

Statistical report of the major operations performed by Professor Spence in the Edinburgh Royal Infirmary / by George Kirkwood ; with remarks by Professor Spence.

Contributors

Kirkwood, George.
Tweedy, John, 1849-1924
Royal College of Surgeons of England

Publication/Creation

Edinburgh : Printed by R. and R. Clark, 1875.

Persistent URL

<https://wellcomecollection.org/works/tfkynzug>

Provider

Royal College of Surgeons

License and attribution

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

STATISTICAL REPORT

OF THE

8.

MAJOR OPERATIONS PERFORMED BY PROFESSOR SPENCE

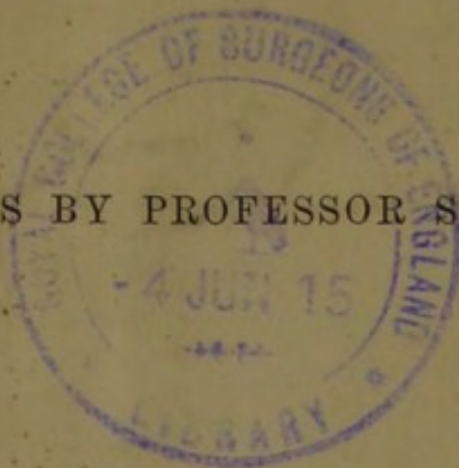
IN THE

EDINBURGH ROYAL INFIRMARY

By GEORGE KIRKWOOD, L.R.C.S.

LATE RESIDENT SURGEON, EDINBURGH ROYAL INFIRMARY.

