, 2½ months.	.....	"Fair use of arm, and improving daily; wound nearly healed; no dead bone can be detected; two superficial sinuses."	2½	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
355	Letter, 1872.	Walter, A. G., see Case 353.	Walter's Hospital, Pittsburg	Palmer, Jos., St. Clair Twp. Allegheny Co. Pennsylvania	M. 11	Oct. 7, 1860.	Oct. 19, 1860.	S.	Compound fracture of right joint; from railroad injury.
356	Syd. Year Book, 1860, p. 289, from Medical Times & Gaz., Sept. 8, 1860, 240; Hodges' ta. 111.	Curling, T. B., see Case 316.	London Hospital.	England.	M. 68	.....	1860.	....	Chronic arthritis and caries of left joint.
357	Syd. Year Book, p. 289, 1860, from Medical Times, l. c. 240.	Statham, S. F., London.	London.	England.	? 70	.....	1860.	....	Chronic arthritis.
358	Med. and Surg. Reporter, Phila. v. 650.	Whaley, Brooklyn, New York.	Brooklyn Institute.	Cahl, Robert. Good condition.	M. 11	2 mos. standing.	Jan. 5, 1861.	S.	Abscesses; synovitis; osteitis; ulceration of cartilages; swelling and heat of joint; no cause known.
359	Lancet, 792, 1863.	Holmes, T., see Case 334.	Hospital for Sick Children.	N——, John. Had had strumous affections on various parts of the body; great pain.	M. 9	8 years' standing.	April 20, 1861.	....	Abscesses and softening of ends of bones of left joint; member rectangular; sinuses.
360	Med. and Surg. Reporter, Phila. vi. 320, from Brit. Am. Jour.	Not stated.	Saint Patrick's Hospital, Montreal, Canada.	.....	F. 23	.....	April 27, 1861.	S.	Caries and anchylosis in straight position.
361	Heyfelder, O., Work, p. 181, ta. 208.	Boeckel, Eng. Strasbourg, Germany.	Germany.	Sch——, Miss. System scrofulous, and improved by treatment.	F. 16	10 years' standing.	June 17, 1861.	S.	Caries; suppuration; fistulæ; sinuses of right joint; anchylosis in straight position; luxation of radius in front; osseous deposits.
362	Boston Med. & Surg. Jour., lxvii. 32.	Barton, Edward, Orange, Mass.	Orange, Mass.	French, Richard.	M. 61	.....	Sept. 1861.	P.	Incised wound of joint; by tub-saw; ends of bone sawed off; ulnar nerve injured.
363	Lancet, ii. 34, 1862.	Mason, Francis, 10 Conduit St. W. London.	City of London.	Pale, but healthy looking.	M. 16	3 years' standing.	Nov. 16, 1861.	....	Anchylosis at angle of 130°; from blow on left joint.
364	Lancet, 792, 1863; Surg. Dis. Childhood, 519, 520.	Holmes, T., see Case 334.	Hospital for Sick Children.	P——, John.	M. 8	1 year before.	Dec. 3, 1861.	....	Caries of external condyle; degeneration of synovial membrane; sinuses; abscess; ulceration of cartilages of right joint; no known cause; bones of forearm healthy.
365	Syd. Year Book, 282, 1861, from Dub. Med. Press Jan. 2d, p. 4.	Tufnell, T. J., Dublin, Ireland.	Dublin.	Ireland.	M. ad't	.....	1861.	P.	Injury of joint; incurred while blasting a rock.
366	Med. Times and Gaz., p. 524, May 18th, 1861.	Fergusson, William, see Case 59.	King's College Hospital.	England.	?	.....	1861.	....	Chronic arthritis.
367	Lancet, ii. 223, 1862.	Hart, Ernest A., Harley St., London.	West London Hospital.	Scrofulous.	M. 33	20 years' standing.	Jan. 10, 1862.	....	Caries and dislocation of ulna; arm bent.
368	Hosp. Records, by Surg. Gray.	Sands, H. B., 35 W. 33d St., New York.	N. York Hospital.	Reid, William.	M. 26	2 years' standing.	Mar. 19, 1862.	....	Chronic synovitis of left joint.
369	Lancet, ii. 270, 1860.	Sall, Wm., Surg.-Major, Melbourne, Australia.	In Garrison, Melb'rne.	English Soldier.	M. ad't	May 4, 1862.	May 24, 1862.	S.	Penetrating bayonet w'nd of joint, with sloughing, suppuration, and fracture of olecranon.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
355	I	Condyles and 1 inch shaft of humerus; articulating surfaces of radius and ulna.	Recovered.	.....	True anchylosis in semi-flexed position of member.	36	Passive motion refused at an early period, and when used late not persevered in.
356	I	Total excision.	Recovered, 4 months.	.....	"Successful result; parts soundly healed."	4	
357	?	Total excision.	?	.....	?	.....	
358	I	Olecranon; head of radius, and articular surface of diseased humerus.	Recovered, 2½ months.	.....	"Considerable flexion and extension, but little voluntary power, from neglect of passive motion."	2½	
359	T	Head of radius; ulna ¼ inch below sigmoid notch; 1 inch of humerus.	Recovered, 4 months.	.....	"Wound healed; can use arm as freely as other, but with much less power; can touch other shoulder and extend forearm; wound closed entirely by July, 1863."	27	
360	.....	Olecranon; radius to tuberosity; condyles and shaft below condyloid ridges.	Recovered, 5 weeks.	.....	"Passive motion only through an arc of a circle of 130°."	1½	
361	⊢	A wedge-shape portion in mass, including the ends of the three bones.	Recovered, 16 weeks.	.....	"At 16 weeks able to dress herself, using the member; healed perfectly in 1 year; anchylosis rectangular."	12	
362	None, done thro' saw wound.	Ends of bone sawed off square, after sawn parts removed.	Recovered.	.....	"In lifting, arm as strong as ever; can't do much lifting arm horizontal; good use of hand excepting ring and little finger; works all day, as chairmaker."		
363	H	Total excision.	Recovered, 50 days.	.....	"Flexion and extension increasing; some pro- and supination; lifts a scuttle of coal; feeds himself, and combs hair with member."		
364	T	End of humerus above external condyle; ulna below sigmoid notch; head of radius.	Recovered, 3 months.	1	"Passive motion in joint; motion without pain; wound healed; last seen, had recovered with the best results."	36	
365	?	Total excision; great removal of bone.	Recovered.	.....	"Gained perfect use of arm."	?	
366	?	Total excision.	?	.....	?		
367	I	Olecranon; articular end of humerus; head of radius.	Recovered, 5 months.	.....	"Progressed well; very useful arm, with good motion of joint."	After 5	
368	I	Humerus just above sigmoid notch; radius and ulna sawed off evenly.	Recovered, 4 months.	.....	"Free motion; can flex member without assistance."	4	
369	H	Total excision; previously some portions of olecranon.	Recovered.	.....	"Amputation of middle ⅓ 10 days after excision, for extreme suppuration of arm and forearm."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
370	Lancet, 256, 1866.	Bryant, T., 2 Finsbury Sq., E. C. London.	Guy's Hospital.	A carter.	M. 62	3 years before	May, 1862.	....	Caries; sinuses; suppuration and enlargement of right joint; from injury.
371	Lancet, 262, 1864.	Reported by Callender, G. W., 47 Queen Anne St., W. Lond.	A London Hospital.	A girl.	F. girl	10 mos. standing.	June, 1862.	....	Chronic arthritis.
372	Lancet, 793, 1863.	Holmes, T., see Case 334.	Hospital for Sick Children.	H——, Jane. Very weak and low.	F. 2¾	6 mos. before.	July 5, 1862.	....	Chronic arthritis; ulceration of cartilages; abscess; caries; right joint.
373	Buffalo Med. & Surg. Jour., N. Y., ii. 6.	Moore, J. E., Buffalo.	Sisters' Charity Hospital, Buffalo.	Hayes, Catharine, Buffalo, N. Y.	F. 34	?	Nov. 14, 1862.	S.	Caries.
374	Med. & Surg. Reporter, Phila. viii. 536.	Spence, Edinburgh.	Edinb'gh.	Scotland.	?	.....	1862.	S.	Synovial degeneration.
375	Med. & Surg. Reporter, Phila. viii. 536.	Spence, Edinburgh.	Edinb'gh.	Scotland.	?	.....	1862.	S.	Caries.
376	Lancet, 793, 1863; Surg. Diseases Children, 517.	Holmes, T., see Case 334.	Hospital for Sick Children.	B——, Arthur. Delicate and weakly; much emaciated.	M. 9	2 years' standing.	Mar. 31, 1863.	S.	Incomplete anchylosis; limb nearly straight; necrosis; ulceration of cartilages; from injury.
377	Letter, 1872.	Gouley, J. W. S., 56 W. 38 St., New York.	Bellevue Hospital, N. York.	United States.	M. 50	.....	April, 1863.	S.	Chronic arthritis of left elbow.
378	Letter, 1872.	Walter, A. G., 66 6th Ave., Pittsburg, Pa.	Walter's Hospital.	Aerspach, Charles, Allegheny City, Pa. Robust and hearty.	M. 12	2 w'ks before.	May 12, 1863.	S.	Compound comminuted fracture, involving joint; from fall.
379	Lancet, 794, 1863.	Holmes, T., see Case 334.	Hospital for Sick Children, London.	B——, Alfred. Pale, strumous, ill-nourished.	M. 5	2 years' standing.	May 18, 1863.	S.	"Caries and abscess of right elbow; from repeated injury."
380	Braith. Retro. Part 59, p. 130, from Langenbeck's Archiv, Bd. 9, p. 912.	Doutrelpont, Prof., Bonn, Prussia.	Germany.	Germany.	? 18	.....	Prob. 1863.	S.	For disease.
381	Syd. Year Book, 1863, from Lancet, i. 38, 1863.	Holt, B. W., 14 Savile Row W. London.	England.	England. Had phthisis.	?	?	1863.	....	Chronic arthritis.
382	Am. Jour. Med. Sci., N. S., lv. 122.	Todd, S. J.	Uncertain	S——, C., a mulatto.	M. 35	July 21, 1864.	July 22, 1864.	P.	Compound comminuted fracture of upper end of ulna and olecranon.
383	Letter, 1872.	Jackson, A. Reeves, 785 Mich. Ave., Chicago, Ill.	Private patient.	Wheelan, Jas. Tobyhanna, Monroe Co., Pennsylvania	M. 30	?	1864.	P.	Complicated fracture of joint; from railroad injury.
384	Boston City Hosp. Reports, i. 104.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	H——, Katie. Patient debilitated; caries developed in opposite elbow 1 year after.	F. 15	1 year's standing.	1864 to 1868.	S.	Caries, with abscess and profuse suppuration of joint.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
370	?	Total excision.	Recovered, 6 months.	.....	At his work, without any inconvenience; can crack his whip with skill.	48	
371	?	Total excision.	Recovered.	.....	Amputated 10 mos. after, for atrophy of limb.	After 10	
372	T	Humerus just above condyles; sigmoid cavity of ulna.	Died, 27 days, of double pneumonia, from rubeola.	.....	"Arm did well, and general system improved."		
373	H	Articular surfaces of humerus and radius.	Recovered.	.....	"Complete."	108	
374	?	Probably total excision.	Recovered.	.....	?	3	
375	?	Probably total excision.	Uncertain.	.....	.....	1 day	
376	T	Ulna below coronoid; radius on same level; humerus above condyles.	Recovered, 2 months.	.....	"Health much improved; elbow movable to a limited extent by passive action; arm and muscles regaining their strength."	2	
377	H	1½ inches of humerus; head of radius; olecranon and coronoid.	Recovered.	.....	"Had a very useful limb; flexion and extension excellent; no rotation."	53	
378	H	Humerus above; radius at neck; ulna on same level.	Recovered, 10 weeks.	.....	"Useful arm for all ordinary purposes; all motions free, yet the arm is weaker than its fellow."	96	
379	T	¾ inch of ulna; head and neck of radius to same level; humerus above condyles.	Probably recovered.	.....	"Abscesses in axilla; passive motion of joint; painless extension."	1½	
380	?	Subperiosteal; ¾ inch of humerus; 1½ inch of ulna; head of radius.	Recovered.	None.	Pronation and supination almost natural; flexion and extension perfectly good; within limits of 75° to 120°.	48	Died four years after; the specimen showed the condyles, head of radius, ulna, orbicular ligament, even a hyaline cartilage was reproduced.
381	I	Total excision.	Died, phthisis.	.....	"The external incision healing rapidly when died; doing well so far as the treatment of the elbow was concerned."		
382	Wound enlarged.	Olecranon, end of ulna, and spicula.	Recovered.	.....	"Flexion, extension, pro- and supination, free; arm as good as its fellow."	38	
383	H	2½ inches of humerus; 2½ inches of ulna; 1½ inches of radius.	Died, 7 days, exhaustion, from other injuries received at time of accident.				
384	I	All the articular surfaces.	Recovered, 99 days.	.....	"Amputation of arm at 8 weeks; recovered slowly."	3½	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
385	Boston City Hosp. Reports. i. 106.	Cheever, D. W., Boston, Mass.	Boston City Hospital.	G——, Peter.	M. 38	13 mos. standing.	1864 to 1868.	S.	Caries of elbow.
386	Boston City. Hosp. Reports, i. 104.	Thaxter, D. McB., Boston, Mass.	Boston City Hospital.	C——, John.	M. 30	?	1864 to 1868.	P.	Compound comminuted fracture into elbow.
387	Boston City Hosp. Reports, i. 106.	Thaxter, D. McB., Boston, Mass.	Boston City Hospital.	R——, John.	M. 32	?	1864 to 1868.	P.	Compound comminuted fracture into elbow.
388	Boston City Hosp. Reports, i. 106.	Ropes, F. Codman, Boston, Mass.	Boston City Hospital.	R——, Giovanni.	M. 34	?	1864 to 1868.	P.	Compound comminuted fracture, involving elbow.
389	Boston City Hosp. Reports, i. 104.	Buckingham, Charles C., Boston, Mass.	Boston City Hospital.	C——, Dennis G. Fracture of opposite humerus and concussion.	M. 15	3 hours before.	1864 to 1868.	P.	Compound comminuted fracture, involving elbow.
390	Boston City Hosp. Reports, i. 106.	Homans, Charles D., Boston, Mass.	Boston City Hospital.	T——, David D.	M. 47	1 hour before.	1864 to 1868.	P.	Compound comminuted fracture, involving elbow.
391	Boston City Hosp. Reports, i. 106, 72.	Thorndike, W. H., Boston, Mass.	Boston City Hospital.	B——, Mary L.	F. 11	4 mos. before.	1864 to 1868.	S.	Caries of elbow, and necrosis of humerus; from an old fracture into joint.
392	Boston City Hosp. Reports, i. 106, 72.	Thorndike, W. H., Boston, Mass.	Boston City Hospital.	F——, Lizzie.	F. 3	6 mos. standing.	1864 to 1868.	....	Caries of elbow, with necrosis of humerus; anchylosis and sinuses.
393	Letter, 1872.	Walter, A. G., see Case 378.	Walter's Hospital, Pittsburg	Craft, Ulrich, Birmingham, Pennsylvania	M. 16	2 days before.	Sept. 12, 1865.	P.	Fracture of both condyles, extending into left elbow (compound).
394	Letter, 1872.	Twinchell, G. B., Keen, N. Hamp.	Private practice.	Attwood, Sylvester.	M. 26	?	Dec. 12, 1865.	S.	Caries.
395	Syd. Biennial, 1865–66, p. 120, from Dublin Med. Quarterly, 1865, p. 265.	Stokes, Ireland.	Ireland.	Ireland.	?	4 mos. before.	1865.	S.	Chronic arthritis and caries; from injury.
396	Hosp. Records by Surg. Gray.	Buck, Gurdon, see Case 130.	N. York Hospital.	Williams, John C.	M. 50	years before.	Dec. 8, 1866.	S.	Anchylosis from old dislocation, complicated with fracture; by fall from the mast of a ship; left side of arm at an angle of 14°.
397	Am. Jour. Med. Sci., N. S., liv. 548.	Laryoyenne, Lyons, France.	?	France.	M. 39	26 years' standing.	1866.	....	Chronic arthritis.
398	Letter, 1872; Am. Jour. Med. Sci., N. S., lv. 42.	Ashhurst, John, Jr., 2000 W. Delancy Place, Philadelphia.	Episcopal Hospital, Philada.	Fernhold, Bennett E., Blacksmith. Has chronic ulceration of bladder; bad state; broken down.	M. 56	?	Mar. 20, 1867.	S.	Chronic arthritis, with disease of cartilages and ligaments; much pain.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
385	I	All the articular surfaces.	Recovered, 78 days.	.....	"Excellent result."	2¾	
386	?	Total excision.	Recovered, 134 days.	.....	"Slight motion."	4¾	
387	I	Total excision.	Died, 9 days, shock of amputation.	.....	Delirium tremens and great exhaustion, hence arm amputated 9th day.		
388	?	Total excision.	Recovered, 81 days.	.....	Amputated 25th day for phagedæna and erysipelas.	2¾	
389	?	Total excision.	Died, 24 days, exhaustion.				
390	I	Total excision.	Recovered, 34 days.	.....	Amputated 15th day for progressive phagedæna and erysipelas.	1	
391	H	All of articular surfaces.	Recovered, 122 days.	.....	"Partial mobility of joint; good motion."	4¼	
392	H	Total excision.	Recovered, 68 days.	.....	Good motion, and no sinuses.	2¼	
393	⊢	Condyles of humerus; head of radius; articulating facets of ulna and olecranon.	Recovered, 11 weeks.	.....	"Useful arm for ordinary purposes; no anchylosis; extension and flexion pretty free; pronation and supination somewhat impaired; is healthy."	48	
394	I	Entire articular surface of radius, ulna, and humerus.	Recovered.	.....	"Very serviceable."	84	
395	I	Total excision; subperiosteal.	Recovered, 3½ months.	.....	"Case did very well; motion of joint obtained."	3½	
396		Wedge-shape piece, includidg articular surface of humerus.	Recovered, 41 days.	.....	Can touch nose with his thumb, or put it into his mouth; motion improving; "discharged."	1¼	Suffered by the fall; fracture and dislocation of both elbows, and fractured femur; right elbow partly anchylosed.
397	?	Subperiosteal; total excision; "the bones of the articulation."	Recovered, 11 months.	.....	"No rotation; flexion beyond right angle; extension good; joint reproduced."	11	This case was reported by the operator as an argument against the view of Sédilot, that in subperiosteal excisions an excess of bone is produced, and motion of joint interfered with (see Amer. Journ. Med. Sci., N.S., vol. liv. p. 548).
398	H	1 inch of humerus; 1½ inches of ulna; head of radius.	Died, 33 days, exhaustion, from general failure.	.....	Patient and joint did well for 10 days; no union between bones; soft parts united to a considerable extent.	1	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
399 Double operation	Am. Jour. Med. Sci., N S., lviii. 478; Dis. Infancy and Childhood, Holmes, p. 523.	Holmes, T., see Case 334.	Hospital for Sick Children, London.	B——, Walter Weak and irritable from constant pain; strumous sores on face and leg.	M. 5	6 mos. standing.	April 11, 1867.	S.	Chronic arthritis, with abscess of right elbow; sinus and good deal of lateral motion; disease confined to synovial membrane and cartilages; bones intact.
400	Am. Jour. Med. Sci., N. S., Dis. Infancy and Childhood, Holmes, p. 523.	Holmes, T., see Case 334.	Hospital for Sick Children, London.	Same patient as above; system improved from first operation.	M. 5	8 mos. standing.	June 11, 1867.	S.	Chronic arthritis; abscess of left joint, with incipient caries of the three bones.
401	Letter, 1872.	Walter, A. G., see Case 378.	Walter's Hospital.	Emmet, Gustave, Manchester, Pennsylvania	M. 20	W'ks before.	April 15, 1867	S.	Compound comminuted fracture, involving left elbow: from machinery injury.
402	Boston City Hosp. Reports, i. 104; Letter, 1872.	Buckingham, Charles C., Boston, Mass.	Boston City Hospital.	C——, John.	M. 13	.....	May 7, 1867.	P.	Compound comminuted fracture into elbow.
403	Lancet, 177, 1872.	Forster, J. Cooper, see Case 291.	Guy's Hospital, London.	P——, Louisa, domestic servant.	F. 19	When 10 years of age.	July, 1867.	S.	Caries; abscesses; synovitis; originally from rheumatism as a predisposing cause (right elbow).
404	Lancet, 178, 1872.	Forster, J. Cooper, see Case 291.	Guy's Hospital, London.	Domestic servant.	F. 21	When 10 years of age.	1st, Nov. 2, 1869. 2d, Aug. 1870.	S.	Caries; abscesses; originally from rheumatism (predisposing cause); left elbow; necrosis of ends of bones.
405	Lancet, 369, 1868.	Hill, J. D., London.	?	England.	Pr. M.	1866 or 1867.	1866 or 1867.	P.	Compound fracture of olecranon.
406	Lancet, 321, 1869.	Birkett, John, see Case 226.	Guy's Hospital.	A carman.	M. 19	.....	Jan. 18, 1868.	S.	Abscess of right joint; bones not diseased; done to allow free discharge.
407	Letter, 1872.	Walter, A. G., see Case 353.	Friend's house, Allegh'ny City.	Watson, Andrew, Brady's Bend Armstrong Co., Penna.	M. 41	9 mos. before.	Jan. 29, 1868.	S.	Anchylosis in bad position; the result of a boiler explosion; dislocation of olecranon, with suppuration and synovitis.
408	Letter, 1872.	Beech, J. H., Coldwater, Michigan.	Private house.	Thompson, S. H., Bronson, Branch Co., Michigan. Shingle cutter.	M. 35	.....	Feb. 1, 1868.	P.	Wound of right elbow; from buzz-saw; obliquely through posterior aspect of joint; extensive laceration of soft parts; all of the bones of the joint cut.
409	Letter, 1872.	Gay, Theo., Malone, Franklin Co., New York.	Patient's home.	Beardsley, H.	M. 17	.....	Feb. 14, 1868.	P.	Compound fracture of end of humerus, with protrusion of bone constantly.
410	Letter, 1872.	Dawson, W. W., 3d & Broadway, Cincinnati, O.	Cincinnati Hospital.	Dorton, Jas. Syphilitic.	M. 20	Mos. standing.	July, 1868.	S.	Syphilitic caries.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
399 Double operation.	I	Ulna below coronoid process; head of radius; humerus close above condyles.	Recovered, 2 months.	.....	June 11, 1867, joint far advanced towards cure; Aug. 1, joint movable, and could feed himself with it, and use it a good deal; at a year, wound sound; no swelling.	12	Both arms flexible through a very considerable angle, and the child could use them quite naturally; operator believes this is the first double excision of this joint on record.
400	I	Same parts as above.	Recovered, 2 months.	.....	Aug. 1, splint left off; 10 months after, both arms useful (see remarks); health wonderfully improved.	10	He also objects to transverse incisions, as the cicatrix is liable to unite to ends of bone, and impede motion of the joint.
401	I	Total excision.	Recovered, 12 weeks.	.....	"No anchylosis; tolerably useful arm, yet not as strong as the other."	.....	"Passive motion in this and my other cases resorted to early."
402	Enlarged comp'd opening	Total excision.	Uncertain.	.....	"After 63 days, removed by friends; case complicated by erysipelas and necrosis."	.....	M. Ollier (see Lancet, Am. ed., 1872, p. 659), speaking of the unequal developing power of the two conjugate cartilages of this joint, that of the radius and ulna growing least, and that of the humerus most, so that the development of the upper extremity is at the head of the humerus and at the lower ends of the radius and ulna, is favorable to resections at the elbow.
403	I	Total excision; all the diseased parts, including 2 inches of humerus.	Recovered, 15 weeks.	.....	"Wound healed; with an apparatus, which supports the arm in a rectangular position, all motions of hand and fingers good; can do light work, and write well; arm flail-like when apparatus is off."	51	
404	I	"Articular surfaces; necrotic portions from the ends of the bones."	Recovered, 11 weeks.	.....	Left hospital; arm flexed to right angle; no extension or rotation; slight flexion; can't flex fingers perfectly; can't use arm in dressing or eating; arm rectangular; bare bone felt at bottom of sinus; health much improved.	24	Case complicated with two attacks of erysipelas, once at Margate, and once at Guy's Hospital, after dead bone was removed. (403 and 404 same patient.)
405	?	Probably only olecranon.	Recovered.	.....	Patient exhibited to the Royal Medical and Surgical Society as a success.	May or June, 1867.	Case complicated with transverse fracture of the patella.
406	I	Olecranon only.	Recovered, 10½ months.	.....	"Slight motion at elbow, which was perfectly strong and very useful."	10½	
407	I	Condyles of humerus; head of radius; upper end of ulna.	Recovered, 4 months.	.....	False anchylosis in good position of arm; pronation and supination limited; flexion and extension limited, but improving; patient continues at his work as an engineer.	4	Passive motion not assiduously carried out, as it pained him so much.
408	None; bone remov'd thro' saw cuts.	1¼ inches of humerus; 2 inches of ulna; ¾ inch of radius.	Recovered, 3 weeks.	.....	"Man received a dollar a day for work in the factory from the 3d week; after the 8th week he drew full pay; usefulness of arm not seriously impaired."	48	
409	+	2½ inches of humerus.	Recovered.	.....	"Anchylosis of joint; good use of hand and arm."	48	
410	+	3¼ inches of humerus; 1½ inches of ulna; head of radius.	Recovered.	.....	"Able to do all the duties of a barber."	36	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
411	Syd. Biennial, 1871–72, p. 217, from Arch. für Klin. Chir., xiii. 225.	Billroth, Th., Vienna, Austria.	Austria.	Austria.	F. 13	3 years' standing.	Oct. 1868.	S.	Anchylosis at 145°; caries; 6 fistulæ; suppuration; result of arthritis of joint.
412	Braith. Retro., Part 59, p. 129.	Holmes, T., see Case 334.	Saint George's Hospital.	England.	M. 12	?	Nov. 19, 1868.	S.	Penetrating injury of joint, with osteitis of end of humerus.
413	Med. Record, N. Y., vi. 276.	Cheever, D. W., Boston.	?	?	M. boy	?	About Nov. 1868.	S.	Chronic arthritis.
414	Am. Jour. Med. Sci., N. S., lviii. 587.	Hinkle, James B., Americus, Ga.	Americus Georgia.	S——, J., Negro.	M. 16	Several mos. before.	Nov. 1868.	S.	Caries and anchylosis (arm straight); from fracture.
415	Letter, 1872.	Gouley, J. W. S., 56 W. 38th St. New York.	Bellevue Hospital, N. York.	?	M. ad't	?	Between 1864 and 1868.	S.	Chronic arthritis, with disorganization of joint; from injury.
416	Letter, 1872.	Gouley, J. W. S., 56 W. 38th St. New York.	Bellevue Hospital, N. York.	Gallagher, Peter.	M. 30	Long standing.	Winter, 1868.	S.	Anchylosis, with disease of joint (left). 2d. More of humerus removed to restore motion.
417	Arch. für Klin. Chir. Lang., 16, 2, 421.	Langenbeck, B. Von, Berlin. 2d by Schoenborn, of Austria.	Klinic, Berlin.	Fenkelde, Fritz.	M. 22	Jan. 3, 1869.	Mar. 2, 1869.	S.	Contused wound of left joint, with fracture of olecranon; from the kick of a horse; small wound near olecranon; frequent bleeding from wound; joint open; olecranon retracted; free synovial discharge from joint; limb swollen and red.
418	Letter, 1872.	Walter, A. G., see Case 353.	Walter's Hospital.	Connerwet, Peter, Allegheny City, Penna.	M. 38	Aug. 4, 1869.	Aug. 5 1869.	P.	Injury of joint, sustained in coupling railroad cars.
419	Letter, 1872; Buffalo Med. & Surg. Jour. ii. 3.	Miner, J. F., Buffalo, N. Y.	Buffalo, N. York.	Leach, William J.	M. 32	Nov. 6, 1869.	Nov. 6, 1869.	P.	Fracture of ulna; from railroad injury.
420	Hosp. Records, 2d Div. vol. 1869, p. 125, by Surg. Gray.	Sands, S. H. B., 35 W. 33d St., New York.	Bellevue Hospital.	Denton, Washington.	M. 25	?	Dec. 30, 1869.	S.	Caries.
421	Lancet & Obs., Cincinnati, Aug. 1870, and "Clinic,"	Muscroft, C. S., Cincinnati, O.	Private practice, Cincinnati.	Roseboom, ——.	M. 42	.....	1869.	S.	Caries.
422	Lancet, 489, 1869.	Canton, Edwin.	Charing-Cross Hospital.	Boy. Great disturbance.	M. 8	?	1869.	S.	Chronic arthritis.
423	Letter, 1872.	Ashhurst, John, Jr., see Case 398.	Episcopal Hospital, Philada.	Diamond, Joseph. Tuberculous subject.	M. 25	.....	Jan. 26, 1870.	S	Chronic arthritis.
424	Med. News and Lib., Philada., xxix. 24; Am. Practit'ner.	Blackman, George H., Cincinnati.	Cincinnati Hospital.	H——, P.	M. 50	.....	May 24, 1870.	S.	Softening and necrosis of head of humerus, and abscess of left elbow.
425	Letter, 1872.	Curtis, C. R. S., Quincy, Ill.	Saint Mary's Hospital.	Quigley, John Otherwise a healthy man.	M. 40	.....	Oct. 10, 1870.	S.	Suppuration of joint; from injury.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
411	?	Ends of bones; 2½ inches.	Recovered.	.....	"Could flex and extend member between angles 60° and 113°; no rotation."	32	Died of pneumonitis 2¼ years after.
412	I	Subperiosteal; ulna through coronoid process; humerus above condyles.	Recovered, 1⅔ months.	.....	"Motion through 30°; can carry hand to head; voluntary power but little, yet gaining."	1⅔	
413	I	Entire joint by subperiosteal excision; condyles removed.	Recovered.	.....	Motions of elbow restored, and the arm strong and useful.	31	
414	I	End of humerus, including condyles; end of ulna; head of radius.	Recovered, 5 months.	1½	"Able to pick cotton: seen ploughing; arm quite strong."	5	
415	I	Head of radius; olecranon and coronoid; 2 inches of humerus.	Recovered.	.....	Excellent result; motions good.	?	
416	I	1st. Head of radius; olecranon; 2½ inches of humerus. 2d. 1½ inches more of humerus.	Recovered.	.....	"Result all that could be desired; uses his limb, he says, 'as if nothing was the matter;" no apparatus needed; can lift 56 lbs. with the member."	48	
417	I	Only the joint surface of humerus; the retracted olecranon not touched.	Recovered, 2⅔ months, wound not quite healed.	.....	December 20, 1870, was discharged, with free motion of the elbow-joint.	21½	Patient did not take chloroform; wound left open; arm covered with cotton; later, plaster of Paris dressings; arm swelled; plaster removed, and simple splint applied; free incisions; about Dec. 1871, died of phthisis pulmonalis.
....	.....	2d. Necrotic portions of lower end of humerus.					
418	I	Total excision, and 2 inches of shaft of humerus.	Recovered, 15 weeks.	.....	True anchylosis in semi-flexed position of member.	17	Patient refused passive motion, hence the anchylosis.
419	Made by injury.	Upper ¼ of ulna.	Recovered.	.....	Equally as efficient as his fellow workmen; works in a stove manufactory.	13	
420	T	Olecranon as low as coronoid; head of radius; ¼ inch of humerus.	Recovered, 5½ months.	.....	Forearm could be flexed to more than right angle; joint strong.	5½	
421	I	Entire ulna.	Recovered.	.....	"Elbow anchylosed at right angle; good use of hand."	In Jan. 1872.	
422	?	Total excision.	Uncertain.	.....	?	?	
423	I	Total excision.	Died, 4½ months, tuberculous meningitis.	.....	"Did not die of operation."		
424	I	Head and 2 inches shaft of humerus.	Recovered, 4 months.	.....	Wound healed when last seen; too soon to report final result.	4	
425	⌣	Articular surfaces, with subjacent bone.	Recovered, 8 months.	.....	"Limited motion, but very useful arm."	8	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
426	Letter, 1870.	McGraw, Theodore A., Detroit, Michigan.	Detroit, Mich.	Scott, Moses.	M. 25	Oct. 27, 1870.	Oct 28, 1870	P.	Division of left olecranon by circular saw; ulnar nerve divided; articular surface of humerus injured.
427	Letter, 1872.	Ashhurst, John, Jr., see Case 398.	Children's Hospital, Philada.	Kingston, Josephine.	F. 7	?	Dec. 19, 1870.	S.	Chronic arthritis.
428	Letter, 1872.	Stegmans, G., Hillsborough, Missouri.	At parent's.	Dickerson, Frank.	M. 6½	Dec. 27, 1870.	Dec. 30, 1870.	P.	Injury of joint; thrown from mule and joint trampled on.
429	Butler's Comp. Pt. 7, 241, 1871; Dublin Quart'ly Nov. 1870.	Johnston, Zach., Ireland.	In Dublin.	Ireland. Emaciated and scrofulous girl.	F. 12 or 13	?	1869 or 1870.	S.	Caries, with intense pain of left elbow.
430	Letter, 1872.	Muscroft, S. C., see Case 434.	Saint Mary's Hospital, Cincinnati, O.	?	M. 26	.....	1870.	S.	Anchylosis from fracture.
431	Letter, 1872.	Gouley, J. W. S., see Case 377.	Bellevue Hospital.	?	M. ad't	.....	Fall, 1870.	P.	Compound complicated fracture.
432	Syd. Biennial, 217, 1871–72; Ed. Med. Jour., Jan, 1871, 652.	Watson, P. H. Edinburgh.	Royal Infirmary Scotland.	A boy, Scotland.	M. ?	Of some duration.	1870.	S.	"Partial fibrous anchylosis from arthritis; result of dislocation of radius backwards; trochlear epiphysis separated; osseous deposits about sigmoid cavity."
433	Syd. Biennial, 28, 1871–72; Brit. Med. Jour. May 27, 1871.	Marshall, England.	England.	England.	?	An old case.	1870.	S.	Old dislocation at the joint.
434	Letter, 1872; Lancet & Obs., Aug. 1870; Clinic, Cincinnati.	Muscroft, C.S. 333 John St., Cincinnati.	Saint Mary's Hospital, Cincinnati, O.	——, Mary.	F. 28	.....	1870.	S.	Necrosis, involving elbow.
435	Lancet, 620, 1871; Surgery, p. 655.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital.	R——, Margaret.	F. 25	18 mos. standing.	1864 to 1870.	S.	Ulceration of ends of cartilages of the three bones; arm semi-flexed; traumatic chronic synovitis.
436	Lancet, 620, 1871; Surgery, p. 655.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital.	B——, Thomas H.	M. 29	1 year's standing.	1864 to 1870.	S.	Chronic synovitis; ulceration of cartilages of three bones; abscesses; sinuses; arm semi-flexed; traumatic. 2d. Return of disease; abscesses; sinuses.
437	Lancet, 620, 1871; Surgery, p. 655.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital.	M——, Mary.	F. 28	1 mos. standing.	1864 to 1870.	S.	Acute traumatic synovitis; partial ulceration of cartilages of the three bones, with subjacent caries; limb semi-flexed.
438	Lancet, 620, 1871; Surgery, p. 655.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital.	T——, Jane. Scrofulous.	F. 31	?	1864 to 1870.	S.	Scrofulous caries of ends of humerus and ulna; ulceration of cartilages; semi-flexion of limb.
439	Lancet, 620, 1871; Surgery, p. 655.	Gant, F. J., 16 Connaught Square, W. London.	Royal Free Hospital.	P——, Locus.	M. 50	10 mos. standing.	1864 to 1870.	S.	Idiopathic caries; 6 years before, carious abscess of olecranon gouged out.
440	Letter, 1872.	Gregory, E.H. St. Louis, Mo.	Private practice, St. Louis.	Jamison, John St. Louis, Mo.	M. 25	.....	Jan. 1, 1871.	P.	Injury of joint; from fall from scaffold.
441	Letter, 1872.	Ashhurst, John, Jr., see Case 398.	Episcopal Hospital.	Coates, Jos. Intemperate.	M. 51	.....	Mar. 27, 1871.	P.	Compound dislocation and fracture of olecranon.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
426	Transverse, made by saw.	Humerus as high as the condyles; whole of olecranon (ulna and radius not touched).	Recovered, 2 months.	.....	"Wound healed in 2 mos.; October, 1871, can carry bucket of water in left hand; has every motion except supination, which is imperfect; sensation of the divided ulnar nerve entirely restored."	12	
427	I	Total excision.	Recovered.	.....	"Anchylosis as regards flexion and extension; pronation and supination perfect; very useful arm."	39	
428	T	1¾ inches of ulna; including olecranon.	Recovered.	.....	"Very good; is able to work."	17	
429	H	Carious portions of ulna and humerus (radius healthy).	Recovered.	.....	"Ultimately excellent use of hand; can knit and do other work; can comb back hair."	?	
430	Str'ight in front joint.	1 inch upper end of radius.	Recovered.	.....	Use of joint very little impaired; health perfect.	In Jan. 1872.	
431	I	Head of radius; olecranon and coronoid; 4 inches of humerus.	Died, 10 days, pyæmia.				
432	?	Total excision.	?	.....	?		
433	?	Total excision.	?	.....	?	.....	Treated by the antiseptic method.
434	I	End of humerus, including condyles, head of radius, and ulna.	Recovered.	.....	Elbow weak; promises well; health perfect.	Mar. 1871.	
435	I	Total excision; thin sections.	Recovered, 6 weeks.	.....	"Movable joint and useful limb."	84	
436	I	Total excision; thin sections. 2d. Re-excision.	Recovered, from 1st and 2d operations.	.....	"Final recovery; movable joint; limb useful in flexion, extension, pronation, and supination."	16	It may be the 1st excision failed from sections of bone being made too thin.
437	I	Total excision; thin sections.	Recovered, 6 weeks.	.....	"Movable joint by passive motion."	12	
438	I	Total excision; thin sections.	Recovered, 2 months.	.....	Partially movable joint by passive motion; uncertain.	6	
439	I	Olecranon and end of humerus.	Recovered.	.....	"Movable joint."	24	
440	Irregular.	Half-inch from each bone, except radius.	Died, 10 days, pyæmia.				
441	I	Total excision.	Died, 7 days, from delirium tremens.	.....	.....	.....	Refused amputation.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
442	Hosp. Records, by Surg. Gray.	Hull, J. J., 158 W. 34 St., New York.	Saint Luke's Hospital, N. York.	Stewart, Eliza.	F. 28	.....	Mar. 27, 1871.	S.	Chronic synovitis.
443	Letter, 1872.	Sackett, S. P., Ithaca, N. Y.	Ithaca, N. York.	Fressel, Fred.	M. 22	.....	May 18 and 19, 1871.	P.	Compound luxation and fracture of ulna at elbow.
444	Personal notes of case.	Culbertson, H., Asst. Surg. U. S. A. Retired, Zanesville, O.	Parent's home.	Clark, Chas., Hanover, Licking Co., Ohio. Scrofulous; chronic diarrhœa 11 yrs.; anæmic; dropsical.	M. 14	2 years' standing.	June 13, 1871.	S.	Caries of lower extremity of humerus, and upper of ulna and radius; softening of the lower ¼ of humerus and upper ¼ of ulna; head of radius carious; arm largely swollen; four sinuses; from a slight injury of joint.
445	Butler's Comp. Part x. p. 245; Canada Med. Jour. Jan. 1872; Med. Record, New York.	Reddy, John, Montreal, Canada.	General Hospital, Montreal, Canada.	Foley, James.	M. 72	?	June 16, 1871.	S.	Caries and abscess, and denuding of cartilages of right joint.
446	Reported by Dr. H. B. Sands, New York; Hosp. Records.	Wier, R. F., New York.	Saint Luke's Hospital, N. York.	Storrett, G. W.	M. 28	.....	Aug. 9, 1871.	S.	Compound fracture of elbow, and head of radius (fracture of).
447	Letter, 1872.	Maury, F. F., 1218 Walnut St., Philada.	Philada.	Taggert, Lizzie.	F. 10½	.....	Oct. 11, 1871.	S.	Chronic synovitis, and caries of left elbow.
448	Letter, 1872.	Post, G. E., Beirût, Syria.	Hospital Saint John's; Beirût, Syria.	Hadain, Masoud, Beirût, Syria. Scrofulous.	M. 8	.....	Dec. 5, 1871.	....	Scrofulous caries.
449	Letter, 1872.	Gregory, E.H. St. Louis, Mo.	St. Louis, Missouri.	Shrum, William J. Other injuries; shock injury.	M. 25	.....	Dec. 12, 1871.	P.	Compound injury of joint.
450	Edinb. Med. Jour., Dec.1871, 559; Syd. Biennial, 1871–72.	Watson, P.H., Edinburgh.	Royal Infirmary	Scotland.	? 20	.....	1871.	....	Anchylosis, following comminuted fracture of ends of radius, ulna, and humerus.
451	Letter, 1872.	Miner, J. F., Buffalo, N. Y.	Buffalo General Hospital.	Shafer, H.	M. 28	.....	Jan. 6, 1872.	S.	Caries, with ununited fracture.
452	Letter, 1872.	Miner, J. F., Buffalo, N. Y.	Sisters Charity Hospital, Buffalo, N. York.	Glenny, Francis.	M. 11	.....	Jan. 17, 1872.	S.	Caries of end of humerus.
453	Lancet, August 31, 1872; Syd. Biennial, 1871–72.	Malius, E. A., England.	Sunderland Infirmary England.	England. Intemperate and syphilitic	F. 40	Jan. 17, 1872.	Jan. 17, 1872.	P.	Irreducible compound dislocation of elbow; opening on inner side and behind joint.
454	Letter, 1872, 74.	Ashhurst, John, Jr., see Case 398.	Episcopal Hospital, Philada.	Adams, Robt.	M. 10	.....	Jan. 18, 1872.	S.	Chronic arthritis of joint.
455	Letter, 1872.	Lizars, J. L., Toronto, Canada.	At home.	Irvine, Mrs., Toronto, Canada. "Scrofulous and not hopeful."	F. 30	During childhood.	Jan. 30, 1872.	S.	Disease of joint, which rendered it useless from an injury.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
442	I	End of humerus; articular end of radius; ulna below coronoid.	Recovered, 6 months.	.....	"Wound not healed when she left the hospital."	6	
443	Torn parts enlarged.	1 inch of ulna.	Recovered, 2 months.	.....	"Hand useful; elbow somewhat flexed and anchylosed."	2	
444	I	Upper ½ of ulna; lower ¼ of humerus; head of radius to neck.	Recovered, 85 days.	.....	February 2, 1872, wound nearly healed; several small sinuses about joint discharging slightly; passive flexion; pronation perfect; supination almost perfect; use of hand and fingers perfect; can pare apples and potatoes; uses the crippled member to good advantage in dressing himself.	10⅔	We were assisted in this case by Dr. P. Q. Fisher, of Nashport, Ohio; arm placed on a pillow covered with oilcloth, and dressed with carbolic acid, cold water, plumbi acetas, and tr. opii; died March, 1872, of dropsy, from chronic diarrhœa.
445	T	¾ inch of radius; ¾ inch of ulna; 1 inch of humerus.	Recovered, 6 months.	.....	"Wound healed; tolerably fair use of arm; complete flexion being the most deficient movement."	6	
446	I	Articular end, and 1 inch of humerus; ulna below coronoid; fractured head of radius, and end smoothed off.	Recovered, 7¾ months.	.....	"Considerable motion; passive motion being kept up still; in hospital doing well."	7¾	
447	T	1½ inches of humerus; ¾ inch of ulna; head of radius.	Recovered.	.....	"A most satisfactory result; a useful and good joint."	21	This patient also was successfully operated on, but not simultaneously, for hip disease (see hip table).
348	+	1 inch of humerus; 1½ inches of radius and ulna.	Recovered, 3 months.	.....	"More use of joint than before operation; excellent progress is being made towards complete recovery."	3	Left hospital fearing another operation was to be done.
449	Irregular.	Olecranon; articular facet of radius; articular surface of humerus.	Died, 2 days, from shock of other injuries.				
450	I	End of humerus smoothed off, and condyles.	?	.....	?	.....	The novelty of this operation consists in taking out each condyle with cutting pliers and forceps through a lateral internal longitudinal incision.
451	I	Lower third of humerus.	Recovered.				
452	I	2 inches end of humerus.	Died, 46 days, cerebro-spinal meningitis.				
453	Opening enlarged.	Total excision.	Recovered.	.....	"Did well; can rotate forearm, and flex it to right angle without assistance."	?	
54	I	Total excision.	Recovered, 4½ months.	.....	"Arm useful, with good motion of joint."	4½	
55	⊢	Whole articular surfaces of three bones.	Recovered, 5 months.	.....	"Pronation, supination, flexion, and extension pretty good; has done well; does her own washing and general housework."	5	Can comb her back hair.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
456	Buffalo Med. & Surg. Jour., xii. 284.	Miner, J. F., Buffalo, N. Y.	Sisters Charity Hospital.	Kenan, Daniel.	M. 6	2 years before.	Jan. 25, 1872.	S.	Caries of lower end of left humerus, with sinuses involving joint; from injury.
457	Letter, 1872.	Lizars, J. L., Toronto, Canada.	At home.	McIntosh, A., Goderich, Ontario, Canada. Young and healthy brakesman.	M. 17	.....	Mar. 17, 1872.	P.	Compound fracture of condyles of humerus; from railroad accident.
458	Letter, 1872 and 1874.	Gouley, J. W. S., see Case 377.	Bellevue Hospital.	Kehoe, Patrick.	M. 13	6 years before.	Feb. 1, 1872.	S.	Chronic arthritis, with great swelling; from injury.
459	Reported by Dr. H. B. Sands (from Hosp. Records), 35 W. 33d St., New York.	Hull, J. J., New York.	Saint Luke's Hospital, N. York.	Lynch, Isabella. Feeble subject.	F. 53	.....	Feb. 16, 1872.	S.	Compound fracture, involving elbow; lower end of humerus broken off.
460	Letter, 1872 and 1874.	Lizars, J. L., Toronto, Canada.	Toronto, Canada.	Jones, Thos., Toronto, Canada.	M. 18	8 mos. standing.	July 3, 1872.	S.	Tubercular degeneration and erosion of joint; from injury.
461	Letter, 1873; Buffalo Med. & Surg. Jour., 283, March, 1873.	Miner, J. F., Buffalo, N. Y.	Buffalo, N. York.	B——, Nellie, Utica, N. Y. System in fair state.	F. 13	May, 1872.	July 28, 1872.	S.	Chronic caries of elbow, and caries of entire ulna; result of periostitis.
462	Letter, 1873 and 1874.	Ashhurst, John, Jr., see Case 398.	Childrens Hospital, Philada.	Phelan, Geo., Philadelphia. Very good.	M. 4	1 year before.	Aug. 12, 1872.	S.	Chronic arthritis; from injury; left elbow.
463	Med. Record, New York, viii. 211.	Sayre, L. A., see Case 205.	N. York.	New York.	?	.....	Jan. 1, 1873.	....	For disease.
464	Letter, 1873.	Ashhurst, John, Jr., see Case 398.	Childrens Hospital, Philada.	Scall, John. Good condition at time of operation; victim of hereditary syphilis.	M. 6	9 mos. standing.	Jan. 13, 1873	S.	Syphilitic arthritis and caries; actual lesion of the elbow (right) had existed 9 months.
465	Med. Record, N. Y., viii. 319; Ibid. ix. 213; Letter, 1874.	Briddon, C. K., 67 W. 23d St., New York.	N. York City.	Cavanaugh, ——. Delicate and small.	M. 10	June, 1872.	Jan. 20, 1873.	S.	Caries; abscess; sinuses; swelling of the left joint; from a fall down a pair of stairs; surfaces denuded of cartilage; pulpy degeneration of synovial membrane.
466	Am. Jour. Med. Sci., N. S., 1874, lxvii. 96.	Hutchison, Joseph C., Brooklyn, New York.	Brooklyn City Hospital.	G——, Jane.	F. 16	Dec. 16, 1872.	Feb. 1, 1873.	S.	Osteo-myelitis of entire ulna, involving left elbow; no cause given.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
456	Posterior. 1	Lower ⅔ of humerus; subperiosteal.	Died, cerebro-spinal meningitis.	.....	Was doing well, but took the then prevailing cerebro-spinal meningitis.		
457	⊢	Olecranon and articular surface of humerus.	Recovered, 70 days.	.....	"Excellent; can use joint well; motion good; was braking on railroad in 5 months."	5	
458	1	1¾ inches of humerus; head of radius; olecranon and coronoid.	Recovered, 3 months.	.....	"Excellent use of arm, and able to work without aid of artificial support of member."	12	
459	⊢	Broken off end of humerus, and half-inch more cut off.	Died, 83 days, exhaustion.	.....	.....	.....	"Did well for 3 weeks; discharge from wound became profuse; no bony repair whatever;" note from Charles Kelsey, House-Surgeon.
460	⊢	Articular surfaces of joint.	Recovered.	.....	"Flexion nearly complete; extension complete; pronation and supination limited; works as bricklayer as well as ever."	20	
461	1	Entire ulna separated from periosteum; 1 inch of humerus; 2 inches of radius.	Recovered.	.....	"Uses hand and arm perfectly; plays piano perfectly."	16	
462	1	Condyles of humerus; head of radius, and articulating surface of ulna.	Recovered.	.....	"Wound entirely healed; perfect use of arm; has all the normal motions; limb almost, if not quite, as strong as the other."	14	
463	?	Total excision.	Recovered, 6 weeks.	.....	"Wound completely healed, and voluntary movements almost perfect."	1½	
464	1	Condyles of humerus; head of radius, and articular surface of ulna.	Recovered, 53 days.	.....	"Good power of voluntary motion; later, good arm and motion."	14½	March 30, 1874, still under treatment for various manifestations of syphilis; had osteitis, with caries and secondary degeneration of right elbow; had lost a sequestrum from the opposite (left) radius, and about ⅓ of lower jaw, from syphilis.
465	1	¾ inch of condyles; ¼ inch of ulna; front tip of coronoid process; radius ¼ inch below head.	Recovered.	2	"Can flex forearm so that fingers touch acromion process, and extend it to right line; pronation and supination normal; uses the member for all ordinary purposes; passive motion has been persistently employed."	Over 14	
466	1	Olecranon and entire ulna (subperiosteal).	Recovered, 3 months.	.....	"Wound entirely healed; new ulna and olecranon has been formed; arm well shaped; fair amount of rotation, extension, and flexion, at elbow, wrist, and fingers, and it seems probable that all the motions of hand and arm will be restored."	4	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
467	Letter, 1874.	Little, James L., 266 W. 42d St., New York.	Saint Luke's Hospital, N. York.	Robinson, Margaret.	F. 21	.....	Mar. 18, 1873.	....	Bony anchylosis of joint.
468	Letter, 1873 and 1874.	Ashhurst, John, Jr., see Case 398.	Episcopal Hospital.	Kaupt, Christian. General condition good.	M. 6	1 year before.	Mar. 27, 1873.	S.	Partial anchylosis of left elbow; separation of lower epiphysis of humerus; incipient disease of elbow; from injury; member useless.
469	Letter, 1874.	Poore, C. T., 427 4th Ave., New York.	Saint Mary's Free Hospital for Children, N. York.	Dick, Ida. Unfavorable and strumous.	F. 9	Several years' standing.	April 19, 1873.	S.	Strumous caries of left joint; also had caries of supra-maxilla of the inner malleoli of both ankles, and of distal phalanx of thumb.
470	Am. Jour. Med. Sci., July, 1873, p. 267.	Bell, J., Edinburgh.	Edinb'gh.	Scotland. Little girl.	F. ?	.....	Report'd May, 1873.	S.	Not stated.
471	Letter, 1873 and 1874.	Hodge, H. L., 903 Walnut St Philadelphia.	Childrens Hospital, Philada.	Halpine, William, Philadelphia. Gen'l health good.	M. 10	Over 1 year before.	Oct. 18, 1873.	S.	Chronic arthritis.
472	Letter, 1872.	Sockwell, C. M., Port Huron, Michigan.	Port Huron, Mich.	Unknown.	M. 22	.....	?	P.	Fracture, involving elbow; from railroad injury; caught between bumpers.
473	Letter, 1872.	Kinlock, R.A. Charleston, S. Carolina.	?	?	?	?	?	S.	Chronic arthritis, with pulpy degeneration of synovial membrane of joint.
474	Buffalo Med. & Surg. Jour., Sept. 1874.	Gay, C. C. F., Buffalo, N. Y.	General Hospital, Buffalo, N. York.	Steinmetz, Philip, Buffalo, N. Y.	M. 58	Nov. 18, 1873.	Mar. 16, 1874.	S.	Caries of articular surfaces of right joint, with abscess and sloughing over joint posteriorly; from a fall, striking the elbow on a pile of stones; limb œdematous and powerless.
475	Letter, 1872.	Gouley, J. W. S., see Case 377.	Bellevue Hospital.	?	M. ad't	?	?	S.	Disorganization of joint; from injury.
476	Letter, 1872.	Gouley, J. W. S., see Case 377.	Bellevue Hospital.	?	M. ad't	?	?	S.	Disorganization of joint; from injury.
477	Letter, 1872.	Gouley, J. W. S., see Case 377.	Bellevue Hospital	?	M. ad't	?	?	S.	Disorganization of joint; from injury.