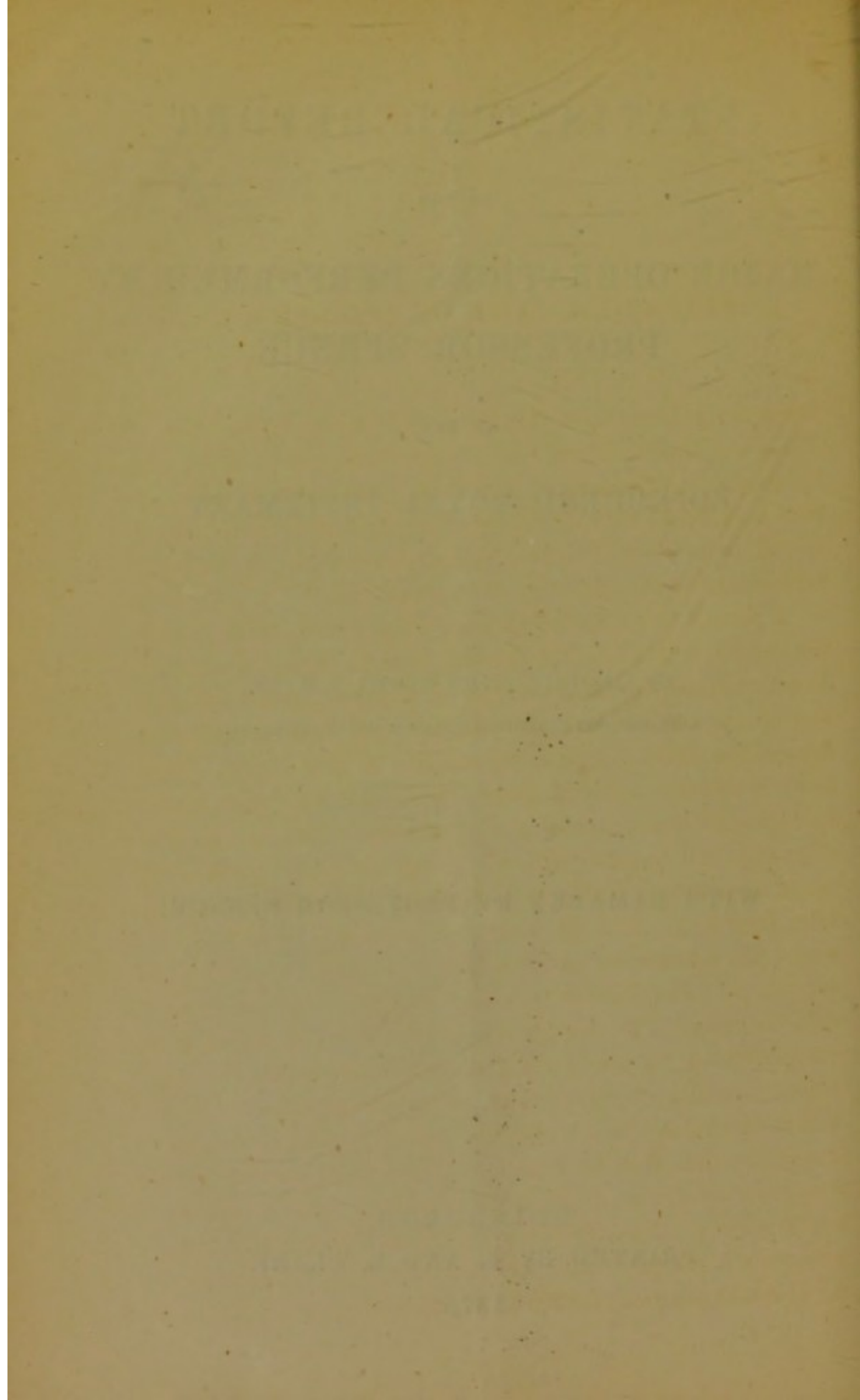
WITH REMARKS BY PROFESSOR SPENCE



EDINBURGH

PRINTED BY R. AND R. CLARK

1875



PREFATORY NOTE BY MR. SPENCE.

SINCE the publication of this Statistical Report in the *Medical Times and Gazette*, I have been favoured with reprint of a paper by Professor Volkmann of Halle on "Antiseptic Osteotomy," with a prefatory note by my colleague Professor Lister, calling special attention to Professor Volkmann's remarks on the beneficial results of Mr. Lister's method of dressing.

A perusal of Professor Volkmann's paper, in so far as regards the results of his hospital practice since he began to use Mr. Lister's method, furnishes an example of vague general statistics and of the necessity for that distinct and definite statistical information which I urge in my remarks on this Report. Professor Volkmann states in general terms that for a year and a half since he began to use Lister's "Antiseptic Method," no case of pyæmia had occurred, although during that period about sixty major amputations had been performed. But what are we to infer from this? Did all these cases recover? Would it not render the information more valuable to be more definite? why not give the exact number instead of saying "about sixty," and state the nature of the disease or injury for which the amputation was performed, the result, and if there were any deaths the conditions present in the fatal cases? As regards the value Professor Volkmann attaches to Mr. Lister's special method of dressing, it may be asked, How far do different methods of dressing, apart from other conditions, stand in the relation of cause to the successful results? I ask Professor Volkmann if he can furnish me with more favourable results for a triennial period than those of my Hospital practice in 1860-61-62, referred to in my remarks

on this Report ; and yet the method of dressing then, it will be seen, was widely different from that to which he attributes his success.

As to the two cases of Osteotomy which form the text for Professor Volkmann's remarks, I see nothing very wonderful in their successful result. The removal of a moderate wedge-shaped portion from an angularly-anchylosed knee-joint is an operation not unfrequently performed, and is, so far as my experience goes, attended with almost no risk even in the adult, whilst it gives a better result as to the form of the limb than the operation Professor Volkmann describes.

In conclusion, I cannot agree with Mr. Lister, that the passage in Professor Volkmann's paper, which he has emphasised by italics, and which states that the writer is now able by a special method of treatment to guarantee a successful termination to his operations, is characterised either by modesty or by the spirit of scientific Surgery.

STATISTICS OF OPERATIONS.



THE following statistics, taken from the Clinical Reports of the Edinburgh Royal Infirmary, show the results of the more important surgical operations performed by Professor Spence during the two years beginning October 1872 and ending October 1874. As the result of an operation is modified to a great extent by the circumstances which render its performance necessary, in drawing up these statistics mention is made of the injury or disease for which the operation was had recourse to. In tabulating the amputations, the arrangement followed is that adopted by Mr. Spence in his "Lectures on Surgery;" and, accordingly, they are divided into two classes—viz. amputation for injury, and amputation for disease. The amputations for injury are subdivided into primary amputations—or amputations which were performed shortly after receipt of the injury; and secondary—or those where amputation was necessitated by conditions arising some time subsequent to the injury. In the case of amputation for disease, the nature of the disease is specified as accurately as possible. In excisions of joints, where the original affection of the joint could be ascertained it has been stated; but in many of these cases disorganisation of the textures had advanced to such an extent before admission that it was impossible to form an opinion as to the primary lesion. In order to render the statistics more complete, abstracts of the fatal cases are inserted, so as to show the cause of death, while, in addition, a short account is given of a few of the more interesting cases. Except in four of the cases of tracheotomy, the operations were performed by Mr. Spence. One of these—viz. the operation for growth in the larynx—was performed by J. W. Bramwell, M.B. (then resident surgeon). The remaining three—two of which were for diphtheria and one for oedema glottidis—were operated on by myself.

AMPUTATIONS.

TABLE I.—GENERAL RESULTS.

LOWER EXTREMITY—	Number.	Recovered.	Died.
Thigh	18	12	6
Knee-joint	1	1	0
Leg	3	2	1
Ankle	8	8	0
	—	—	—
	30	23	7
	—	—	—

UPPER EXTREMITY—				Number.	Recovered.	Died.
Shoulder-joint	.	.	.	1	0	1
Arm	.	.	.	2	1	1
Forearm	.	.	.	3	0	3
				—	—	—
				6	1	5
				—	—	—
TOTAL—Upper Extremity	.	.	.	6	1	5
Lower	„	.	.	30	23	7
				—	—	—
				36	24	12

TABLE II.—RESULTS IN RELATION TO INJURIES OR DISEASES FOR WHICH THE OPERATION WAS PERFORMED.

LOWER EXTREMITY—				Number.	Recovered.	Died.
Amputation of Thigh—						
For Injury—						
Primary	.	.	.	2	1	1 ¹
Secondary—Gangrene following ligature of posterior tibial and luxation of knee	.	.	.	1	1 ²	0
				—	—	—
				3	2	1
				—	—	—
For disease						
Of knee-joint	.	.	.	8	6	2 ³
After excision of knee	.	.	.	2	2	0
Disease of knee after necrosis	.	.	.	2	0	2 ⁴
Malignant disease of tibia	.	.	.	2	2	0
Osteo-myelitis after amputation of leg	.	.	.	1	0	1 ⁵
				—	—	—
				15	10	5
				—	—	—

¹ The amputation was performed for a severe compound comminuted fracture of both bones of the leg, caused by a fall of about thirty feet. In addition to the fracture there was a bruise and abrasion over the sacrum, and after the operation he showed well-marked symptoms of having received injury to the spine. Died a week after the amputation, of pyæmia.

² Case fully reported in *Medical Times and Gazette*, November 14, 1874.

³ In one of the fatal cases the patient was a girl aged seven, affected with gelatinous disease of the knee. This improved under treatment, but, as the disease returned again, amputation was found necessary. Previous to the amputation, symptoms of cerebral mischief were present, and the child died about a month afterwards of tubercular meningitis. In the other case the patient was also of an extremely strumous diathesis, and was suffering from gelatinous disease of the knee. In this case the extension pulley was used to prevent the retraction of the flaps.