of Elbow-Joint for Disease, Injuries, and Deformity—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
57	Median longitudinal.	Humerus just above condyles; radius and ulna just below head of former.	Recovered, 3 months.	.....	No new formation of bone, and but little use of arm.	3	
58	1	Condyles of humerus above epiphyseal line; head of radius, and articular surface of ulna.	Recovered, 7½ months.	.....	Arm useful, with good motion.	7½	
59	Strai't, over olecranon.	All of both condyles of humerus; head of radius, and articular surface of ulna.	Recovered.	.....	Extension of forearm full; flexion same to over right angle; some power of pronation and supination; can carry a heavy weight in hand.	14	
0	?	Total excision.	Recovered.	.....	"Almost perfect flexion and extension."		
1	1	Articular surface of humerus; end of ulna; radius below head.	Recovered, 1 month.	.....	"At one month elbow good; thus far, flexion, extension, pronation, and supination; motion at last date limited somewhat, owing to pain."	5½	April 4, 1874, still under observation; motions still attended with pain; several sinuses about elbow, probably due to portion of necrosed bone to come away.
	?	Olecranon and coronoid process.	Not stated.	.....	"Day following, patient left for interior town in Michigan."		
	⊢	Total excision.	Recovered.	.....	"Limited motion."		
	?	Total excision.	Recovered, 5½ months.	1	Pronation and supination; "is able to do manual labor with nearly as much facility as ever."	5½	
	1	2 inches of humerus; head of radius; olecranon and coronoid process.	Recovered.	.....	"Limb useful; flexion, extension, and rotation, all good."	?	
	1	2 inches of humerus; head of radius; olecranon and coronoid process.	Recovered.	.....	"Limb useful; flexion, extension, and rotation, all good."	?	
	1	2 inches of humerus; head of radius; olecranon and coronoid process.	Recovered.	.....	"Limb useful; flexion, extension, and rotation, all good."	?	