⁴ In one case the patient had been suffering for ten years from carionecrosis of the popliteal part of the femur. Three weeks after admission he had bleeding from the bowels, with pain in the abdomen. After the removal of some dead bone, bleeding from the wound came on, and after several ineffectual attempts to stop it, amputation was performed. Bleeding occurred from the stump two or three days after the operation, and as all attempts to check it proved unsuccessful ligature of the femoral was

Amputation at Knee-joint—	Number.	Recovered.	Died.
For Injury—Primary	1	1	0
	—	—	—
Amputation of Leg—			
For Injury—Primary	1	1	0
For Disease—Disease of bones of leg and ankle-joint	1	0	1 ⁵
Gangrene after typhus	1	1	0
	—	—	—
	3	2	1
	—	—	—
Amputation of Ankle—			
For Disease	8	8	0
	—	—	—
Chopart's Amputation—			
For Disease	1	0	1
	—	—	—
UPPER EXTREMITY—			
Amputation at Shoulder-joint—			
For Injury—Primary	1	0	1 ⁶
	—	—	—
Amputation of Arm—			
For Disease—Necrosis of bones of forearm and ulceration of vessels	1	1	0
Medullary tumour of hand	1	0	1 ⁷
	—	—	—
	2	1	1
	—	—	—
Amputation of Forearm—			
For Injury—Primary	1	0	1 ⁸
	—	—	—

performed. He gradually sank, and died the day after ligature, and five days after the amputation. In the other case the patient had suffered for many years from necrosis of the tibia and abscesses. When admitted he had an abscess connected with the necrosed tibia, and his knee-joint had become affected; and at the time of the operation he was in a very unhealthy state.

⁵ This case appears both in the thigh amputations and in the amputations of the leg; for, after the amputation of the leg, osteo-myelitis supervened, abscesses formed around and in the knee-joint, and amputation of the thigh was found necessary. At the time of his admission he was phthisical, and after the amputation of the leg he had hæmoptysis. He died of diarrhœa, five days after the amputation of the thigh.

⁶ At the time of the accident the patient was out on pass from the Medical House, where he was under treatment for mitral and aortic disease, with bronchitis. He had also lost much blood prior to admission.

⁷ Previous to his admission, the thumb had been amputated for the same disease; but it never healed properly, and the disease returned. After the amputation the stump bled profusely several times, but no bleeding point could be seen on taking it down. Though no further hæmorrhage occurred, there was a continuous discharge of red-coloured serum, and the patient died exhausted two days after the operation.

⁸ The soft parts had been subjected to a considerable amount of crushing by being caught in the teeth of a hay-cutting machine. The patient was of intemperate habits, and he had a mitral regurgitant murmur. He died of pneumonia, a fortnight after the operation.

Amputation of Forearm—	Number.	Recovered.	Died.
For Disease—After poisoned wound and inflammation of fibrous textures of hand and forearm	1	0	1 ¹
Epithelioma of wrist	1	0	1 ²
	—	—	—
	2	0	2
	—	—	—

EXCISION OF JOINTS.

I. GENERAL RESULTS—

Hip	3	3	0
Knee	5	4	1
Ankle	1	1	0
Shoulder	5	5	0
Elbow	9	9	0
	—	—	—
	23	22	1
	—	—	—

II. KNEE—

Anchylosis after injury	1	1	0
Disease of knee-joint	4	3	1 ³
	—	—	—
	5	4	1
	—	—	—

III. ELBOW—

Anchylosis after burn	1	1	0
Disease of elbow-joint	8	8	0
	—	—	—
	9	9	0
	—	—	—

The excisions of the hip, shoulder, and ankle were for disease.

REMOVAL OF TUMOURS.

(1.) Of Mamma—	Number.	Recovered.	Died.
Malignant: Scirrhus (excision of mamma)	12	12	0
	—	—	—
(2.) Of Axilla—			
(a) Simple: Atheromatous	1	1	0
Cystic	1	1	0
(b) Malignant: Mass of scirrhus glands	1	1	0
	—	—	—
	3	3	0
	—	—	—

¹ Died one month after the amputation, of pleurisy and pneumonia.

² Patient was sixty-seven years of age. Prior to his admission the epithelioma had been treated with caustics, and when he came to the hospital the parts were fetid and sloughy. His general health was in a bad state, his pulse weak, etc., and after the removal of the limb the stump was attacked by phlegmonous erysipelas, which proved fatal in about a fortnight.

³ The knee was excised for gelatinous disease pretty far advanced. The patient died of pneumonia one month after the excision.

		Number.	Recovered.	Died.
(3.) Of Back—				
Simple: Large Fatty		2	2	0
Very large myxomatous		1	1	0 ¹
		—	—	—
		3	3	0
		—	—	—
(4.) Of Neck—				
Malignant: Parotid tumour		1	0	1 ²
Large medullary sarcoma of glands at upper part of neck		1	0	—
		—	—	—
		2	0	2
		—	—	—
(5.) Of Face—				
Malignant: Epithelioma of lip and glands		1	1	0
Epithelioma of forehead		1	1	0
		—	—	—
		2	2	0
		—	—	—
(6.) Of Lower Jaw—				
Disarticulation of half of lower jaw (malignant)		1	1	0
Excision from Symphysis to angle (malignant)		1	1	0
		—	—	—
		2	2	0
		—	—	—
(7. Of Tongue—				
Malignant (Epithelioma):				
Removal of affected part		1	1	0
„ half tongue		2	1	1 ⁴
„ whole tongue		1	0	1 ⁵
		—	—	—
		4	2	2
		—	—	—

¹ The tumour had taken nineteen months to grow, and had never caused any pain, but simply incommoded the patient, owing to its size. When admitted it extended from the seventh cervical vertebra above to about the last dorsal vertebra, and reached from a line about two inches to the right of the spinous processes to the posterior fold of the left axilla. It projected considerably, and had a tense soft feeling. After removal it weighed eight pounds and a half. The patient left the hospital five weeks after the operation in perfect health.

² Died of erysipelas.

³ Tumour had taken seven months to grow, and was of large size when he was admitted. It extended as deep as the atlas vertebra, and in order to remove it the sterno-mastoid was cut, and a careful dissection made. It adhered to the sheath of the common, internal, and external carotid arteries, and the internal jugular vein. Acute oedema of the glottis supervened suddenly some days after operation, and the patient died before relief could be afforded.

⁴ The epithelioma had been of very rapid growth, was extensively ulcerated, and small glands in the neck were enlarged. The patient's general health had suffered. He died in about a fortnight of pyæmia.

⁵ In this case it was only at the urgent request of the patient that the operation was performed. One of the cervical lymphatics, in close proximity to the internal jugular vein, was affected, and was much enlarged. This was dissected out before the tongue was removed. Patient sank three days after the operation.

(8.) Of Testicle—

	Number.	Recovered.	Died.
Castration (simple tumour)	1	1	0
Syme's operation for fungoid testicle	1	1	0
For Hæmatocele	1	1	0
	3	3	0

OTHER OPERATIONS.

Hernia (strangulated congenital)	1	1	0
Lithotomy	1	1	0
Perineal section	1	1	0
Tracheotomy—			
Chronic laryngitis	1	0	1 ¹
Portions of bean in trachea	1	1	0
Disease of epiglottis	1	0	1 ¹
Growth in larynx	1	1	0
Œdema glottidis following burn	1	0	1 ²
Diphtheria	2	1	1 ³
	7	3	4
Trephining for depressed fracture (secondary)	1	1 ⁴	0

OPERATIONS FOR NECROSIS.