Tabular Statement of Removal

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Velpeau's Surg. ii. 795.	Salmon.	?	?	....	5 w'ks before operation.	1777.	S.	Gunshot fracture of upper part of radius.
2	Hodges' Exc. 47.	Reported by Bilguer, J. U., Surgeon-in-Chief to Frederick II.	Germany.	Germany.	?	?	Report'd 1781.	....	Gunshot fracture, involving all the bones of the joint.
3	Hodges' Exc. 47.	Bilguer, J. U.	Germany.	Germany.	?	?	Report'd 1781.	....	Gunshot fracture of upper end of radius and ulna.
4	Velpeau's Surg. ii. 796.	Alanson.	?	?	?	?	Before 1783.	S.	Fracture of olecranon and inner condyle of humerus.
5	Heyfeld. Part. ta. 39; Velpeau's Surg. ii. 797.	Hey, W., Leeds.	England.	England.	?	.....	1801.	....	Fracture complicated.
6	Surg. Memoirs, Larrey, ii. 277; Velpeau's Surg. ii. 797.	Larrey, D. J., France.	Benevento, Spain.	A captain of Mamelukes.	M. ?	.....	1809.	P.	Sabre wound, involving skin, articulating surface of humerus and olecranon.
7	Cat. Surg. Sec. A. M. M. p. 153.	Moses, I., Surg. U. S. V.	Probably Chickamauga Hospital.	B——, M. M., F, 17th Ill.	M.	Sept. 20, 1863. Chickamauga.	Oct. 1863.	S.	Gunshot fracture of olecranon and coronoid; left elbow.

of Fragments of Bone from the Elbow-Joint.

No. case.	Form of incisions	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	2 inches of the radius.	Recovered.	.....	"A cure was effected."	?	
2	?	Fragments, comprising all the elbow-joint.	Recovered.	.....	"Recovered without anchylosis."	Several	
3	?	Fragments of radius and ulna.	Recovered.	.....	"Recovered without anchylosis."	Several	
4	?	The sequestrum of the olecranon and inner tuberosity, and lamina of the body of the humerus.	Recovered.	.....	"Recovered with anchylosis."		
5	?	Isolated condyle of the humerus (internal).	Recovered.	.....	"Good."		
6	?	Extracted one of the condyles.	Recovered.	.....	"Succeeded in preserving the arm, and also its principal movements."	?	
7	?	4 fragments, representing olecranon and part of coronoid process.	Died, Dec. 12, 1863.				

EXCISION OF THE WRIST-JOINT.

EXCISION OF THE WRIST-JOINT.

HISTORY.

In 1750, Cooper, of Bungay, removed the lower head of the radius and ulna for a compound luxation of this joint. In 1762, Bagieu, of France, excised the lower ends of the bones of the fore-arm and extracted the fragments of bone for a gunshot wound involving this articulation. Rossi and Huguier followed their example soon after in cases of gunshot wounds.

The elder Moreau was the first to excise this joint, in 1794, for *disease*. St. Hilaire followed, in 1800, for injury, and later Ph. J. Roux and Champion for *disease;* then Verbeck for injury, and Moreau, Son, and Textor, for disease. In 1822, Sir A. Cooper removed the scaphoid bone for injury, and later Velpeau the "cuneiform" for disease. In 1828, Hublier excised the ends of the radius and ulna, and, in 1833, B. Beck the end of the radius for injury. M. Jaeger followed in 1834, and Dietz, of Germany, in 1839. From this time the operation is more generally resorted to. On glancing at the number of cases as developed by the several tables, it seems that this operation has not grown so rapidly popular as that for excision of the shoulder, elbow, or hip-joints. It is also probably true that the excisions of Prof. Joseph Lister, of Glasgow, contributed more than those of any other surgeon to establish this as a standard operation. The history of this subject will be indirectly referred to again.

Before proceeding further it should be stated that we have not regarded the lower extremity of the ulna as forming a part of the wrist-joint proper, and hence have not included removal of that portion of the bone as an element in excision of this articulation. But in cases where the first row of carpal bones (more or less) were removed, and also the ulna, the operation upon the latter has been expressed as an evidence of the extent of the excision.

A partial excision is then one in which either the first row (or

a part) of the carpal bones or the lower extremity of the radius has been removed, and the bony structures may be excised more or less extensively above and below these points and still constitute a *partial excision.*

EXCISIONS OF, FOR GUNSHOT WOUNDS.

We invite attention to the consideration of Subject No. 1, under this joint, or to the point, "*Where were the Patients treated.*"

Conclusion.—That the mortality for "gunshot wounds" treated in hospital is equal to 15.87 per 100; for injuries, 50 per 100; for *disease,* 13.66; and for the three classes, 15.59 per 100 cases; while the mortality in "private practice" is nothing in excisions for "injury and disease," a result certainly in favor of excisions being performed at the residences of patients where practicable.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
In hospital	36	..	1	8	2	..	9	8	..	15.87	1	1	..	..	..	..	..	..	..	50
In private practice	..	..	..	..	..	..	..	..	..	.....	2	..	..	..	..	..	..	..	..	0
Not stated as to subject	..	..	1	2	..	..	1	..	2	.....	11	1	..	..	..	..	..	..	..	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	70										16									
	EXCISION FOR DISEASE.																			
In hospital	16	4	..	21	2	1	1	..	1	13.66										
In private practice	5	..	..	3	..	..	..	..	..	0										
Not stated as to subject	22	4	4	7	..	1	..	..	..	.....										
Total for subject	43	8	4	31	2	2	1	..	1	11.76										
Total for joint (cases)	92										= 178									

There were no deaths in the *partial* excisions for gunshot wounds, and the mortality for *complete* excisions for the same class is 20 per 100.

For injuries the partial excisions give a mortality rate of 50 per 100, while in the examples done for *disease* the mortality for *partial* excisions equals 20 per 100, and for the *complete* only about 8 per 100, a result in favor of complete excisions for "disease."

SUBJECT No. 2.—"*In what Countries were the Operations performed,*" *and the attending mortality.*

For gunshot excisions in France the mortality rate equals 18.18 per 100, and in the same country for "*injuries*" no deaths occurred among the cases tabulated; and for *disease* the mortality rate is 28.57 per 100; and for the several classes the mortality is equal to 19.04 per 100.

SUBJECT.	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
France	5	..	..	4	1	..	..	1	1	18.18	3	..	..	..	..	..	..	..	..	0
Russia	..	..	..	..	..	..	2	1	..	33.33	..	..	..	..	..	..	..	..	..	.....
Italy	..	..	..	..	..	..	6	4	..	40.	..	..	..	..	..	..	..	..	..	.....
United States	30	..	2	6	1	..	1	2	..	7.5	5	1	..	..	..	..	..	..	..	16.66
Germany	..	..	..	..	..	..	1	..	..	0	3	1	..	..	..	..	..	..	..	25.
England	1	..	..	..	..	..	..	..	..	0	2	..	..	..	..	..	..	..	..	0
Scotland	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	0
Ireland	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	1	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	70										16									
	EXCISION FOR DISEASE.																			
France	4	2	3	1	..	..	..	..	..	28.57										
Russia	3	2	..	1	..	..	..	..	..	33.33										
Italy	..	..	..	..	..	..	..	..	..	.....										
United States	10	1	1	7	..	..	..	..	..	5.55										
Germany	5	1	..	2	..	..	..	..	..	12.5										
England	13	..	..	7	1	2	1	..	..	4.54										
Scotland	2	2	..	11	..	..	..	..	..	13.33										
Ireland	1	..	..	..	1	..	..	..	..	50.										
Not stated as to subject	5	..	..	2	..	..	..	..	1	.....										
Total for subject	43	8	4	31	2	2	1	..	1	11.76										
Total for joint (cases)	92										= 178									

In Russia the mortality equals for *gunshot wounds* and for *disease* 33.33 per 100 in each class, and the rate is the same in the excisions for *disease* and *gunshot wounds* considered together.

In Italy the mortality rate equals 40 per 100 for *gunshot wounds*.

In the United States, for *gunshot wounds*, the rate is 7.5 per 100; for *injuries* it is 16.66; for *disease* it is 5.55 per 100; and for the three classes it is 10.60 per 100.

In Germany, for *gunshot excisions* there is no mortality; for injuries it is 25 per 100; for *disease* it is 12.5; and for all the classes it equals 15.38 per 100.

In England there are no deaths recorded for gunshot or in excisions for injuries; done for *disease*, however, the mortality equals 4.54 per 100, and for the three classes the mortality equals but 4 per 100.

In Scotland, in excisions for *injuries*, there is no mortality expressed in the table, and in excisions for *disease* the rate equals 13.33 per 100. For the two classes the death-rate is equivalent to 12.5 per 100.

In Ireland the mortality in excisions for disease is equal to 50 per 100.

Conclusion.—The rate of mortality of the three classes taken collectively for each country is as follows: first and least England, then United States, Scotland, France, Germany, Russia, Italy, and greatest Ireland.

SUBJECT NO. 3.—"*State of Constitution.*"

The state of the general system is expressed as "vigorous" in 9 instances in the excisions for *gunshot wounds*, and among which class there were no deaths. In the excisions for *injury* the mortality equals 12.5 per 100; in the examples done for *disease* there were no deaths, and for the three classes the rate of mortality equals 4.16 per 100 among the "vigorous."

In the examples of excision in which the systems of the patients were "*exhausted*," the mortality for *gunshot wounds* equalled 50 per 100; and in those who were "*exhausted*" and suffered excision for *disease*, the mortality was equivalent to 18.18 per 100; and for both of these classes it equals 23.07 per 100.

Conclusion.—That an "exhausted" state of the system is very unfavorable to recovery from this excision.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.									
"Vigorous"	8	..	..	1	..	..	..	..	..	0
"Exhausted"	1	..	..	..	1	..	..	..	..	50.
Not stated as to subject	27	..	2	9	1	..	10	8	2	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15
Total for joint (cases)	70									
	EXCISION FOR INJURIES.									
"Vigorous"	8	1	..	..	..	..	..	..	..	12.5
"Exhausted"	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	6	1	..	..	..	..	..	..	..	.....
Total for subject	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	16									
	EXCISION FOR DISEASE.									
"Vigorous"	4	..	..	2	..	..	..	..	..	0
"Exhausted"	4	1	..	5	1	..	..	..	..	18.18
Not stated as to subject	35	7	4	24	1	2	1	..	1	.....
Total for subject	43	8	4	31	2	2	1	..	1	11.76
Total for joint (cases)	92									
	= 178									

SUBJECT No. 4.—"*Sex.*"

The mortality among the male sex in excision for *gunshot wounds* equals 15.15 per 100; for *injuries* 15.38 per 100; for "disease" 14.28 per 100; and for the *three classes* it is 14.84 per 100.

Among "females" suffering excision for "*injury*" there is no mortality; and with those of this sex undergoing excision for *disease* the mortality reaches 4 per 100; and for both these classes it is but 3.84.

Conclusion.—That among males there is no material difference in the degree of mortality in the three several classes of excisions, and that the fatality of the operation is greater among males than females when done for *injury* and *disease*.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.									
Males	36	..	2	10	2	..	10	8	..	15.15
Females	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	2	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15
Total for joint (cases)	70									
	EXCISION FOR INJURIES.									
Males	11	2	..	..	..	..	..	..	..	15.38
Females	1	..	..	..	..	..	..	..	..	0
Not stated as to subject	2	..	..	..	..	..	..	..	..	.....
Total for subject	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	16									
	EXCISION FOR DISEASE.									
Males	21	6	1	20	1	1	1	..	..	14.28
Females	13	..	..	11	1	..	..	..	..	4.
Not stated as to subject	9	2	3	..	..	1	..	..	1	.....
Total for subject	43	8	4	31	2	2	1	..	1	11.76
Total for joint (cases)	92									
	= 178									

SUBJECT No. 5.—"*Age.*"

Under the ages running from 1 to 10 years there are no excisions of this joint appearing in the table, and there are no examples of gunshot wound reported under 15 years of age.

Among those aged 10–15, in excisions for *injury* and *disease*, there is no mortality.

Among those aged from 15–30 for gunshot wounds there is no mortality, and this embraces all the cases in which the age is stated in *this class* of excisions.

In the cases of excision for "*injuries*," aged from 30–40, the mortality equals 100 per cent.; from 40–50 there is no mortality; and from 50–60 it equals 50 per 100.

Among the excisions for "*disease*," those aged from 20–25, the mortality is equivalent to 14.28 per 100; from 25–30, 11.11 per 100; from 30–40, 11.76 per 100; from 40–50, 20 per 100; from 50–60, 50 per 100; and from 70–80 it equals 100 per cent.

In considering the *three classes* of excisions collectively, the mortality in those aged from 20–25 is 6.89 per 100; from 25–30, 7.14;

from 30–40, 16.66; from 40–50, 14.28; from 50–60, 50; and from 70–80, 100 per 100.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
From 1 to 5 years	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 10 " 15 "	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	0
" 15 " 20 "	2	..	..	3	..	..	..	..	..	0	4	..	..	..	..	..	..	..	..	0
" 20 " 25 "	7	..	..	4	..	..	..	..	..	0	4	..	..	..	..	..	..	..	..	0
" 25 " 30 "	4	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 30 " 40 "	..	..	..	..	..	..	..	..	..	.....	..	1	..	..	..	..	..	..	..	100
" 40 " 50 "	..	..	..	..	..	..	..	..	..	.....	2	..	..	..	..	..	..	..	..	0
" 50 " 60 "	..	..	..	..	..	..	..	..	..	.....	1	1	..	..	..	..	..	..	..	50
" 60 " 70 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	23	..	2	2	2	..	10	8	2	.....	2	..	..	..	..	..	..	..	..	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	70										16									

	EXCISION FOR DISEASE.									
From 1 to 5 years	..	..	..	..	..	..	..	..	..	.....
" 5 " 10 "	..	..	..	..	..	..	..	..	..	.....
" 10 " 15 "	4	..	..	5	..	..	..	..	..	0
" 15 " 20 "	5	..	1	6	..	..	..	..	..	0
" 20 " 25 "	7	2	..	5	..	..	..	..	..	14.28
" 25 " 30 "	3	1	..	5	..	..	..	..	..	11.11
" 30 " 40 "	10	2	..	4	..	..	1	..	..	11.76
" 40 " 50 "	1	..	..	3	1	..	..	..	..	20.20
" 50 " 60 "	1	..	..	..	1	..	..	..	..	50
" 60 " 70 "	..	..	..	..	..	..	..	..	..	.....
" 70 " 80 "	..	1	..	..	..	..	..	..	..	100
Not stated as to subject	12	2	3	3	..	2	..	..	1	.....
Total for subject	43	8	4	31	2	2	1	..	1	11.76
Total for joint (cases)	92									= 178

Conclusion.—That in "gunshot excisions" age exercised no influence upon the mortality, and the same may be said as to excisions for "*injury*" up *to* the ages ranging between 30 and 40 years. That 100 per cent. died of those whose joints were excised for "*injury*" between the ages of 30 and 40 is accidental, and cannot be depended upon as an index for or against *this* operation. That the mortality of those aged from 50–60, in excisions for *injury*, is, probably, somewhat greater than a larger number of cases would

exhibit. That in excisions for *disease* the greatest mortality will result in those over 50 years of age, and the least in those between the ages of 25–30 years; next greater in those aged from 30–40; next from 20–25; and next, still more fatal, in those aged from 40–50 years.

If we consider the *three* classes of excision together, the mortality is shown to increase in the following order as to age: least in those aged from 20–25; next from 25–30; from 40–50; from 30–40; from 50–60; and from 70–80 years. The youngest patient operated upon was 12 years, and the oldest was 71 years of age.

SUBJECT No. 6.—"*Duration of Injury or Disease.*"

In cases of "*gunshot excisions*," when the operation was performed from one to three months after the injury was received, the mortality reaches 42.85 per 100, and in the same class when from three to six months there is no mortality. In excisions for *injury* there is no mortality when done from one to three months after received. In excisions for "*disease*" there is no mortality when the standing was from one to three, from three to six, from nine to twelve, from fifteen to eighteen, and over eighteen months. The only mortality expressed under *this* class is when the standing was from six to nine months, and equals 16.16 per 100.

Conclusion.—That in *gunshot excisions* the mortality is greatest when the operations were performed from one to three months after wounded. (By reference to the table it will be seen that six of these seven cases were secondary, and the other was an intermediate excision; the time generally being about one month after the wound was received. This would seem to indicate that these six cases were *intermediate,* but we adhere to their secondary character *as reported.*) That the cases under this head which are primary excisions are not included in the period from one to three months, as the duration in the primary cases, is practically nothing as to time. That the most fatal period in the excisions for *disease* is when the affection has existed from six to nine months. By reference to the tables in excisions for *disease* of the hip-joint it will be seen that *this* is the most fatal period in that joint also.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
From 1 to 3 months	2	..	..	2	2	..	..	1	..	42.85	1	..	..	..	..	..	..	..	..	0
" 3 " 6 "	2	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
" 6 " 9 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 9 " 12 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 12 " 15 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
" 15 " 18 "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Over 18 months	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	32	..	2	8	..	..	10	7	2	.....	13	2	..	..	..	..	..	..	..	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	70										16									
	EXCISION FOR DISEASE.																			
From 1 to 3 months	1	..	..	1	..	..	..	..	..	0										
" 3 " 6 "	2	..	..	2	..	..	..	..	..	0										
" 6 " 9 "	1	1	..	4	..	..	..	..	..	16.16										
" 9 " 12 "	5	..	..	3	..	..	..	..	..	0										
" 12 " 15 "	..	..	..	..	..	..	..	..	..	.....										
" 15 " 18 "	1	..	..	..	..	..	..	..	..	0										
Over 18 months	..	..	..	1	..	..	..	..	..	0										
Not stated as to subject	33	7	4	20	2	2	1	..	1	.....										
Total for subject	43	8	4	31	2	2	1	..	1	11.76										
Total for joint (cases)	92										= 178									

SUBJECT NO. 7.—"*Month in which the Operations were performed.*"

In *gunshot excisions* the greatest mortality is shown in the month of October, 50 per cent., and next in order in February, 33.33 per cent. Under the class *injuries* but one death is expressed, and that in July, equal to 100 per cent.

In excisions for *disease* the rate of mortality considered as to the month in which the operations were done is September, 50 per 100; March and July, 33.33 per 100, each; April, 20; and May, 14.28 per 100.

In estimating the mortality collectively for the three classes we find that there is no mortality expressed for operations performed in January, June, August, November, and December.

In February the mortality is . . . . .25 per 100
" March " " . . . . 33.33 "
" April " " . . . . 16.66 "
" May " " . . . . 8.33 "
" July " " . . . . 33.33 "
" September " " . . . . 33.33 "
" October " " . . . . 12.5 "

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
January	1	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
February	..	..	..	2	1	..	..	..	..	33.33	..	..	..	..	..	..	..	..	..	.....
March	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
April	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	0
May	4	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
June	3	..	..	3	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
July	2	..	..	..	..	..	..	..	..	0	..	1	..	..	..	..	..	..	..	100.
August	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
September	..	..	..	..	..	..	..	..	..	.....	1	..	..	..	..	..	..	..	..	0
October	..	..	..	..	1	..	1	..	..	50.	1	..	..	..	..	..	..	..	..	0
November	1	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
December	2	..	..	..	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	23	..	2	3	..	..	9	8	2	.....	11	1	..	..	..	..	..	..	..	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	70										16									
	EXCISION FOR DISEASE.																			
January	..	..	..	5	..	..	..	..	..	0										
February	1	..	..	..	..	..	..	..	..	0										
March	..	1	..	2	..	..	..	..	..	33.33										
April	3	1	..	1	..	..	..	..	..	20.										
May	3	..	..	3	1	..	..	..	..	14.28										
June	1	..	..	2	..	..	..	..	..	0										
July	2	2	..	2	..	..	..	..	..	33.33										
August	1	..	..	..	..	..	..	..	..	0										
September	1	1	..	..	..	..	..	..	..	50.										
October	1	..	..	4	..	..	..	..	..	0										
November	1	..	..	3	..	1	..	..	..	0										
December	1	..	..	..	..	..	..	..	..	0										
Not stated as to subject	28	3	4	9	1	1	1	..	1	.....										
Total for subject	43	8	4	31	2	2	1	..	1	11.76										
Total for joint (cases)	92										= 178									

Conclusion.—The fact that no mortality is shown in the several months of January, June, August, November, and December, would indicate that season has but little to do with the degree of mortality

in excisions of this joint. This is again illustrated by reference to the mortality in March, July, and September, which, in each month, is 33.33 per 100. The month of February shows a high rate of mortality, while January exhibits none. October presents a rate of 12.5 per 100, but November reveals no mortality. May presents the least, 8.33, while April reveals just double the mortality shown in the last-named month. From these considerations we cannot detect that *the season* has much influence upon the mortality in excisions of this joint.

SUBJECT No. 8.—"*Period of Operation.*"

There is no mortality expressed for *gunshot* excision in the "primary" cases; and in the primary cases for *injuries* the mortality equals 12.5 per 100; and in the two classes for *this period* the mortality equals 6.25 per 100 cases.

SUBJECT.	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
	Partial.			Complete.			Extent not stated.			Deaths per 100.	Partial.			Complete.			Extent not stated.			Deaths per 100.
	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.		Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	Recovered.	Died.	Uncertain as to life.	
Primary	7	..	1	1	..	..	..	..	..	0	7	1	..	..	..	..	..	..	..	12.5
Secondary	7	..	..	6	1	..	1	..	..	6.66	2	..	..	..	..	..	..	..	..	0
Intermediate	4	..	..	3	1	..	..	1	..	22.22	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	18	..	1	..	..	..	9	7	2	.....	5	1	..	..	..	..	..	..	..	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	70										16									

	EXCISION FOR DISEASE.									
Primary	..	..	..	..	..	..	..	..	..	.....
Secondary	43	8	4	31	2	2	1	..	1	11.76
Intermediate	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....
Total for subject	43	8	4	31	2	2	1	..	1	11.76
Total for joint (cases)	92									= 178

In the "secondary" operations for *gunshot* wounds the mortality equals 6.66 per 100; for *injuries* the mortality is nothing; for

disease it is equivalent to 11.76 per 100; and for the *three* classes it is but 10.78 per 100.

In the intermediate period the mortality equals 22.22 per 100.

Conclusion.—That in gunshot excision, and in excisions for *injury* of this joint, primary operations are to be preferred. That according to this table secondary operations give less mortality for *gunshot excisions* than secondary excisions for *disease*, a result which we do not believe correct, as it is probable both of *these classes* should present about an equal mortality. That the *intermediate* excisions show a mortality of nearly double that of the secondary operations for *all the classes*, and indicates that this excision should not be done during this baneful period.

SUBJECT No. 9.—"*Nature of Cause.*"

The mortality for gunshot excisions (traumatic) equals 15.15 per 100 cases, and for *injuries* (traumatic) 11.11 per 100; for *disease* (traumatic) 7.69; and for the *three classes* (traumatic) 17.24 per 100. The mortality in *excisions* for *disease, non-traumatic* as to cause, equals 15.38.

SUBJECT.	Par. tial. Recovered.	Par. tial. Died.	Par. tial. Uncertain as to life.	Com- plete. Recovered.	Com- plete. Died.	Com- plete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Par- tial. Recovered.	Par- tial. Died.	Par- tial. Uncertain as to life.	Com- plete. Recovered.	Com- plete. Died.	Com- plete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
Non-traumatic	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Traumatic	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Not stated as to subject	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	70										16									
	EXCISION FOR DISEASE.																			
Non-traumatic	6	2	..	5	..	1	..	..	..	15.38										
Traumatic	6	..	..	6	1	..	..	..	..	7.69										
Not stated as to subject	31	6	4	20	1	1	1	..	1	.....										
Total for subject	43	8	4	31	2	2	1	..	1	11.76										
Total for joint (cases)	92										= 178									

Conclusion.—That the mortality in "gunshot excisions" and in those examples executed for "disease," and of traumatic origin, is over double in the first named class. That the mortality in "gunshot excisions," and for "non-traumatic" excisions performed for "*disease*," is about equal. That for the several classes of excisions considered together, the mortality is slightly greater in the "traumatic" than in the "non-traumatic" cases.

SUBJECT No. 10.—"*Form of Incisions.*"

No mortality attended the H, the V, the X, the II (Lister's), +, or the N shaped incisions.

In the I (single longitudinal) incisions for *gunshot excisions*, and also for "injuries," no mortality is shown; but in the same form of incision, in excisions for *disease*, the mortality equals 14.28 per 100, and for the three classes this *form* is attended with a mortality of 20 per 100.

In the II (double longitudinal) incisions the mortality for *gunshot* excisions equals 25 per 100; for *injuries* there is no mortality; and for "*disease*" it equals 23.07 per 100; and for the *three* classes *it* is 24.44 per 100.

In the V shaped incisions in "*gunshot excisions*" there is no mortality expressed.

In the ⊔ shaped incisions, in excisions for *injuries*, the mortality was 100 per cent.

In the L⌋ (double L) shaped incisions, in excisions for *disease*, the mortality was 50 per 100, while in the same class in the L shaped incision the mortality is 100 per cent.

In the U shaped incisions performed for disease the mortality equals 14.28 per 100.

Conclusion.—That incisions differing so widely in form as the H, V, X, II (Lister's), +, and the N shaped, should not be associated with any mortality, dictates the opinion that the manner of dividing the soft parts has but little to do with the mortality attending this operation, and that the single longitudinal cut should present no mortality in *gunshot excisions*, and in excisions for *disease* exhibit a mortality of 14.28 per 100, would lead to the same view. Again, that the double longitudinal incision should be associated with a mortality in "gunshot excisions" of 25 per 100, with no mortality in *excisions for injury*, and of 23.07 per cent. in excisions for "disease" is more reasonable; but when compared with the H shaped incisions (which this incision much resembles),

in which there is no attending mortality, it must be concluded that the mortality cannot be attributed to the "double longitudinal" incisions. From a consideration of all the *incisions* thus compared, we believe that the form of the incision exercises but little if any influence upon the degree of mortality in this excision.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
	EXCISION FOR GUNSHOT WOUNDS.										EXCISION FOR INJURIES.									
H shaped incision	..	..	..	1	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
I " "	4	..	..	..	..	..	..	..	..	0	2	..	..	..	..	..	..	..	..	0
II " "	..	..	..	3	1	..	..	..	..	25.	1	..	..	..	..	..	..	..	..	0
V " "	..	..	1	2	..	..	..	..	..	0	..	..	..	..	..	..	..	..	..	.....
U " "	..	..	..	..	..	..	..	..	..	.....	..	1	..	..	..	..	..	..	..	100.
⌊⌋ " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
⌊ " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
U " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
X " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
() " " (Lister's)	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
+ " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
N " "	..	..	..	..	..	..	..	..	..	.....	..	..	..	..	..	..	..	..	..	.....
Not stated as to subject	32	..	1	4	1	..	10	8	2	.....	11	1	..	..	..	..	..	..	..	.....
Total for subject	36	..	2	10	2	..	10	8	2	15.15	14	2	..	..	..	..	..	..	..	11.11
Total for joint (cases)	70										16									
	EXCISION FOR DISEASE.																			
H shaped incision	2	..	..	1	..	..	..	..	..	0										
I " "	7	1	1	5	1	..	..	..	..	14.28										
II " "	3	3	..	7	..	..	..	..	..	23.07										
V " "	..	..	..	..	..	..	..	..	..	.....										
U " "	..	..	2	..	..	..	..	..	..	.....										
⌊⌋ " "	1	1	..	..	..	..	..	..	..	50.										
⌊ " "	..	1	..	..	..	..	..	..	..	100.										
U " "	4	..	..	2	1	..	..	..	1	14.28										
X " "	1	..	..	.	..	..	..	..	..	0										
() " " (Lister's)	5	..	..	6	..	..	1	..	..	0										
+ " "	1	..	..	..	..	..	..	..	..	0										
N " "	1	..	..	..	..	..	..	..	..	0										
Not stated as to subject	18	2	1	10	..	2	..	..	..	.....										
Total for subject	43	8	4	31	2	2	1	..	1	11.76										
Total for joint (cases)	92										= 178									

We may inquire here what influence does the form of incision have upon the usefulness of the member? In 51 cases which are perfect as to this point, and all of which recovered, we find that 5.88 per cent. gained "*useful*" members, in which the U and the

H incisions were employed; that 3.92 per cent. gained *useful* limbs after a resort to the V and X incisions; 1.96 per cent. secured "*useful*" members when the LJ, the ⊔, and the N cuts were executed in the operation; that 27.45 per cent. gained "*useful*" members when the I (single longitudinal) incision was used, and 21.56 when II (Lister's) was employed, and 23.51 when the II (double longitudinal) cuts were employed, and, finally, 1.96 per cent. gained "*perfect*" limbs when the double longitudinal cuts were resorted to in the operation.

Conclusion.—It will thus be seen that the greatest number gained "useful" limbs when the single longitudinal incision was employed, and that those operated upon by the double lateral cuts, and by Lister's modification of the last form of incisions gained "*useful*" members next in order as to the frequency of this result; that the U and incisions, and the V and X, and the LJ, ⊔, and the N cuts gave, as classed, equal results, is unfavorable to incisions exercising any great result upon the "*usefulness*" of the limb, as these differ much in form yet give equally good results.

It is possible that the longitudinal incisions may conduce to the best results in this excision, but there are many factors which must be considered before this conclusion can be truthfully affirmed, and it may be that, when the other forms of incision are employed more frequently, equally good results may be obtained from them.

We may, at least, then, on anatomical grounds, resort to the longitudinal forms of incisions in this excision.

SUBJECT No. 11.—"*Of the Mortality.*"

In the class of excisions for *disease* 1.17 per 100 died of *the disease* for which the operation was performed, 3.03 per 100 died from *the operation* in the class of *gunshot excisions*, and 1.17 per 100 "*from the operation*," among the excisions for *disease;* while 4.54 per 100 died from *other diseases* in the excisions for *gunshot wounds*, 6.25 per 100 from *other diseases* in the class of excisions for *injuries*, and 7.05 per 100 *from other diseases* among those whose joints were excised for *disease*.

In considering the *three classes* together, we find that 1.17 per cent. died from *the disease*, 1.73 per 100 from *the operation*, 5.92 per 100 from other *diseases*. The mortality from partial excisions for all classes is equal to 9.70 per 100, and for complete excisions it is equivalent to 8.88 per 100 cases.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.	Recovered, not stated what done for.
EXCISION FOR GUNSHOT WOUNDS.											
Died of the disease or injury	..	..	..	..	..	..	..	..	..	.....	....
" " " operation	..	..	..	..	2	..	..	..	..	3.03	....
" " other diseases	..	..	..	..	..	..	..	3	..	4.54	....
Cause of death not stated	..	..	..	..	..	..	..	5	..	7.58	....
Recovered	36	..	..	10	..	..	10	..	..	.....	....
Total for subject	36	..	..	10	2	..	10	8	..	15.15	....
Sum of days in which patients died	In 1 case, 9 days.										
Number days dying (average)	None.										
Total cases for joint, recovered and died	66										
EXCISION FOR DISEASE.											
Died of the disease or injury	..	1	..	..	..	..	..	..	..	1.17	....
" " " operation	..	1	..	..	..	..	..	..	..	1.17	....
" " other diseases	..	4	..	..	2	..	..	..	..	7.05	....
Cause of death not stated	..	2	..	..	..	..	..	..	..	2.37	....
Recovered	43	..	..	31	..	..	1	..	..	.....	2
Total for subject	43	8	..	31	2	..	1	..	..	11.76	2
Sum of days in which patients died	In 4 cases, 157 days.										
Number days dying (average)	39¼										
Total cases for joint, recovered and died	85 + 2 = 169 = 13.01										

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Deaths per 100.
EXCISION FOR INJURIES.										
Died of the disease or injury	..	..	..	..	..	..	..	..	..	.....
" " " operation	..	..	..	..	..	..	..	..	..	.....
" " other diseases	..	1	..	..	..	..	..	..	..	6.25
Cause of death not stated	..	1	..	..	..	..	..	..	..	6.25
Recovered	14	..	..	..	..	..	..	..	..	.....
Total for subject	14	2	..	..	..	..	..	..	..	12.5
Sum of days in which patients died	In 1 case, 20 days.									
Number days dying (average)	None.									
Total cases for joint, recovered and died	16									

Conclusion.—That the mortality strictly to be referred to this excision is 1.73 per 100 cases; that the largest proportion of the cases died from *other diseases* (5.92 per 100). That if two cases are added (which recovered), in which it is not known for what the excision was performed, the total number of cases for the joint is 169, and an absolute mortality of 13.01 per 100 cases is shown. That the general mortality for gunshot excisions is 15.15 per 100, while the mortality for amputation at the wrist-joint for *gunshot injuries* is equal to 31.50 per 100. (See Gross' *Surgery*, vol. i. p. 552, last edition.) That the mortality in excisions for *disease* equals

11.76 per 100, while for amputation of the forearm (this is not a just comparison, it being, probably, somewhat in favor of amputations, but we cannot obtain more appropriate statistics on this point) the rate of mortality is 12.82 per 100. (See Gross' *Surgery*, vol. i. p. 552.) That the table shows, for all classes of excision, the average period of recovery in six cases to be thirty-one days.

SUBJECT No. 12.—"*Of Recovery.*"

It is scarcely necessary to enter into the details on this point, as these will be considered in the next subject. However, 84.45 per 100 recovered from *gunshot*, 87.5 from *injuries*, and 88.24 from excisions for *disease*. For the *three* classes 86.99 per 100 cases recovered. The average number of days in which the patients recovered in 51 cases, for the *three classes* of excision, is $194\frac{2}{5}{}^{2}$ days.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Recovered per 100.	Not stated what done for. Recovered.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Recovered per 100.
	EXCISION FOR GUNSHOT WOUNDS.											EXCISION FOR INJURIES.									
Recovered and died	36	..	..	10	2	..	10	8	..	.....	....	14	2	..	..	..	..	..	..	..	.....
Total for the subject	36	..	..	10	2	..	10	8	..	84.45	....	14	2	..	..	..	..	..	..	..	87.5
Sum of days patients were recovering	9 cases, 1376 days.											2 cases, 1070 days.									
Average number days recovering	$192\frac{8}{9}$											535									
Total for joint (cases)	66											16									
	EXCISION FOR DISEASE.																				
Recovered and died	43	8	..	31	2	..	1	..	..	.....	2										
Total for the subject	43	8	..	31	2	..	1	..	..	88.24	2										
Sum of days patients were recovering	40 cases, 7470 days.																				
Average number days recovering	$168\frac{3}{4}$																				
Total for joint (cases)	$85 + 2 = 169 = 86.99$																				

SUBJECT No. 13.—"*Usefulness of Member.*"

In the case of *gunshot excisions*, "perfect" usefulness was obtained in 1.75 per 100 of the cases; the members were "*useful*" in 28.07 per 100 cases, and "worthless" or amputation required in 17.53 per 100 cases.

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.	Not stated what done for. Recovered.
	EXCISION FOR GUNSHOT WOUNDS.										
Usefulness "perfect"	..	..	..	1	..	..	..	..	..	1.75	....
Simply "useful"	9	..	..	7	..	..	..	..	..	28.07	....
Worthless { Not useful	5	..	..	1	1	..	1	..	..	14.03	....
Worthless { Amputated	1	..	1	..	..	..	..	..	..	3.50	....
Usefulness not stated	21	..	..	1	..	..	9	..	..	52.65	....
Total for subject	36	..	1	10	1	..	10	..	..	100.00	....
Shortening of member	In 1 case 1 inch.										
Average number of months patients last heard from	Not stated.										

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.
	EXCISION FOR INJURIES.									
Usefulness "perfect"	4	..	..	..	..	..	..	..	..	28.57
Simply "useful"	8	..	..	..	..	..	..	..	..	51.14
Worthless { Not useful	..	..	..	..	..	..	..	..	..	.....
Worthless { Amputated	..	..	..	..	..	..	..	..	..	.....
Usefulness not stated	2	..	..	..	..	..	..	..	..	20.29
Total for subject	14	..	..	..	..	..	..	..	..	100.00
Shortening of member	Not stated.									
Average number of months patients last heard from	In 4 cases 66 months.									

SUBJECT.	Partial. Recovered.	Partial. Died.	Partial. Uncertain as to life.	Complete. Recovered.	Complete. Died.	Complete. Uncertain as to life.	Extent not stated. Recovered.	Extent not stated. Died.	Extent not stated. Uncertain as to life.	Per cent. useful.	Not stated what done for. Recovered.
	EXCISION FOR DISEASE.										
Usefulness "perfect"	1	..	..	5	..	..	..	..	..	7.59	....
Simply "Useful"	17	..	..	18	..	..	1	..	..	45.57	1
Worthless { Not useful	6	2	..	3	..	..	..	..	..	11.38	....
Worthless { Amputated	7	2	..	1	..	..	..	..	..	12.65	1
Usefulness not stated	12	..	..	4	..	..	..	..	..	22.81	....
Total for subject	43	4	..	31	..	..	1	..	..	100.00	2
Shortening of member	In 1 case 2 inches.										
Average number of months patients last heard from	In 31 cases $24\frac{26}{31}$ mos.										

In the examples of excision for "*injury*," 28.57 per cent. gained "*perfect*" limbs, and 57.14 per cent. useful members.

In the class of excisions for *disease*, 7.59 per 100 secured "perfect" results; 45.57 per 100 "useful" limbs, and in 24.03 per 100, the members were "*worthless*."

In considering the success of the *three* classes of excisions together, and also including the two cases in which it is not stated

for what cause the operation was performed, we find, that, in 152 cases in which the usefulness is and is not expressed, 7.23 per 100 of the cases gained practically "perfect" limbs; that 40.13 per 100, secured "useful" limbs, and that 21.05 per 100 were practically worthless, or amputated (latter 13 in number). Or, in other words, 47.36 per 100 were able to make use of the member to a greater or less degree, while in 21.05 per 100 of the cases, the member was worthless for any manual use.

For the several classes of excisions, the success in 62 *partial* excisions, in which 23 were "worthless" results, is 62.91 per cent., and in 37 *complete* excisions, in which 6 were "worthless" as to usefulness, 83.79 per cent. were "useful." This conclusion is not based upon the whole number of cases operated upon, and hence the rate of usefulness is greater than heretofore expressed. But the record is in favor of complete excisions of the joint as to the usefulness resulting from the operation.

The average period of recovery in 35 cases is $29\frac{1}{3}\frac{2}{5}$ months, or nearly $2\frac{1}{2}$ years.

REMARKS.

As to Treatment.

GUNSHOT EXCISIONS.

Case 20. In this case, a tent was kept in the wound, and a cushioned sheet-iron splint used, and perfect rest of member was maintained.

Case 32. Wound left open, filled with dry lint, and dressed with cold water.

Case 64. At this Prof. Langenbeck's views expressed, speaking in general terms, that passive motion and the use of the induced current of electricity, will not restore the stiffened fingers, resulting from the long-continued suppuration often associated with this excision.

Case 27. Operator believes the failure in this case was from not removing both rows of carpal bones.

DISEASE AND INJURIES.

Case 38. Here it is stated that Prof. Butcher does not expect much motion of the wrist in this excision.

Case 40. Prof. Van Buren says, the first operation, in this case, failed from bad position of hand.

Case 46. After recovering, this patient died, at 15 months, of phthisis.

Case 68. Same table. Tent kept in wound for 4 weeks, wound dressed with flax-seed poultice and permanganate of potassa.

Case 71. Same table. This excision was done to relieve pain only, which the operation accomplished.

Case 93. *Same.* Here is cited M. Ollier's view (see London *Lancet*, Am. ed., 1872, p. 659), who, speaking of the fact, as determined by him, that the ulna and radius grow mainly at the lower end, is favorable to limited excisions, at the wrist, of these bones.

Case 96. Same table. Actual cautery applied in this case during its course for gangrene. Movements and electricity afterward did good.

DISEASES AND INJURIES.

Remarks in General.

Case 2. The patient had previously lost his left hand from a similar cause.

Case 12. Same table. It is stated "that as the lower end of the ulna does not form a part of the wrist-joint proper, O. Heyfelder's 4th partial table, and also the case of Robt. B. Butts (see Gross's *Surgery*, vol. ii. p. 1083) is not included in *this* table.

Case 69. Same table. Although the ulna only was removed in this case, it is considered as an excision of this joint, as it is clearly stated that the articulation of the wrist proper was opened.

Case 103. Same table. A few years before this patient had some disease of the metacarpi and phalanges (of the left (other) hand) of a superficial character.

Case 112. Same table. Specimen presented to late Dr. John C. Warren, Boston, by the operator, who assisted in the excision.

Case 108. Same table. Esmarch bandage used in this case. Operator thinks it favors the performance of the excision, the cure, and diminishes the secondary fever.

Case 111. Same table. Operator attributes the bad result in this case to the Esmarch bandage having paralyzed the limb.

REMARKS.—*Post-mortem Examinations and as to Deaths.*

DISEASE AND INJURIES.

Case 25. Died at 19 months of phthisis, and Case 26, of "continued fever" at 1 year.

Case 60. Same table. Dissection showed ends of bones had lost the smoothness of the sawn surface and were covered with an irregular mass of bone which did not reach the carpus, both bones increased in thickness and their original figure lost.

SYNOPTIC TABLE OF THE WRIST-JOINT.

Nature of operation.	No. cases.
Excisions for Gunshot wounds	70
" " Injury	16
" " Disease	92
" not stated for what	2
" Incomplete cases	2
Total No. tabulated	182

ANATOMY.

The illustrations on Plates XIV. and XV. will serve to render unnecessary a lengthy anatomical description of this articulation, and to refresh the memory of the operator as to the several steps in excision of the wrist-joint.

EXPLANATION OF PLATE XIV.

REGION OF THE WRIST.

Fig. 1. *Posterior surface.*

A. Section of the skin bounding the region.
B. Section of the superficial fascia and of the subcutaneous fatty cellular tissue.
C. Section of the superficial aponeurosis of the region, from the deep surface of which pass off the fibrous septa for the tendons of the muscles belonging to the posterior surface of the region.
D, J, K. Tendons of the extensors of the fingers.
H. Tendon of the extensor longus pollicis.
I. Tendon of the extensor proprius minimi digiti.
E. Tendon of the extensor carpi radialis longior.
G. Tendon of the extensor carpi radialis brevior.
L. Styloid process of the radius giving insertion to the external lateral ligament of the wrist-joint and to the tendon of the supinator longus muscle.
1. Radial artery in the first inter-metacarpal space.
2, 3. Veins accompanying the radial artery.
4. Veins going from the ulnar vein.
5, 6. Superficial veins of the region.
7. Superficial and cutaneous branches of the radial nerve.
8. Superficial branch of the ulnar nerve.

Fig. 2. *Anterior surface.*

A. Section of the skin bounding the region.
B. Section of the superficial fascia and of the subcutaneous fatty cellular tissue.
C. Section of the superficial aponeurosis.
D. Tendon of the flexor carpi ulnaris going to be inserted into the pisiform bone and into the base of the fifth metacarpal bone.
E. Tendon of the palmaris brevis continued into the palmar aponeurosis.
F. Tendons of the palmaris magnus and of the flexors of the fingers.
G. Median nerve.
12. Tendons of the flexor sublimus perforatus.
1. Radial artery.
2. Dorsal branch of the radial artery.
3. Palmar branch of the radial artery.
4. Ulnar artery.
5. Superficial veins of the wrist forming a network from which the median and cephalic veins commence.
6. Deep veins communicating with the superficial venous network.
7. Veins forming an anastomosis between the superficial and deep network.
8. Ulnar veins.
9. Another deep vein of the region becoming superficial.
10. Ulnar nerve and its relations with the ulnar artery.
11. Radial nerve and its relations with the radial artery.
13. Superficial or cutaneous branch of the median nerve.

PLATE XIV.

From Béraud, Anat. Chirurg.

FIG. 1.

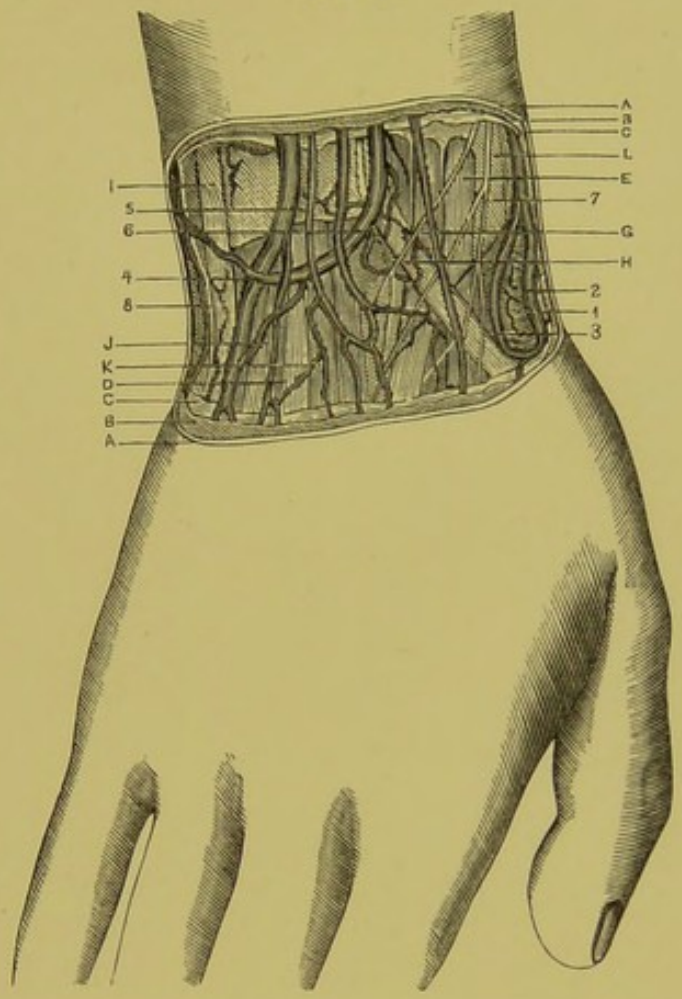
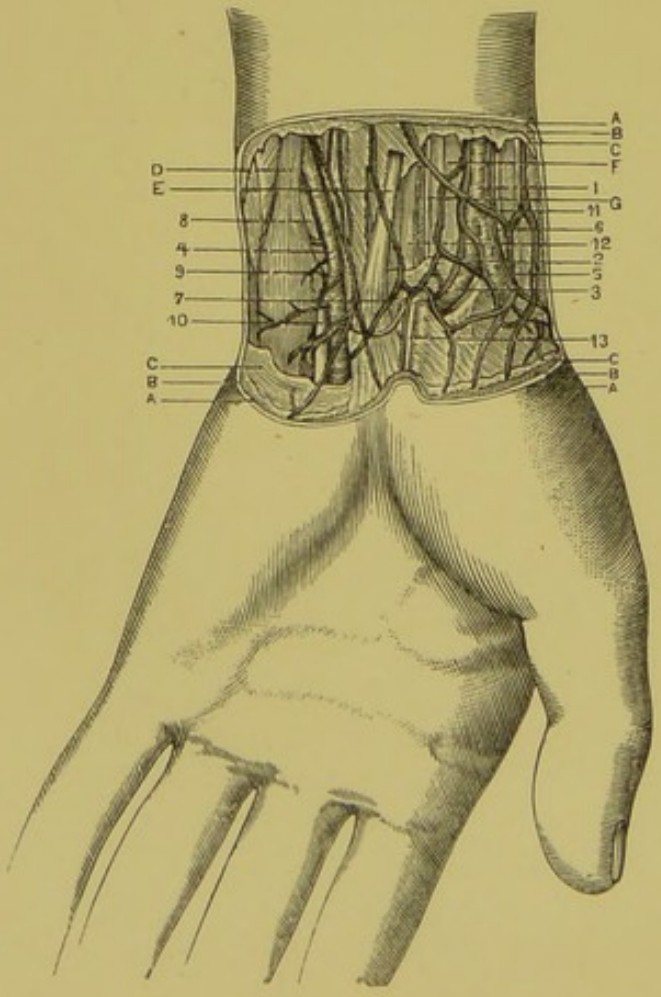


FIG. 2.



EXPLANATION OF PLATE XV.

VERTICAL SECTION AT THE WRIST,

Showing the five synovial membranes and the relations of the first row of carpal bones and the lower extremity of the radius and ulna.

A. Radius.

B. Ulna.

C. Os pisiforme.

D. Os cuneiforme.

E. Os semi-lunare.

F. Os scaphoides.

G. Os unciforme.

H. Os magnum.

I. Os trapezoides.

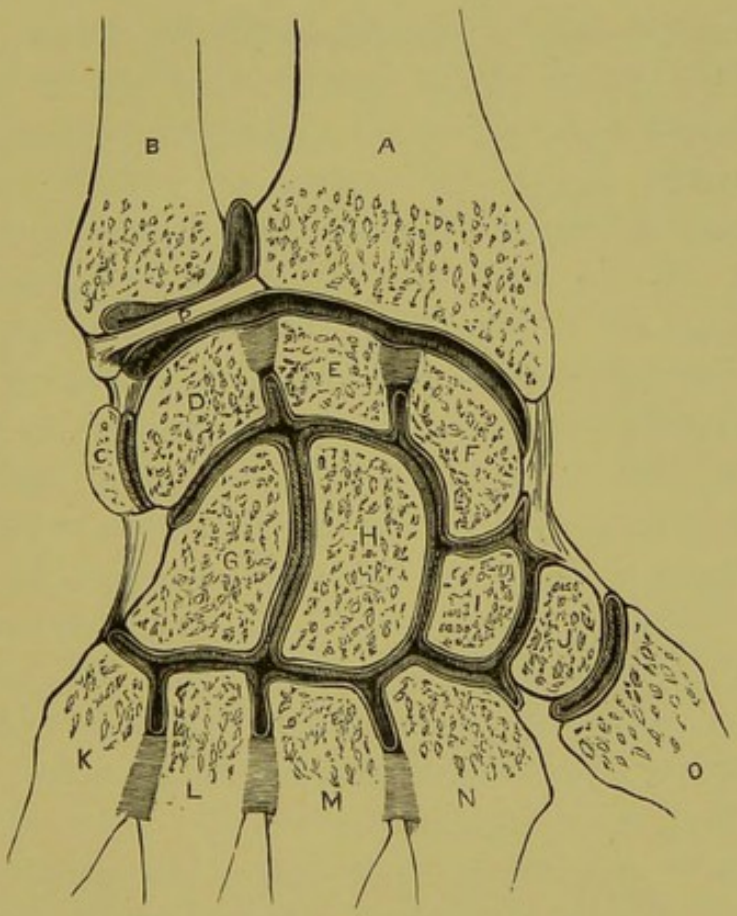
J. Os trapezium.

K, L, M, N, O. Metacarpi.

P. Triangular fibro-cartilage.

PLATE XV.

From Gray's Anat.



OPERATION.

The patient lying well over on his belly and having been anæsthetized, and the forearm bandaged with the Esmarch bandage, "an incision is made (after the method of Lister) from about the middle of the dorsal aspect of the radius, on a level with the styloid process downwards and outwards towards the inner side of the metacarpo-phalangeal articulation of the thumb; but on reaching the line of the radial border of the metacarpal bone of the index-finger it is carried downwards longitudinally for half the length of that bone."

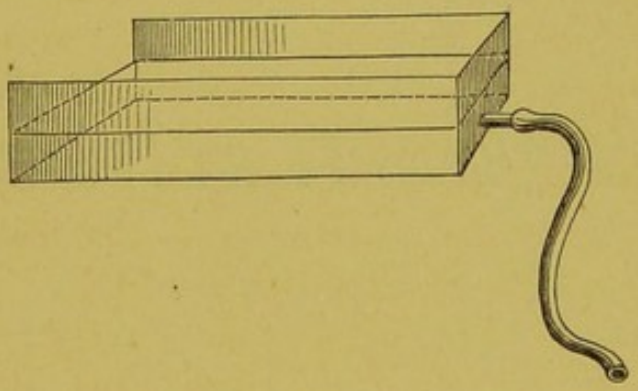
"This incision should commence in the angle formed by the tendons of the common extensor of the fingers and the extensor secundi internodii pollicis, and the upper part should run parallel to the latter tendon, but without injuring it. The tendon of the extensor carpi radialis brevior should be cut, but that of the longior should escape, and the angle formed by the two parts of the incision should be close to the inner side of its insertion." "The soft parts are then to be separated carefully from the bones on the radial side of the incision, the tendon of the extensor carpi radialis longior being cut as close to its insertion as possible. The tendon of the extensor secundi internodii pollicis and the radial artery are to be pushed outwards out of the way. The trapezium must then be separated from the rest of the carpus by cutting in the longitudinal part of the incision with the bone forceps. The soft parts are now to be dissected up as far as can be conveniently done, the remainder being raised from the ulnar incision." "The ulnar incision is now made. This should commence two inches above the end of the ulna and immediately anterior to the bone, and be carried directly downwards between the flexor carpi ulnaris and the ulna, and then straight on as far as the middle of the palmar aspect of the fifth metacarpal bone. The tendons and soft parts on the dorsum of the carpus are now to be completely raised." "The extensor carpi ulnaris is to be cut as near its insertion as possible, and the dorsal and internal lateral ligaments may now be divided. Then the soft parts are to be raised from the palmar aspect. The knife must be carried close to the ulna, so as not to wound the artery and nerve. The pisiform bone is to be separated from its attachments and left attached to the tendon of the flexor carpi ulnaris, which is not to be cut. The flexor tendons are to be raised from the metacarpal bones, but in doing this the hook of the

unciform bone must be clipped off with the bone forceps, and care must be taken not to cut below the bases of the metacarpal bones, for fear of wounding the deep palmar arch." "The anterior ligaments can now be divided. The bone-forceps may now be introduced, first between the carpus and radius, and then between the carpus and metacarpus; by this means the whole of the carpal bones are separated from their connections (except the trapezium and the pisiform bone), and may be extracted in one mass with the larger pair of sequestrum forceps, any bands which retain them being touched with the knife." The ends of the radius and ulna are exposed and the diseased extremities removed only so far as affected. If slightly involved, a thin section should be taken off, and the ulna should be left as long as possible to prevent outward distortion of the hand. After this is accomplished, the ends of the metacarpi should be removed. Finally, the trapezium and pisiform should be removed. This description is taken from Erichsen's *Surg.*, 6th Lond. ed., vol. ii. p. 244. In this operation the tendons of the thumb are preserved. The form of the incisions can be understood by reference to Plate XIV.

Butcher made a curved incision, the convexity downwards, over the posterior aspect of the joint, dividing the skin, fascia, and extensor tendons, but the tendons of the thumb were not divided. If the trapezium is healthy he did not remove it. Skey advises two lateral incisions and does not divide the tendons, and this course is recommended by Fergusson. Syme made a lateral incision on either side of the joint, and at the lower extremity of each, a short cut extending towards the median line of the wrist. Maisonneuve made a simple longitudinal incision upon the back, Chassaignac upon the ulnar, and Danzel upon the radial border of the wrist. Doublet made the lateral incisions, and which were advised by Adelmann and Sprengler. Simon made two longitudinal incisions, one on the dorsal, the other upon the palmar aspect of the joint. Roux and Jaeger added to the lower extremity of each lateral incision of Doublet, a short cut, thus ⌊⌋. Dürr and Erichsen formed a quadrilateral flap with a superior base. O. Heyfelder modified somewhat the incision of Roux. Guepratte made a semilunar flap with a base above. Bellamy advises the operation of Lister. Hamilton advises a free excision at this joint and to remove the lower extremity of the ulna and radius on the same line, to prevent lateral angularity at the wrist. Velpeau made a flap with the base above. Gross advises the lateral cuts

or a semilunar flap with the convexity downwards, and Ashhurst recommends the lateral incisions or Lister's method.

TREATMENT.—The wound having been dressed and its cavity filled with lint, the member is placed in a tin box wide enough and long enough to receive the forearm and hand. This box has an upper part upon which the member is laid, which is perforated. Below this is the bottom of the box, which is water-tight. At the end and near the bottom is a tubular opening to which is attached a portion of rubber tubing, to conduct away the water employed in irrigating the joint. This apparatus can be carried about, and has answered a very excellent purpose in the hands of Dr. A. Ball, of this place. The following diagram will represent *it* more



clearly. Early in the case passive motion should be instituted and perseveringly employed, the tendency being to anchylosis at this articulation. If the excision has been free, this defect will not be so likely to result as when partial.

Authorities advise a variety of treatment and dressings in the management after this excision, but we must refer the reader to the following works for the particulars as well as in relation to the operation:—

Authorities.—Béraud; Heyfelder, O., Trait. des Rés; Bernard and Huette; Skey, Oper. Surg.; Smith, Oper. Surg.; Butcher, Cons. Surg.; Erichsen, Surg.; Gant, Surg.; Gross, Surg.; Ashhurst, Surg.; Hamilton, Surg.; Fergusson, Surg.; Velpeau, Surg.; Syme, by Maclean; and other standard medical works.

TABULAR STATEMENT

OF

EXCISION OF WRIST-JOINT.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Velpeau's Surg. ii. 786; Hodges, p. 74; Heyfeld. Total ta. 1, p. 206.	Bagieu, France.	France.	France.	M. 25	.....	1762.	P.	Comminuted shot fracture of heads of ulna and radius; by fragment of shell.
2	Hodges, p. 75.	Rossi.	?	?	....	.....	.....	....	Shot wound, involving joint.
3	Hodges, p. 75.	Huguier, Paris.	France.	France.	....	.....	.....	....	Shot wound, involving joint.
4	Lancet, vii. 517, 1848.	Meymott, Henry, England.	Ludlow Union Infirmary	E——, Herbert England.	M. 19	May 23, 1847.	June 23, 1848.	S.	Perforating wound of joint; from shot.
5	Hodges, p. 76.	Not stated.	Crimean War.	Soldier.	M.	.....	1855 to 1856.	....	Shot wound, involving joint.
6	Hodges, p. 76.	Not stated.	Crimean War.	Soldier.	M.	.....	1855 to 1856.	....	Shot wound, involving joint.
7	Hodges, p. 76.	Not stated.	Crimean War.	Soldier.	M.	.....	1855 to 1856.	....	Shot wound, involving joint.
8 to 17	Gross' Statistics; Reed's Tables.	Reported by Demme, H., Berne, Switzerland.	Italian War.	10 cases.	M.	.....	1859.	....	Shot wound, involving joint.
18	Letter, 1872.	Jennings, R. G., Surg. 12 Arkansas, C. S. A., Little Rock, Arkansas.	On field, New Madrid, Missouri.	Stone, Thos.	M. 18	Dec. 12, 1861.	Dec. 12, 1861.	P.	Accidental shot wound of left radius; received while on guard duty, before (some time) the battle of New Madrid, Mo.
19	Cat. Surg. Sec. A. M. M. p. 205; Operator.	1st, Maxwell, Keokuk. 2d, Taylor, M. K., (now) Asst. Surgeon U. S. Army. 3d, Culbertson, H., (then) Surg. U. S. Vols.	General Hospital, Keokuk, Iowa. Harvey Hospital, Madison, Wis.	M——, J., Pr. K, 33d Wis.	M.	Dec. 22, 1862. Yorkney Station, Miss.	1st, Jan. 1863. 2d, April 2, 1863. 3d, June 21, 1864.	S.	Shot wound of left joint.
20	Letter, 1872.	Walter, A. G., 66 and 68 6th Avenue, Pittsburg, Pa.	Walter's Hospital, Pittsburg	Peter, Henry, McClure Twp Allegheny Co. Pennsylvania	M. 17	3, w'ks before.	May 27, 1862.	S.	Caries; result of shot wound of left joint.
21	Letter, 1872.	Bontecou, R. B., Troy, N. Y.	Hygeia General Hospital.	Harris, F. E., Soldier.	M. 20	June 30, 1862.	July 23, 1862.	S.	Shot wound of left joint.
22	Cir. No. 6, p. 54.	Bacon, C., Asst. Surgeon U. S. Army.	War, 1861.	Bard, Pr. I, 1st Penna.	M.	Sept. 17, 1862. Antietam.	.....	?	Shot wound of the joint (right).
23	Cat. Surg. Sec. A. M. M. p. 203; Cir. 6, p. 54.	Bordman, A. A. Surg. U. S. Army.	A Washington Hospital.	J——, M. E., Pr. 94 N. Y.	M.	Sept. 17, 1862. Antietam.	Oct. 15, 1862.	S.	Shot fracture of the lower third of right radius.

of Wrist-Joint for Gunshot Wounds.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	?	Splinters immediately removed, including the ends of both bones.	Recovered.	1	"Good; anchylosis of radio-carpal joint; sufficient flexibility of fingers to write and design almost as well as ever; shape of hand preserved to a considerable extent."	?	
2	?	?	?	.....	?		
3	?	?	?	.....	?		
4	?	Scaphoid bone entire, by forceps.	Recovered.	.....	Wrist-joint anchylosed; fair use of middle, third, and fourth fingers.		
5	?	Not stated.	Recovered.	.....	?		
6	?	Not stated.	Recovered.	.....	?		
7	?	Not stated.	Died.	.....	?		
8 to 17	.....	Not stated.	6 Recovered, 4 Died.	.....	?		
18	I	Lower 5 inches of radius.	Recovered.	.....	"Good practical use of joint; weaker than the other; no grip in the ring and little fingers."	60	Operator says the command was detained at Columbus, having arrived there a few days before the Belmont affair, and upon the 1st or 2d of the month following (Dec. 1861), we moved down to New Madrid, when a few days after the man was wounded.
19	? Amputation circular	1st and 2d operations — trapezius, trapezoid, parts of scaphoid and magnum, base of 1st metacarpus, and portion of 2d.	Recovered, 15 months.	.....	"June 21, 1864, member amputated at lowest ⅓ of forearm; the wrist being prone and anchylosed, and the fingers stiff, from plastic deposits; wrist and hand an encumbrance."	15	
20	U Tendons preserved.	Articular facets of radius and ulna, and all the carpal bones except trapezium.	Recovered, 4 months.	.....	"Almost perfect freedom of voluntary flexion and extension of wrist; pronation and supination less free; abduction and adduction somewhat impaired; at 2 years able to do light work on a farm."	24	Tent kept in wound; used a cushioned sheet-iron splint; perfect rest maintained of member.
21	H	1st metacarpus; 3 carpal bones; end of radius.	Recovered.	.....	"Useful."		
22	?	End of radius; trapezoid, scaphoid, magnum, and 2d, 3d, and 4th metacarpi.	Recovered.	.....	"Result stated to have been favorable."	?	
23	?	Lower half of radius.	Died, 76 days, probably of exhaustion.	.....	Amputated arm Dec. 19, 1862; the specimen shows the first row of carpal bones nearly absorbed, the 2d row diseased, and end of ulna carious.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
24	Cat. Surg. Sec. A. M. M. p. 199.	Adolphus, Philip, Asst. Surgeon U. S. Army.	War, 1861.	H——, J. W., Pr. K, 27 Ga. (Rebel) Regt.	M.	Sept. 17, 1862. Antietam.	Oct. 17, 1862.	S.	Shot fracture of wrist (right).
25	Letter, 1872.	Porcher, F. Peyer, Charleston, S. Carolina.	S. C. Hospital, Petersburg, Va.	Unknown.	M. 25	.....	1862.	S.	Shot wound of joint.
26	Med. Record, N. Y., iv. 172; Med. & Surg. Reporter, Phila. xix. 454.	Knott, J. J., Surgeon P. H. C. S., Atlanta, Ga.	?	Speer, Pr. C, 53d Georgia.	M.	May 6, 1864. Wilderness.	May 6, 1864.	P.	Transverse wound of right wrist, with fracture of radius and carpal bones; by Minié-ball.
27	Trans. State Med. Society Michigan, 1869.	Lyster, Henry F., Detroit, Michigan.	Spottsylvania.	Little, John, Soldier.	M. 36	May 12, 1864.	May 12, 1864.	P.	Shot fracture of end of left radius, involving joint.
28	Letter, 1872.	Carpenter, H. W., Oneida, N. Y.	In field, Dury's Bluff.	Newkirk, Jacob H.	M. 24	May 16, 1864. D'rys Bluff.	May 16, 1864.	P.	Shell fracture of end of right radius, involving wrist.
29	Cat. Surg. Sec. A. M. M. p. 199.	Ensign, W.H. A. A. Surg. U. S. Army.	Hospital, Washington, D. C.	G——, G., Pr. C, 20th Mass.	M. 26	May 6, 1864. Wilderness.	May 23, 1864.	S.	Shot fracture of right radius near joint.
30	Cir. No. 6, p. 54.	Ingram, A., Asst. Surgeon U. S. Army.	Judiciary Square Hospital, Washington.	Hoover, Jos., Pr. A, 62d Pa.	M. 26	May 12, 1864. Spottsylvania	May 30, 1864.	S.	Shot fracture of both wrists; free suppuration of left wrist; from musket ball.
31	Cir. No. 6, p. 54; Cat. Surg. Sec. A. M. M. p. 541.	Pomfret, J.E., Surg. 7 N. Y. Heavy Arty.	Cold Harbor, Virginia.	Hobbs, C. W., Major 7 N. Y. Heavy Arty.	M. 21	June 3, 1863. Cold Harbor.	June 4, 1864.	P.	Fracture of 3d and 4th metacarpi by one ball; comminution of 2d and 3d metacarpi, and fracture of the unciform and cuneiform; all of the left wrist and hand from another ball; also flesh wound of left thigh from another ball.
32	Notes, and Cir. No. 6, p. 54.	Culbertson, H., then Surg. U. S. V.	Harvey Hospital, Madison, Wis.	Neal, George W., Pr. D, 3d Wis. Infty. Constitut'nal state good.	M. 25	May 4, 1864.	June 29, 1864.	S.	Shot fracture of ulnar border of left carpus; portion of os magnum shot away, remainder necrosed; necrosis also of unciform; from wound of ball.
33	Cat. Surg. Sec. A. M. M. p. 197.	Cherbonnier, A. V., A. A. Surg. U. S. A.	Hospital, Baltimore	V——, J. W., Pr. H, 9 N. Y. Heavy Arty.	M. 21	July 9, 1864. Monocacy.	July 10, 1864.	P.	Fracture of lower ends of right radius and ulna, involving joint.
34	Letter, 1872.	Whitehead, P. F., Vicksburg, Mississippi.	Atlanta, Georgia, Field Hospital, Loring's Division.	Soldier, C. S. A.	M.	July 20, 1864. Atlanta.	July 20, 1864.	P.	Shot fracture of end of radius.
35	Letter, 1872.	Boutecou, R. B., Troy, N. Y.	Harwood General Hospital.	Roe, Jos. M., Soldier.	M. 23	June 4, 1864.	June 25, 1864.	S.	Shot fracture, involving right joint.
36	Letter, 1872.	Whitehead, P. F., Vicksburg, Mississippi.	Petersburg, Va.	Conk, Stephen.	M. 30	Nov. 10, 1864	Nov. 10, 1864.	P	Shot fracture of right radius, involving joint.

of Wrist-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
24	?	Carpus and 3d metacarpus.	Recovered.	.....	?		
25	I	1½ inches end of radius.	Recovered.	.....	"Moderate, when discharged."		
26	I I	All of carpus, and ½ inch of radius and ulna.	Recovered.	.....	"Some abduction of hand, owing to improper management after operation; able now to perform as much manual labor as before wounded."	54	
27	I	Lowest ⅓ of radius.	Recovered.	.....	"Not known."	In 1864.	
28	Thro' wound.	Lowest 2 inches of radius.	Recovered.	.....	"Anchylosis of joint; partial use of hand."	90	
29	?	Lowest 1¾ inches of radius.	Recovered.	.....	"Discharged service."	12	
30		1st. Right forearm amputated on field. 2d. Nearly all of left carpus, styloid, ulna, and base of 1st metacarpus.	Recovered.	.....	"Discharged service."	?	
31	?	2 inches of end of ulna; the unciform and cuneiform; fractured portions of the metacarpi, and the three outer fingers amputated.	Recovered, 3 months.	.....	Wound healed; the remaining portions of the carpus not anchylosed, and the movements of the thumb and forefinger unimpaired.	2	
32	I	Cuneiform, pisiform, portion of os magnum, fragments of unciform, and semilunar bones.	Recovered, 3 months.	.....	"3 months wound nearly healed; recovered with some use of hand, and was transferred to the Vet. Res. Corps.	9	Wound left open; filled with dry lint, and dressed with cold water.
33	?	Lowest 4 inches of ulna and radius, including fragments.	Recovered, 7 months.	.....	Discharged with motion of the fingers.	7	
34	L	2½ inches of radius.	?	.....	?	.....	Case sent to General Hospital immediately.
35	V	End of radius and ulna, and some necrosed portions of carpus.	Recovered.	.....	"Useful."	In 1864.	
36	I	Lowest ⅓ of radius.	Recovered.	.....	Not stated.	In 1865.	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
37	Traité de Chir. d'Armée, 744; Gross' Statistics.	Lagouste, L., France.	S'leswig-Holstein Camp'gn 1864.	Soldier.	M.	.....	1864.	?	Shot wound, involving joint.
38	Cat. Surg. Sec. A. M. M. p. 199.	Reported by Rockwell, George F., A. A. Surg. U. S. Army.	?	B——, W., Pr. B, 49th United States Col'd Troops.	M. 25	Sept. 1 1865. Vicksburg.	Dec. 1865.	S.	Accidental shot fracture, involving right joint.
39	Cat. Surg. Sec. A. M. M. p. 205.	McCall, C. A., Asst. Surgeon U. S. Army (contributor).	?	.....	M. ?	.....	1861 to 1865.	?	Shot fracture of left wrist; joint perforated.
40 to 57	Cir. No. 6, p. 54.	Reported by Asst. Surgeon Otis, U. S. Army.	War Rebellion U. S.	18 cases not tabulated.	M.	.....	1861 to 1865.	....	Shot wounds of joint.
58	Cir. No. 6, p. 54.	Reported by Asst. Surgeon Otis, U. S. Army.	War Rebellion U. S.	Soldier.	M.	.....	1861 to 1865.	....	Shot wound of joint.
59	Cir. No. 6, p. 54.	Reported by Asst. Surgeon Otis, U. S. Army.	War Rebellion U. S.	Soldier.	M.	.....	1861 to 1865.	....	Shot wound of joint.
60	Arch. für Klin. Chir., pp. 468 and 476.	Uhde, Prof., Braunschweig, Germany.	Hospital at Braunschweig, Franco-Prussian War.	Durand, Jean, French 40th Regiment of the Line, from Ceciux, Dept. Isere.	M. 26	Aug. 6, 1870. at Spichern	Aug. 23, 1870.	S.	Perforated shot wound of right joint, with fracture end ulna, and free suppuration.
61	Arch. für Klin. Chir., 16, 2, 468 and 476.	Langenbeck, B. Von, Berlin.	Franco-Prussian War, Lazareth at Sacre-Cœur, Orleans.	Berblinger, 85th Holstein Infantry, from Ploven-Holstein. High fever and repeated chills.	M.	Jan. 11, 1871. Le Mans	Feb. 3, 1871.	Int.	Shot wound of joint; half the ball lodged, and was cut out at lower end of radius; latter fractured; forearm and fingers much swollen; tendon of extensor pollicis longus divided.
62	Arch. für Klin. Chir., 468, 477.	Langenbeck, B. Von, Berlin.	Franco-Prussian War, Lazareth at Sacre-Cœur, Orleans.	Mathes, 2d Tueringer Regt. Inf'ty, No. 32. Has fever.	M.	Dec. 2, 1870. before Orleans.	Feb. 8, 1871.	S.	Fracture of middle metacarpus, and perforation of carpus; from Chassepot ball; extensor tendon of the middle finger divided.
63	Arch. für Klin. Chir. Lang., 16, 2, 468.	Heuter, Prof., Greifswald, Germany.	Franco-Prussian War, at Pont-a-Mouson.	German Soldier.	M.	.....	1870 to 1871.	Int.	Shot wound of joint.
64	Arch. für Klin. Chir. Lang., 16, 2, 468.	Goltdammer, Germany.	Franco-Prussian War.	German Soldier.	M.	.....	1870 to 1871.	Int.	Shot wound of joint.
65	Arch. für Klin. Chir. Lang., 16, 2, 468.	Schueller, Germany.	Franco-Prussian War.	German Soldier.	M.	.....	1870 to 1871.	Int.	Shot wound of joint.
66	Arch. für Klin. Chir. Lang., 16, 2, 468.	Berthold, Germany.	Franco-Prussian War.	German Soldier.	M.	.....	1870 to 1871.	Int.	Shot wound of joint.
67	Arch. für Klin. Chir. Lang., 16, 2, 468.	Berthold, Germany.	Franco-Prussian War.	German Soldier.	M.	.....	1870 to 1871.	Int.	Shot wound of joint.

of Wrist-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
37	?	Excision of joint.	Recovered.	.....	"Complications not important; had, after operation, a notable tumor in the region of the wrist; great mobility of the hand on the forearm, with inability to flex or extend it; a rigidity and absolute impotence of the fingers."		
38	?	2½ inches end of ulna and the semilunar bone.	Recovered, in about 3 months.	.....	Full use of hand, and tolerable use of wrist; mustered out of service March 22, 1866.	About 3	The statistics of Sorrel are not added; he gives but 3 cases in which this operation was done upon Confederate soldiers, and we have more than that number.
39	?	Partial excision of end of radius.	?	.....	"Amputation finally done at middle third of forearm."		
40 to 57	.....	Partial excisions.	18 Recovered.	?	?		
58	.....	Partial excision.	Died, pyæmia.				
59	.....	Partial excision.	Died, exhaustion.				
60	1 1	⅝ inch of radius and ulna, and all carpal bones, except trapezium and trapezoides.	Recovered, 8⅝ months.	.....	Complete use of hand and fingers; use of wrist considered certain.		
61	1 1	Subperiosteal; ulna just above epiphysis, 2½ inches of radius, and the cuneiform navicular and lunar bones, also a portion of sleeve-button.	Died, 9 days, pyæmia.	.....	.....	.....	4th day had chills, these recurred daily until he died; did well first three days.
62	1 1	Feb. 2d, fragments of metacarpus removed; Feb. 8th, head ulna, 1 inch radius, and all carpus, except trapezium, and pisiformis.	Recovered, 1 month.	.....	March 9, wound nearly healed; active motion of fingers; passive motion not yet instituted; ultimate result not known.		
63	?	Partial excision.	Died, pyæmia.	.....	.....	.....	Prof. Langenbeck says, speaking in general terms, that passive motion and the use of the induced current of electricity will not restore the stiffened fingers resulting from the long-continued suppuration associated with this excision.
64	?	Partial excision; epiphysis, ulna, and radius.	Recovered.	.....	Anchylosis of wrist, and no motion of fingers.		
65	?	Partial; epiphysis, radius, and the lunaris.	Recovered.	.....	Wrist almost stiff.		
66	?	Total excision.	Recovered.	.....	Loose joint and fingers, and wrist not useful.		
67	?	Total excision.	Recovered.	.....	Loose joint and fingers, and wrist not useful.		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
68	Arch. für Klin. Chir. Lang., 16, 2, 468.	Beck, B., Freiburg.	Franco-Prussian War.	German Soldier.	M.	.....	1870 to 1871.	Int.	Shot wound of joint.
69	Arch. für Klin. Chir. Lang., 16, 2, 468. See also Med. Record, N. Y., ix. 236, from Schmidt's Jahrb. ii. 73.	Beck, B., Freiburg.	Franco-Prussian War.	German Soldier.	M.	.....	1870 to 1871.	Int.	Shot wound of joint.
70	Letter, 1873.	Walter, A. G., see Case 20.	Friend's house in City.	Boehm, Christian, Bull Run, Allegheny Co., Penna.	M. 18½	5 days before.	Feb. 26, 1872.	Int.	Shot wound of the radial face of the right wrist, with limited gangrene.

Remarks.—The following numbers of cases represent excisions for injuries and wounds other than gunshot: Nos. 1, 3, 7, 10, 12, 13, 16, 17, 23, 29, 39, 61, 70, 97, 99, 102.

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
1	Heyfeld. Part. ta. 1; Hodges' Exc. p. 74.	Cooper, Bungay, England.	England.	England.	....	.....	1750.	?	Compound luxation of radius at joint, with protrusion of the end of that bone; tendons lacerated at the wrist.
2	Velpeau's Surg. ii. 786; Heyfeld. Part. ta. 2; Hodges, pp. 74, 77.	Moreau, Sr., Bar, France.	France.	Husson, J. P. "A notary."	M. 71	.....	July 1794.	S.	Necrosis; result of acute inflammation (right side).
3	Heyfeld. ta. 3; Velpeau's Surg. ii. 785; Hodges, p. 75.	Saint Hilaire, Montpellier, France.	France.	France.	....	.....	1800.	?	Luxation, with protrusion of the radius and ulna at wrist.
4	Heyfeld. Part. ta. 5; Hodges' ta. 25.	Roux, Ph. J., Paris.	France.	France.	F. 42	.....	.....	S.	Caries.
5	Heyfeld. Part. ta. 3; Velpeau's Surg. ii. 788; Hodges, p. 75, ta. 24.	Roux, Ph. J., Paris.	France.	France.	....	.....	.....	....	Caries.
6	Hodges' Exc., p. 77.	Related by Champion, L.	France.	A countryman France.	M. ad't	.....	.....	S.	Necrosis of end of radius.
7	Heyfeld. Part. ta. 1.	Verbeck, France.	France.	France.	M. 14	.....	.....	?	Complicated luxation of radius.
8	Hodges' ta. 21; Heyfeld. Part. ta. 2; Dict. des Sci. Méd.	Moreau, Son.	France.	France. Dressmaker.	F. 20	.....	.....	S.	Caries of lower end of radius.

of Wrist-Joint for Gunshot Wounds—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
68	?	Total excision.	Recovered.	.....	Loose joint and fingers, and wrist not useful.		
69	?	Total excision.	Recovered.	.....	"Successful."		
70	U	¾ inch end of radius, ulna same plane; all carpal bones denuded of periosteum; ends metacarpi gouged.	Recovered, 8 weeks.	.....	"Wound healed; voluntary motion in the new wrist-joint perfectly normal; can abduct and adduct the thumb; flex and extend all the fingers (the first one the best); some stiffness and soreness yet remaining in the metacarpo-phalangeal joints."	5	

The other cases of this Table are examples of excisions for disease.

of Wrist-Joint for Disease and Injuries.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
1	Thro' wound.	Head of the radius; Heyfelder reports ulna removed also.	Recovered.	.....	"Good; and the patient found little or no defect in the strength or motion of the wrist."	?	
2	LJ	Ends of radius and ulna.	Died, July 29, from exhaustion, result of the intensity of the primitive inflammation.	.....	.....	.....	Had previously lost left hand from a similar cause.
3	?	Ends of radius and ulna.	Recovered.	.....	"Perfect."		
4	LJ	Ends of radius and ulna.	Recovered, 1 month.	.....	"Good."		
5	L	End of radius.	Died, from the amputation.	.....	"Was doing remarkably well on the fifteenth day, but was afterwards obliged to undergo amputation."		
6	?	Patient cut off the end of radius himself with a carpenter's chisel.	Recovered.	.....	"Hand unable to hold the lightest thing."	.....	Probably tendons divided by the imperfectly performed operation.
7	?	End of radius.	Recovered.	.....	"Perfect."		
8	?	End of radius.	Recovered.	.....	"Perfect; able to sew; returned to her employment."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
9	Heyfeld. Part. ta. 4.	Textor, K., Germany.	Germany.	Germany.	....	.....	.....	S.	Caries.
10	Heyfeld. Part. ta. 6; Hodges, p. 76; Dis. and Fract., Cooper, p. 436.	Cooper, A., London.	Guy's Hospital.	Mitchell, Richard, England.	M. 22	Oct. 17, 1822.	Oct. 17, 1822.	P.	Complicated luxation of scaphoid bone.
11	Heyfeld. Part. ta. 7.	Velpeau, Alf. A. L. M., Paris.	France.	.....	....	.....	.....	....	Caries.
12	Heyfeld. Part. ta. 6; Hodges, p. 75; Velpeau's Oper. Surg. 267.	Hublier, Provens, France.	France.	France.	F. 23	.....	1828.	P.	Luxation complicated; the tendons were not ruptured; soft parts lacerated.
13	Heyfeld. Part. ta. 5; Hodges' ta. 76.	Beck, B., Freiburg.	Germany.	Germany.	M. 58	.....	1833.	?	Complicated luxation of radius.
14	Heyfeld. Part. ta. 8.	Jaeger, M., Würzberg.	Germany.	Germany.	M. 14	.....	1834.	?	?
15	Heyfeld. Total 2, pp. 206, 209; Hodges' ta. 31, p. 75.	Dietz, Germany.	Germany.	Germany.	M. 40	.....	1839.	S.	Caries.
16	Heyfeld. Part. ta. 6.	Ried, Fr., Jena, Germany.	Germany.	Germany.	M. 25	.....	1837.	?	Complicated fracture of radius at joint.
17	Heyfeld. Part. ta. 7; Hodges, p. 73.	Just, Leipzig.	Germany.	Germany.	M. 55	.....	1838.	?	Complicated fracture of radius at joint.
18	Heyfeld. Part. ta. 9.	Stadelmann, H., Nürnberg.	Germany.	Germany.	M. 24	.....	1840.	?	Caries.
19	Heyfeld. Part. ta. 8.	Ricord, Paris.	France.	France.	M. 23	.....	1841.	S.	Caries.
20	Heyfeld. Part. ta. 9.	Blandin, Paris.	France.	France.					
21	Heyfeld. Part. ta. 10.	Angelstein.	Germany.	Germany.					
22	Heyfeld. Part. ta. 7; Hodges' ta. 36.	Adelmann, Dorpat, Russia.	Russia.	Russia.	F. 19	.....	1842.	S.	Caries of ends of radius and ulna.
23	Heyfeld. Part. ta. 11.	Adelmann, Dorpat. Russia.	Russia.	Russia.	M. 45	.....	1847.	S.	Luxation and gangrene.
24	Heyfeld. Total ta. 3, p. 206; Hodges' ta. 28.	Heyfelder, J. F., Erlangen, Germany.	Germany.	Germany.	M. 59	.....	1849.	S.	Caries of left joint.
25	Lancet, i. 355, 1854; Hodges' ta. 11.	Fergusson, William, 16 George St., W. London.	King's College.	G——, Geo., England.	M. 22	12 mos. standing.	Aug. 16, 1851.	S.	Caries, involving the carpus and heads of 3 metacarpi; from a sprain.
26	Lancet, i. 356, 1854; Hodges' ta. 6.	Simon, John, 40 Kensington Square, W. London.	Saint Thomas' Hospital.	Ll——, John. Health restored by treatment; from abscess of thigh.	M. 19	Over 2 mos.	Oct. 9, 1852.	S.	Caries of the left joint seemed to follow an abscess of thigh (left side).
27	Hodges' ta. 23, p. 75.	Sayre, L. A., 285 5th Ave., New York.	N. York.	United States.	....	.....	1853.	S.	Caries.
28	Heyfeld. ta. 5; Hodges' ta. 32.	Maisonneuve, Paris.	France.	France.	M. 35	.....	1852.	S.	Caries.

of Wrist-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
9	?	End of radius.	Died. ?				
10	Thro' lacerated wound.	Scaphoid bone.	Recovered.	.....	"Had limited power of moving his fingers."		
11	⊔	Cuneiform bone.	?	.....	?	.....	As the lower end of the ulna does not form a part of the wrist-joint, Heyfelder's 4th partial table is not included, and also Robert B. Butt's case (see Gross Surg., vol. ii. p. 1083).
12	?	End of radius and ulna.	Recovered.	.....	"After the cure, the fingers could be moved with almost the same facility as before the operation."		
13	?	End of radius.	Died. ?				
14	⊔	Os magnum.	Recovered.	.....	"Good."		
15	?	Ends of radius and ulna, and all carpal bones.	Recovered.	.....	Partial success; amputated for return of disease after about 4 years.	Over 48	
16	I	End of radius.	Recovered.	.....	"Good; anchylosis; movement of fingers."	?	
17	?	End of radius.	Recovered.	.....	"Perfect; pro- and supination preserved."		
18	?	Os magnum.	Recovered.	.....	"Good."		
19	?	End of radius.	Recovered.	.....	"Good."		
20							
21							
22	II	Ends of radius and ulna.	Recovered.	.....	"Useful hand."		
23	II	End of radius.	Recovered.	.....	"Limited motion of wrist; free motion of fingers."		
24	H	End of ulna, cuneiform, and pisiform.	Recovered, 10 weeks.	.....	At the end of 5 years quite free use of hand.	60	
25	H	All of carpal bones except trapezium; the bases of three metacarpal bones, and styloid process of ulna.	Recovered, 5 months.	.....	Probably not successful.	19	Died of phthisis at 19 months.
26	Longitudinal median back and front joint.	All of the carpus except trapezius and pisiform; one of the metacarpi previously.	Recovered, 1 year.	.....	"Parts unhealed."	12	Died of continued fever 1 year after operation.
27	?	One row of carpal bones.	Recovered.	.....	"Member subsequently amputated."	.....	"Operator believes failure in this case was owing to not removing both rows of the carpal bones."
28	Single dorsal longitudinal	Ends of radius and ulna, and all carpal bones.	Recovered, 3 weeks.	.....	"Wounds healed; motion and sensation returned."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
29	Letter, 1872.	DeCamp, William H., Michigan.	Private practice.	Crittenden, A. C.	M. 45	.....	1852.	P.	Lacerated wound of joint; from saw.
30	Lancet, i. 356, 1854; Heyfeld. Total ta. 8.	Fergusson, William, see Case 25.	King's College Hospital.	M——, Geo., Pretty good.	M. 28	3 years' standing.	1st, May 2, 1853. 2d, Oct. 7, 1853. 3d, Jan. 7, 1854.	S.	Caries; result of disease of 5th metacarpus.
31	Hodges' ta. 9; Med. Times & Gaz., Sept. 23d, 1854.	Birkett, John, 59 Green St., Grosvenor Sq. W. London.	Guy's Hospital.	England.	M. 44	.....	Aug. 1854.	....	Chronic arthritis.
32	Lancet, i. 354, 1854; Heyfeld. Total ta. 7; Hodges' ta. 14.	Erichsen, J. E. 6 Cavendish Place, W. London.	Univ. College Hospital.	M——, Ann.	F. 28	.....	Oct. 19, 1853.	S.	Caries.
33	Braith. Retro. Part 31, p. 104; Hodges' ta. 7.	Jones, G. M., Jersey Is.	Jersey Hospital, Jersey Island.	English Channel.	F. 20	.....	About Oct. 1853.	S.	Caries of left joint.
34	Braith. Retro. Part 31, p. 104; Hodges' ta. 8.	Jones, G. M., Jersey Is.	Jersey Hospital, Jersey Island.	English Channel.	F. 40	.....	About May 1854.	S.	Caries.
35	Gross' Surgery, ii. 1083.	Carnochan, J. M., New York.	N. York.	United States.	M. 20	.....	1854.	S.	Caries of hypertrophy, and eburnation of entire radius; from severe blow.
36	Hodges' ta. 20; Shellbach, Res. der Knochen, Part ii. p. 224.	Schellbach, L. Germany.	Germany.	Germany.	F. 30	.....	1854.	....	Chronic arthritis and caries of left joint.
37	Heyfeld. Part. ta. 1, and pp. 215, 220.	Baudens, L., Paris.	France.	France.	....	.....	.....	....	Caries.
38	Butcher's Surg. pp. 207, 240.	Butcher, R. G., Dublin.	Mercer's Hospital, Dublin.	R——, E., Ireland. Anorexia; emaciation; night sweats.	F. 58	May 1853.	May 2, 1855.	S.	Caries and abscesses of right joint; from fall.
39	Letter, 1872.	Van Buren, Prof. W. H., New York.	N. York Hospital.	Coyle, J.	M. 40	.....	July 23, 1855.	P.	Compound luxation at joint.
40	Letter, 1872.	Van Buren, Prof. W. H., New York.	N. York Hospital.	United States.	....	.....	.....	S.	Caries, synovitis, and fistulæ of joint.
41	Butcher's Surg. p. 220; Hodges' ta. 16.	Butcher, R. G., Dublin.	Mercer's Hospital.	Moran, Wm. Worn; haggard expression; debilitated.	M. 20	Nov. 1855.	Aug. 10, 1855.	S.	Caries and abscess of right joint; from a blow.
42	Butcher's Surg. p. 212; Heyfeld. ta. 9; Hodges' ta. 5; Lancet, ii. 230, 1855.	Stanley, Edward, London.	London Hospital.	England.	M. 13	.....	1855.	S.	Caries of joint.

of Wrist-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
29	Thro' saw wound.	Nearly entire head of radius.	Recovered.	.....	Fair use of hand, and motion of wrist.	240	
30	Enlarged fistula.	1st. Most of carpal bones, and gouged end of radius. 2d. End of radius. 3d. Some more carious bone.	Recovered, from operation.	.....	"No healing of wound; looks better after last operation."	8	
31	.....	5 carpal bones.	Recovered, 2 months.	.....	"Amputated."		
32	Dorsal H	"1 inch of radius; little more than styloid process of ulna; 1st row of carpal bones."	Recovered, 45 days.	.....	"Left hospital with wound still discharging."	1½	
33	?	End of radius, trapezium, scaphoid, and semilunar bones.	Recovered, 1 year.	.....	"Wound healed; stiff joint, with very fair use of fingers."	12	
34	?	"Entire joint."	Recovered, 6 months.	.....	"Stiff joint, and which is healed; but little ability to use fingers."	6	Reporter says more time required to develop usefulness.
35	I	Entire radius.	Recovered.	.....	Writes with ease and rapidity; last seen, parts sound; hand inclined outwards; styloid process of ulna prominent.	72	
36	.....	Remnants of os magnum, and rough surfaces of surrounding bones.	Recovered, 1 year.	.....	"Anchylosis of joint, and limited motion of fingers."	12	
37	.....	Carpus and bases of 5 metacarpi.	?	.....	Result not stated.		
38	U Tendons divided except those of thumb.	End of radius and ulna; all of carpal bones except trapezium.	Died, 7 days, congestion of brain.	.....	.....	.....	Serous effusion of brain; also, not much motion of joint expected.
39	⊔	¾ inch of ends of radius and ulna.	Died, 20 days, septicæmia.				
40	?	1 inch end of radius. 2d. 1 inch end of ulna, for bad position of hand.	Recovered.	.....	A fairly successful result after 2d operation.	.....	First operation failed from bad position of hand.
41	U Tendons divided except those of thumb.	Upper ⅔ of 4th and 5th metacarpi, and cuneiform, trapezoid, magnum, and unciform bones.	Recovered, 2½ years.	.....	"Uses thumb perfectly; writes with ease: motion of fingers considerable."	30	
42	U Tendons divided including those of thumb.	All of carpus except trapezium.	Recovered, in some weeks.	.....	"Excellent use of hand and fingers."	?	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
43	Hodges' ta. 4; Lancet, Aug. 25, 1855.	Stanley, Edward, London.	London Hospital.	England.	M. 32	.....	April 16, 1855.	S.	Chronic arthritis; right joint.
44	Heyfeld. Part. ta. 8; Hodges' ta. 35.	Œttinger.	Germany.	Germany.	M. 25	.....	1855.	S.	Caries.
45	Hodges' ta. 3; Med. Times & Gaz., May 3d, 1856.	Page, B. W., Carlisle, England.	England.	England.	M. 62	.....	1855.	S.	Chronic arthritis.
46	Heyfeld. Total ta. 12; Hodges' ta. 33.	Sprengler, Germany.	Germany.	Germany.	M.	.....	1855.	S.	Caries.
47	Heyfeld. Part. ta. 2; Lancet, i. 157, 1856.	Cock, Edw'd, S. Dean St., S. E. London.	Guy's Hospital	?	....	.....	1855.	S.	Caries.
48	Heyfeld. Part. ta. 3.	Stanley, Edward, see Case 42.	London Hospital.	A girl. England.	F.	.....	1855.	S.	Caries.
49	Letter, 1872.	Walter, A.G., 66 and 68 6th Avenue, Pittsburg, Pa.	Pittsburg Penna.	S——, John, New Jersey.	M. 14	.....	July, 1856.	S.	Caries of wrist, and necrosis of radius.
50	Heyfeld. Total ta. 13; Hodges' ta. 1.	Farn, England.	England.	England.	F. 28	.....	1856.	S.	Caries of ulna and carpus.
51	Hodges' ta. 17; Med. Times & Gaz., Feb. 7th, 1857.	Fergusson, William, see Case 25.	King's College Hospital.	England.	F. 31	.....	1856.	S.	Chronic arthritis; caries.
52	Hodges' ta. 10; Lancet, i. 86, 1857.	Fergusson, William, see Case 25.	King's College Hospital.	England. Phthisical.	M. 36	.....	1856.	S.	Caries (extensive) of joint.
53	Hodges' ta. 19; Schellbach, Res. der Knochen, Part. ii. 216.	Schellbach, L. Germany.	Germany.	Germany.	M. 12	.....	1856.	....	Chronic arthritis; caries; left joint.
54	Lancet, i. 181, 1858.	Birkett, John, 59 Green St., Grosvenor Sq. W. London.	Guy's Hospital.	Young man.	M.	.....	Nov. 10, 1857.	S.	Necrosis of joint; not so much diseased on radial side as the metacarpal.
55	Heyfeld. Total ta. 14; Hodges' ta. 34.	Szymanoskey J., Kiew, Russia.	Russia.	Russia.	F. 20	.....	1857.	S.	Caries.
56	Heyfeld. Part. ta. 12; Hodges' ta. 37.	Buchanec, Semen, Russia.	Russia.	Russia.	M. 29	.....	1857.	S.	Caries.
57	Letter, 1872.	Packard, John H., 1928 Spruce St., Philadelphia.	Maga Dispensary.	Brummage, William.	M. ad't	.....	1857.	S.	Chronic arthritis.
58	Gross' Surg. ii. 1084; Heyfeld. Part. ta. 13; Am. Jour. Med. Sci., N. S., xxxvi. 89.	Carnochan, J. M., 45 Lafayette Place, New York.	N. York.	Wilson, Catherine, United States. Much debilitated and emaciated; had recent attack of rheumatism.	F. 31	Jan. 1846.	April 9, 1857.	S.	Osteitis, with great enlargement of bone; probably from rheumatism originally.

of Wrist-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
43	U Tendons divided including those of thumb.	All of carpus except trapezium and pisiform bones.	Recovered, 4 months.	.....	"Much doubt whether hand will be saved."		
44	?	End of radius and ulna.	Recovered.	.....	Member amputated for return of disease.		
45	?	End of radius and ulna, and all carpal bones.	Recovered, 6 months.	.....	Not much use of hand.		
46	H	End of radius and ulna, and all carpal bones.	Recovered, 1 year.	.....	"Good."	15	Died of phthisis at 15 months.
47	?	Os magnum and unciform bone.	Recovered.	.....	"Good."		
48	?	All of the carpus.	Recovered.	.....	"Perfect."		
49	I	Scaphoid and semilunar bones, and nearly 3 inches of radius.	Recovered.	.....	"Perfect success; is now working in a paper mill in New Jersey."	192	
50	?	End of ulna, and 4 carpal bones.	Recovered, 6 months.	.....	"Partial success; some motion obtained."	6	
51	?	Joint resected, and several carpal bones.	Recovered.	.....	"Hand not promising."		
52	Longitudinal on ulnar side.	Ends of ulna and radius, and all the carpal bones except trapezium and pisiform.	Died, 6 months, phthisis.	.....	"Erysipelas followed, from which he recovered, and was sent to the country; no anchylosis resulted."	6	
53	.....	Ends of 1st, 2d, and 3d metacarpi, trapezium, trapezoides, and magnum.	Recovered, 18 months.	.....	"Flexion and extension of hand good; phalanges of fingers have tolerable motion."	18	
54	?	Removal of necrosed bone.	Not stated.				
55	?	End of radius and ulna, and 2 carpal bones.	Recovered.	.....	"Pronation and supination impossible; tendency to lateral displacement; partial success."	?	
56	?	End of radius.	Died.				
57	U	1¼ inches end of radius and ulna.	Recovered.	.....	"Firm union."	6	
58	I	Lower four-fifths of radius.	Recovered, 6 weeks.	.....	"Functions of hand so little impaired that she was able to perform her household duties nearly as well as before the operation; at 1 year hand drawn towards radial side."	12	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
59	Heyfeld. Part. ta. 5; Hodges' ta. 13; Barwell's Dis. Joints, p. 431; Ashhurst's Erichsen, 739.	Erichsen, J. E., see Case 32.	Univ. College Hospital.	England.	M. 34	.....	Jan. 19, 1858.	S.	Chronic arthritis and caries of right joint.
60	New Syd. Soc. v. 237.	Adelmann, Dorpat.	Russia.	Russia.	?	.....	1858.	S.	Caries of ends of radius and ulna.
61	Hodges, p. 75.	Pancoast, Joseph, Philadelphia.	Philada.	United States.	....	.....	.....	S.	For disease.
62	Heyfeld. Total ta. 15; Hodges' ta. 15.	Bickersteth, E. Robert, Liverpool, England.	Liverpool	England.	M. 30	.....	1859.	S.	Caries.
63	Heyfeld. Part. ta. 9, Work, p. 213.	Heyfelder, O., St. Petersburg Russia.	Workman's Hospital, Saint Petersburgh.	Javanow, Artemig, Russia. Farmer.	M. 44	Several w'ks before.	Sept. 22, 1859.	S.	Necrosis of the ends of radius and ulna; from a fracture 1½ inches above wrist.
64	Heyfeld. Part. ta. 4; Hodges' ta. 38.	Wilczkowsky	Russia.	Russia.	M. 35	.....	1859.	S.	Caries.
65	Syd. Year Book, 1859, 276, 277.	Coulson, William, 2 Frederick Place, E. C. London.	London.	England.	....	.....	1859.	S.	Recurring fibroid tumor over metacarpal bone of thumb; third removal.
66	Syd. Year Book, 1861, p. 282; Hodges' ta. 39.	Cooper, E. S., San Francisco California.	Cal.	United States.	M. 39	.....	Prob. June, 1860.	S.	Chronic arthritis; caries.
67	Tabulated by Surgeon Gray, U. S. A., from Hosp. Records.	Probably by Dr. Peters, New York.	N. York Hospital.	Bell, John, New York.	M. 25	.....	April 11, 1862.	....	Chronic arthritis; caries.
68	Letter, 1872.	Walter, A. G., see Case 55.	Patient's home.	Zehnder, Jos., Sarah St., Birmingham, Allegheny Co., Penna.	M. 26	6 mos. before.	Oct. 25, 1862.	S.	Caries of the right joint; from an injury.
69	Letter, 1872.	Lincoln, M. L., Wabashaw, Minnesota.	Wabashaw.	Krick, Henry.	M. 16	.....	1862.	P.	Lacerated wound of joint by saw; the ulna was sawn off at two inches, and the wrist-joint opened.
70	Lancet, 307, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	Young man.	M. 17	.....	Before April, 1863.	P.	Complicated luxation of ends of radius and ulna at left wrist; also had fracture of left thigh.
71	Lancet, 1865, pp. 315, 307.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	H ——, Alex., Scotland. Has phthisis; excessive pain.	M. 46	.....	April 16, 1863.	S.	Caries of right joint.
72	Lancet, 307, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	McK——, Elizabeth. Health good.	F. 40	5 mos. before.	April 16, 1863.	S.	Chronic arthritis, with caries; from injury.

of Wrist-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
59	⊔	Ends of radius and ulna; entire carpus; ends of metacarpi.	Recovered, 2 months.	.....	"Very useful hand; some power of flexing and extending the wrist, and very considerable mobility of the fingers."	After 2	Mentioned 3 years after by operator.
60	II	Ends of radius and ulna.	Recovered, after 6 months.	.....	Forearm amputated for returning disease at 6 months.	After 6	Dissection showed ends of bones had lost the smoothness of the sawn surface, and were covered with an irregular mass of bone, which did not reach the carpus; both bones increased in thickness, and their original figure lost.
61	?	Upper row of carpal bones.	?	.....	?		
62	?	Ends of radius and ulna, and all carpus except trapezium.	Recovered.	.....	"Healing slowly; sent into country."	?	
63	II	The several fragments, and the two bones as high as 1¾ inches above wrist.	Died, 29 days, pyæmia.	.....	Amputated October 12, for profuse suppuration.		
64	?	All of the carpal bones.	Recovered.	.....	"Useful hand."		
65	?	Metacarpus, thumb, and part of end of radius.	?	.....	?		
66	+	"All of the carpus, and the ends of all of the metacarpi."	Recovered, 1 year.	.....	"Almost as useful as the other hand."	12	
67	∩	All of carpal bones except pisiform and portion of trapezium; also tip of radius and ulna.	Recovered, 8 months.	.....	"Can flex hand to an angle of 30°; openings closed; discharged cured."	8	
68	U Tendons saved.	Articulating facets of ulna and radius, and all of carpus except trapezium.	Recovered, 18 weeks.	.....	"Flexion and extension nearly normal; pronation, supination, abduction, and adduction somewhat impaired; able to attend to his business as a grocer."	24	Lint in wound for 4 weeks; dressed with flaxseed poultice, with permanganate potassa.
69	Thro' transverse. wound.	2 inches of ulna.	Recovered.	.....	Is a merchant; uses his hand well.	120	This case is included in this table, as it is clearly stated that the wrist-joint proper was opened; photograph received.
70	Thro' wound.	Ends of radius and ulna.	Recovered, 5 months.	.....	"Hand nearly as supple and strong as the other."	5	
71	IV	At least the carpus.	Died, 7 weeks, phthisis.	.....	"Free from pain after operation."	.....	His first case; done to relieve excessive pain.
72	IV	Carpus; ends radius and ulna; ends of metacarpi fingers.	Recovered, 7 weeks.	.....	"Healed in 7 weeks; later, lifted with outstretched arm 16½ lbs.; pronation, supination, flexion, extension, inversion, and eversion good."	23	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
73	Lancet, 308, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	W——, Margaret, Scotland.	F. 14	7 mos. standing.	May 23, 1863.	S.	Chronic arthritis; caries; abscess, with anchylosis right joint; no cause given.
74	Lancet, 315, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	C——, Neil. Strumous.	M. 21	.....	July 4, 1863. 6 mos. later 2d.	S.	1st. Caries of right joint.
75	Lancet, 308, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	C——, Wm. Previously had strumous disease great toe right foot.	M. 18	Over 12 mos. standing.	Jan. 16, 1864.	S.	Chronic suppurative arthritis, with caries of right joint; traumatic; from (patient thinks) overtasking wrist.
76	Lancet, 308, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	M——, Helen, "Health reduced."	F. 14	7 mos. before	Mar. 5, 1864.	S	Chronic suppurative arthritis, with caries of left wrist; from severe squeeze of joint.
77	Lancet, 315, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	S——, Jane.	F. 23	.....	1st, Mar. 23, 1864.	S.	1st. Idiopathic chronic arthritis, with caries.
							2d, Aug. 26,	....	2d. Extension of disease, from gangrene.
							3d, Jan. 1865.	....	3d. Further extension of disease.
78	Lancet, 314, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	C——, Mrs. Wasted and sallow.	F. 25	2 years' standing.	June 8, 1864.	S.	Idiopathic chronic arthritis of right wrist; hypertrophy of end of radius; great swelling, with inflammatory deposits.
79	Lancet, 309, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	M——, Thos. A miner. Rapid emaciation.	M. 21	6 mos. before	July 16, 1864.	S.	Caries of left carpus; from smallpox.
80	Lancet, 314, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	C——, Alex.	M. 18	.....	July 22, 1864. Feb. 28, 1865.	S.	Spontaneous caries of the ulnar side of right carpus.
81	Lancet, 315, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	B——, James.	M. 12	Over 5 mos. standing.	Aug. 14, 1864.	S.	Caries of lower and ulnar side of left carpus, and of the 5th metacarpus.
82	Lancet, 309, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	L——, Mary Ann. Intense suffering.	F. 19	21 days' standing.	Nov. 2, 1864.	S.	Spontaneous acute arthritis, with separation of right carpal bones, and erosion of articular surfaces of radius, ulna, and metacarpi.
83	Lancet, 314, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	McG——, Jas. Scotland.	M. 16	?	Nov. 21, 1864.	S.	Spontaneous chronic arthritis of right wrist, with caries, sinuses, and suppuration.

of Wrist-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
73	I Y	Carpus ends; metacarpi of fingers; ends of radius and ulna.	Recovered, 7 weeks.	2	"Could lift a heavy w'ght arm horizontal; writes, knits, earns full wages with a sewing machine."	18	
74	I Y	1st. Probably only carpus. 2d. Re-excision.	Died, 23 days, from last amputation pyæmia.	.....	Amputated Feb. 28, 1864, at middle third of forearm; next day reamputated 3 inches below shoulder, for phlebitis.		
75	I Y	Carpus, with articular ends of metacarpi, ulna, and radius.	Recovered, 8 months.	.....	"Wound healed; motion of joint; hand becoming more and more serviceable for writing; arm horizontal lifts 6 lbs.; knuckles a little stiff; this, and grip, improving, and also strength of wrist."	11	
76	I Y	Ends of radius, ulna, metacarpi, and the carpus; middle metacarpus nearly all drilled out to a mere tube.	Recovered, 6 months.	.....	"Wound healed; can raise 6 lbs., arm horizontal; working a sewing machine, and finds hand thoroughly useful."	12	
77	I Y	1st. Carpus. 2d. Ends of metacarpi, radius, and ulna. 3d. Ends of all the bones.	Recovered, from last operation, under treatment at 21 months.	.....	Did well for 2½ months; hand and wrist promised well; taken with gangrene; resulted in caries; wound unhealed.	21	
78	I Y	Carpus, and ends of radius, ulna, and metacarpi. 2d. More of end of ulna.	Recovered, 6 months.	.....	"For 7 weeks did well; hospital gangrene attacked wound, causing disease of end of ulna; with aid of light splint hand of much use; movements of thumb and fingers very satisfactory."	6	The wound had almost entirely healed; the size of the wrist measured 8 inches around.
79	I Y	Carpus and end of radius.	Recovered, 6 weeks.	.....	"Wound healed at 6 weeks; hand has powerful grip, and nearly as useful as ever."	8	
80	I Y	Carpus, except pisiform; at 2d operation, pisiform.	Recovered, 1 month.	.....	"4 days after 1st operation, hospital gangrene appeared in wound; 1 month after 2d operation, wound healing, and no discharge from the deeper parts of wound."	8	
81	I Y	Carpus, and drilled out the 5th metacarpus.	Recovered, 4 months.	.....	"Useful hand; still small sinus in head of 5th metacarpus."	4	
82	I Y	Carpus, and ends of radius, ulna, and metacarpi.	Recovered, 2 months.	.....	"Wound healed at 2 mos.; can write, knit, use each finger joint; flexion, extension, pronation, and supination good."	5	
83	I Y	Carpus, and ends of radius, ulna, and metacarpi; the 3d and 4th metacarpi to below bases.	Recovered, 10 months.	.....	"Some exfoliation after operation; new joint is all that could be desired as to firmness and flexibility."	13	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
84	Lancet, 315, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	C——, And., Scotland.	M. 9	8 mos. standing.	Nov. 26, 1864.	S.	Caries, with great destruction of left carpus; no cause stated.
85	Lancet, 315, 1865.	Lister, Jos., Glasgow, Scotland.	Glasgow Infirmary	P——, E., Scotland. Strumous.	F. 13	1 year's standing.	Nov. 27, 1864.	S	Caries of outer and lower part of right carpus, and base of 2d metacarpus.
86	Letter, 1874.	Little, Jas. L., 266 W. 42 St., New York.	Private practice.	Levi, Mr.	M. 24	.....	1864.	....	Chronic osteitis; end of radius, with enlargement of head of articular surface involved; carpal bones not diseased.
87	Boston City Hosp. Reports, 1870, p. 104; Letter.	Buckingham, Charles E., Boston, Mass.	Boston City Hospital.	H——, Samuel P.	M. 22	7 mos. standing.	Mar. 28, 1866.	S.	Spontaneous chronic arthritis, with caries and necrosis.
88	Lancet, 368, 729, 1868.	Hulke, J. W., 10 Old Burlington St., W. London.	Middlesex Hospital, London.	A groom. Emaciated.	M. 23	9 mos. standing.	1st. end May, 1866. 2d, Nov. 1866.	S.	Chronic arthritis, with abscesses and caries of left wrist.
89	Med. and Surg. Reporter, xvi., No. 3, 1867.	Walter, A.G., 66 and 68 6th Avenue, Pittsburg, Pa.	Pittsburg Penna.	Phillis, Jacob, Industry Twp Beaver Co., Pennsylvania Pale, anorexia severe constitutional irritation, yet healthy.	M. 50	5½ mos. standing.	Oct. 14, 1866.	S.	Suppuration and caries, from synovitis and penetration of joint; by a splinter of wood (right joint).
90	Lancet, 368, 1868; Rank. Abstract, xlvii. 184.	West, Jas. F., Birmingham, England.	Queen's Hospital, Birmingham.	England.	?	.....	Between 1867 & 68.	S.	Chronic arthritis; caries.
91	Lancet, 368, 1868; Rank. Abstract, xlvii. 184.	West, Jas. F., Birmingham, England.	Queen's Hospital, Birmingham.	England.	?	.....	Between 1867 & 68.	S.	Caries of lower end of radius.
92	Lancet, 368. 1868; Rank. Abstract, xlvii. 184.	West, Jas. F., Birmingham, England.	Queen's Hospital, Birmingham.	England.	?	.....	Between 1867 & 68.	S.	Chronic arthritis, with caries.
93	Cat. Surg. Sec. A. M. M. p. 211.	Reyburn, Robert, Bvt.-Lt.-Col. and Surgeon U. S. Vols.	Hospital, Washington, D. C.	W——, J. Colored. Scrofulous.	M. 44	20 mos. before.	Jan. 30, 1867.	S.	Chronic arthritis, with caries of end of radius and ulna; supposed to be the result of a sprain.
94	Lancet. 369, 1865.	Lee, Henry, London.	London.	England.	....	.....	1867.	S.	Chronic arthritis.
95	Lancet, 369, 1868.	Birkett, J., see Case 31.	Guy's Hospital.	Aged subject. England. Weak constitution.	agd	.....	1867.	S.	Chronic arthritis.

of Wrist-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
84	⌊⌉	Carpus, and ends of radius, ulna, and metacarpi.	Recovered, 4 months.	.....	December, 1865, just over an attack of hospital gangrene; favorable progress as to strength of wrist, and motion of thumb and fingers.	4	
85	⌊⌉	Carpus, and ends of radius, ulna, and metacarpi.	Recovered, 4 months.	.....	"Already useful and sound, with better movements than any case at same stage."		
86	Radial side.	2¼ inches end of radius.	Recovered.	.....	"Much deformity by drawing of hand and wrist to radial side, but a perfectly useful limb and free motion of wrist-joint."	108	"No new formation of bone."
87	Anterior and posterior single longitudinal.	All of carpus except trapezium.	Died, 98 days, from uræmia.	.....	The wrist had almost entirely recovered when the severe cerebral symptoms developed.	3¼	Uræmia consequent upon a gunshot wound of kidney.
88	Lister's ⌊⌉	1st. Ends of radius, ulna, metacarpi, and carpus. 2d. Ends of 4 metacarpi.	Recovered, (healed) 9 months.	.....	"Recovered with such a useful hand as to be able to drive and do duties of a coachman; good flexion and extension of fingers."	13	
89	⌊	"All carpus except trapezius; lower end of radius and ulna; heads of metacarpi gouged."	Recovered, 10 weeks.	.....	"At 1 year firm grip and fair usefulness of hand; at 2 years hand still improving."	24	
90	Lister's ⌊⌉	Carpus, and all the bones entering into formation of joint; ends of metacarpi.	Recovered.	.....	"Considerable strength and mobility of hand."	From 2 mos. to 2 years.	
91	Lister's ⌊⌉	Carious fragment extending up 1 in.	Recovered.	.....	"Considerable strength and mobility of hand."	From 3 mos. to 2 years.	
92	Lister's ⌊⌉	Ends of radius, ulna, metacarpi, and carpus.	Recovered.	.....	"Considerable strength and mobility of hand."	From 3 mos. to 2 years.	
93	?	Ends of radius, ulna, and part of scaphoid.	Doing well.	.....	Doing well 21st day, with every prospect of a successful termination.	.....	M. Ollier (see Lancet, Am. ed., 1872, p. 659), speaking of the fact, as determined by him, that the ulna and radius grow mainly at the lower end, is favorable to limited excisions of these bones at the wrist.
94	Transverse.	The joint (complete).	Recovered.	.....	"Result satisfactory; promises extension and flexion."	In 1867.	
95	?	Probably complete.	Recovered.	.....	"Constitution not strong enough; had to amputate; excision a complete failure."		

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
96	Arch. für Klin. Chir. 16, 2, 478.	Langenbeck, B. Von, Berlin.	King's Klinic in Berlin.	Matika, Herman, Locksmith, from Muskau. Healthy; weak-looking man.	M. 29	Spr'g 1868, took variola.	April 19, 1869.	S.	Chronic arthritis, from variola, with abscess, suppuration, sinuses, and caries (right side).
97	Letter, 1872.	DeCamp, William H., Grand Rapids Michigan.	Private practice.	Patterson, James.	M. 17	.....	1869.	P.	Lacerated wound of joint, with division of end of radius; by circular saw.
98	Letter, 1872.	Mason, Erskine, University of New York, Med. Dept., New York.	Private Practice.	A girl.	F. 13	.....	May 5, 1870.	S.	Caries, the result of injury.
99	Letter, 1872; Buffalo Med. & Surg. Jour., xi. 3.	Miner, J. F., Buffalo, N. Y.	Buffalo, N. York.	Humbert, Joseph.	M. 18	.....	Sept. 22, 1870.	P.	Compound injury of joint.
100	Arch. für Klin. Chir., 16, 1, Langenbeck.	Janda, Dr., Lemberg. Germany.	Germany.	Krenner, Ludwig, Soldier.	M. 21	Mar. 1870.	Dec. 1870.	S.	Caries of radius; from a blow upon the wrist.
101	Rank. Abstract, Part 50, p. 134, 1870.	Barnes, J. H., Liverpool.	Work-house Hospital, Liverpool	?	....	.....	1870.	?	?
102	Letter, 1874; Lancet, 89, 1872.	Chisolm, J.J., Baltimore, Maryland.	Baltimore	S——, Alex. A sailor.	M. 25	3 w'ks before.	April 14, 1871.	S.	Luxation of semilunaris (right).
103	Letter, 1872.	Walter, A. G., see Case 49.	Patient's home.	Folger, Mary, Spring Alley, Pittsburg, Pa. Health feeble; scrofula well marked.	F. 13	.....	May 7, 1871.	S.	Spontaneous chronic arthritis, with caries of right carpus; and osteo-myelitis of the metacarpi, and some of the phalanges.
104	Letter, 1873.	Walter, A. G., see Case 49.	Friend's house, Pittsburg	Conway, Mrs. E., N. Fayette Township, Allegheny Co., Penna.	F. 50	1 year's standing.	June 25, 1871.	S.	Chronic arthritis, with caries of left wrist (no cause stated).

of Wrist-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
96	‖	Subperiosteal; lower epiphysis, radius, and ulna; removed 6 portions of the partly carious bones of the carpus.	Recovered, 7 months.	.....	End of September, wound cicatrized on radial side; beginning of November, radial wound closed; left hospital November 12; then, could flex and extend fingers voluntarily; passive motion of wrist free, while its voluntary motion is very imperfect; arm horizontal; hand inclines towards the volar side, and cannot be extended; sensibility of hand and fingers normal; January 15, 1870, readmitted; after the use of active motion and electricity, was able to write, and lift a chair from the floor and hold it for some time; in summer, 1871, seen again; strength of arm greater, and hand much more useful; he said his right hand was nearly as good as before, and can work at his trade.	28	Dressed with Lister's splint and carbolized solution; until Aug. 26, bad state of wound; gangrenous state of wound, for which actual cautery was applied; after this, improved and did well; when readmitted, systemized movement instituted and carried out, and also induced electricity employed.
97	Thro' wound.	Inner ⅓ of head of radius.	Recovered.	.....	"Nearly complete motion of wrist."	36	
98	Dorsal ‖ tendons saved.	Several of carpal bones, and 3d metacarpus.	Recovered.	.....	Perfectly useful hand; can play piano, etc.	1 after recovery.	
99	Thro' wound.	End of radius, including 4 inches of shaft.	Recovered.	.....	"Entire usefulness."	At least 3	
0	?	2.35 inches of lower end of radius.	Recovered, 17 months.	.....	Hand abducted and slightly flexed; no motion of wrist; disease continued at the wrist.	17	During an attack of typhus fever, fell out of bed on to hand.
1	?	Partial excision.	Recovered.	.....	In May, 1872, healed, but one fistula remained, leading to diseased bone; no motion of fingers; hand as before; patient well; forearm amputated October 17, 1872; recovery rapid.		
2	‖	Semilunaris, and small portion of scaphoid.	Recovered.	.....	"Left the hospital with a wrist still stiff."		
3	‖ tendons saved.	"All carpal bones, with articular facets of radius and ulna; all the metacarpi except the 1st (periosteum saved); also the proximal phalanx of 4th finger."	Recovered, 12 months.	.....	Some fistula remaining; tolerable freedom of motion in wrist; the fingers have not recovered usefulness for ordinary purposes, owing to the shortened condition of the hand from such an extensive resection; prospect of improvement.	12	A few years before, her left hand had suffered from some disease of the metacarpi and phalanges, of a superficial character; health improved after operation.
4	‖ Along ulnar side.	Ends of radius and ulna; all of carpus except trapezium; articular facets of metacarpi gouged.	Recovered, 6 weeks.	.....	"Slight fistula remained; no discharge; considerable freedom of motion in the new joint; fingers œdematous, with flexion and extension impaired, although improving."	10	

Tabular Statement of Excision

No. case.	Authority.	Name and residence of operator.	Where performed.	Name, address, and physical state of patient.	Sex and age.	Date incurred.	Date of operation.	P. S. or Int.	Performed for
105	Lancet, Jan. 20, 1872, from Syd. Biennial, 1871–72.	Hancock, H., 76 Harley St., W. London.	Charing-Cross Hospital.	?	....	.....	1871.	....	Chronic arthritis.
106	St. Thomas' Hosp. Reports, ii. 283, from Syd. Biennial, 1871–72.	Jones, Sidney, 15 Saint Thomas St., S. E. London.	Saint Thomas' Hospital, London.	England.	M. 45	.....	1871.	S.	Chronic arthritis.
107	Letter, 1872.	DeCamp, William H., Grand Rapids Michigan.	Private practice.	Williams, L.	M. 24	.....	1872.	S.	Necrosis of end of radius.
108	Am. Jour. Med. Sci., N. S., 552, April, 1874.	Brandis, Aix-la-Chapelle, Prussia.	?	Prussia. Feeble and exsanguine man.	M. ad't	.....	1873.	S.	2d operation for diseased bone.
109	Writer, who was present.	Ball, A., Zanesville, O.	Patient's home.	Zanesville, O. System in good condition.	F. 31	1 year's standing.	1st, June 18, 1873. 2d. Sept. 16, 1873.	S.	Caries of heads of metacarpi and carpus of left wrist.
110	Am. Jour. Med. Sci., N. S., 429, October, 1874.	Irwin, B.J.D., Surgeon and Brevet-Col. U. S. Army.	Private patient near Fort Riley, Kansas.	H——, Mrs., Kansas, U. S. Seriously depressed.	F. 27	9 mos. standing.	July 31, 1873.	S.	Rheumatic periostitis and osteitis of lower 5 inches of right radius, involving the wrist-joint, and necrosis of the radius.
111	Med. Record, New York, ix. 146; Letter, 1874.	Spier, S. Fleet, Brooklyn, New York. Amputation by Dr. Kissam.	Brooklyn City Hospital.	G——, Thos. Had been a hard drinker Tolerably well nourished.	M. 48	10 mos. before.	Feb. 12, 1874.	S.	Necrosis of upper row of carpal bones; sinuses and discharge; extensor and flexor tendons matted together; atrophy of fore-arm; from ice-box falling against arm.
112	Hodges' Exc., p. 77.	Velpeau, Paris.	Paris.	Paris.		?	?	S.	Chronic inflammation of end of radius; joint not implicated.

of Wrist-Joint for Disease and Injuries—continued.

No. case.	Form of incisions.	Extent of bone removed.	Result.	Shortening, inches.	Usefulness of member.	Last heard from, months.	Remarks.
105	U	?	?	.....	?		
106	Lister's I Y	?	Recovered.	.....	"Useful hand resulted."		
107	I	End of radius.	Recovered.				
108	Large wound made.	Probably a total excision.	Recovered.	.....	Resulted in the preservation of a useful hand.	?	Esmarch bandage used, and operator thinks it aids the performance of operation, favors the cure, and diminishes the secondary fever.
109	I I	1st. Heads of metacarpi and carpus. 2d. Upper half of shaft of 1st, 2d, and 3d metacarpi.	Recovered, 3 weeks, from last operation.	.....	"Wound healed, parts tender; slight motion of thumb, less of forefinger, considerable of middle, ring, and little fingers; fingers extended; very little flexion; pronation and supination good; has all the motions at joint; still tender, and thinks she could use it if not so tender."		
110	I	Lower 5 inches of radius.	Recovered, 30 days.	.....	"Able to flex and extend fingers separately; sweeps floor; can pronate the arm; wound healed; some disposition for disease to return in carpus; health good."	7	
111	N	1st row of carpus.	Recovered.	.....	"March 27, 1874, amputation of the forearm for profuse suppuration and inflammation of the joint and wound; no pain in limb after excision."	.....	Esmarch bandage employed; operator attributes bad result to the use of Esmarch's bandage, which paralyzed the limb.
2	?	End of radius.	?	.....	Result not recorded.	.....	Specimen presented by operator to Dr. John C. Warren, of Boston, who assisted in the operation.

CONCLUSION.

THE following table represents the number of cases of excision embraced in this essay, and its completion terminates our labors upon this subject.

Finally, it should be stated that the cases included in these several tables do not comprise all such excisions which have been executed, but it is believed a sufficient number have been tabulated to enable one to draw correct conclusions from the data presented.

Summary Table of Excision of the Several Joints.

Joint excised.	No. cases.
Hip-joint	596
Knee-joint	745
Ankle-joint	326
Shoulder-joint	984
Elbow-joint	1075
Wrist-joint	182
Total number of cases	3908

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