Of Femur	3	3	0
Bones of leg	2	2	0
Os calcis	1	1	0
Humerus	6	6	0
Bones of forearm	2	2	0
	14	14	0

¹ Bronchitis.² Burn of face and neck with gunpowder. Patient was an old man. Died of bronchitis five days after operation.³ Died thirty-six hours after operation. Asphyxiated, owing to the obstruction caused by the spread of membrane down the trachea.⁴ The operation of trephining was not performed at the time of the accident, but some days after. The patient was struck by the handle of a crane, above and to the outer side of the left orbit. He lost consciousness at the time, and although he had somewhat recovered when he was brought to hospital, he was still in a dreamy state. Fracture into the orbit could be made out, but no distinct depression; there was considerable swelling of the soft parts, and a contused wound about three-quarters of an inch long. Under treatment his state, instead of improving, continued very precarious. On the fourth day after admission an abscess formed, which, when opened, was found to be connected with a bare part of the frontal bone. His temperature still kept over 100°, his pulse varied between 60 and 76, and his bowels were obstinately constipated. At the same time the drowsy state which he was always in gave place to complete insensibility. Accordingly, it was thought advisable to have recourse to trephining. This was done on the eighth day after his admission, by enlarging the original wound, to allow the trephine to be applied. When the wound was enlarged, the adjacent parts of the temporal and frontal bones were found

Besides these more important operations, there were a number of minor operations—*e.g.*, for piles, fistula, hydrocele, etc.

A few general remarks may be added as to the treatment, constitutional and local, which is adopted in Mr. Spence's wards. Except in urgent cases, patients are never operated on until a careful examination of their constitutional state has been made, and any abnormal conditions combated as far as possible. Accordingly, patients are kept under observation for some time prior to operation, and, by careful attention to the various secretions and excretions, their general health is so improved that the chances of a successful result are much increased. Their diet is carefully regulated, tonics are given, and derangements of the stomach or bowels are at once treated. The state of the urinary system receives special attention, an examination of the urine being made from day to day. The urine is more particularly attended to in strumous patients, in whom renal affections are so apt to occur; and, by means of this frequent examination, morbid conditions of the urinary organs are detected at an early period, and improved as far as possible by appropriate remedies. Similarly, the respiratory, integumentary, and circulatory systems are observed: the chest is examined, the temperature is taken morning and evening, and the state of the cutaneous secretions is watched. Before and after all operations the preparations of iron are used, either alone or along with dilute phosphoric acid, and very generally such remedies as the chlorate of potash and the hyposulphite of soda are given, so as to improve the state of the blood and render the patients more able to resist septicæmic conditions. The use of these supposed antiseptic remedies is especially resorted to where, as in cases of necrosis, malignant disease, etc., the blood is in an unhealthy condition prior to operation, and where the patient is peculiarly liable to become affected by the absorption of putrid matters.

Very often alcoholic stimulants are given, but their administration is regulated to a great extent by the character of the pulse, and by the state of the patient's strength. In all cases of exhausting disease—such as caries, necrosis, strumous affections of joints, and malignant disease,—stimulants are found of the greatest service; and when wounds are assuming a weak action the good effect of stimulants is often very marked.

As regards the local treatment of wounds, the principles which are attended to are cleanliness, and simple dressings so arranged as to be easily undone, and to allow the free escape of discharge, which

depressed; and on removing the outer table with the trephine, the inner table was found to be splintered, the orbital plate of the frontal bone being involved. As soon as the splintered parts had been removed the patient complained of pain, which he had not done during the operation (no chloroform was used). Although he occasionally became drowsy after this, he ultimately made a good recovery.

by its absorption might give rise to serious constitutional disturbance. In order to effect these objects, all wounds which are deep and discharging freely are dressed twice a day at least, and at each dressing the wound is syringed out very gently with a solution of carbolic or boracic acid, used of a strength which gives rise to no irritation of the wound. So soon as the wound begins to granulate, in addition to cleansing it thoroughly, some stimulant lotion is used, such as a solution of chlorinated soda (one part liquor to twenty parts water) or sulphate of zinc (two grains to the ounce). Clean dressings are applied each time the wound is dressed.

Before stitching up a wound at an operation, the surface is freed from small clots and thoroughly washed by pouring over it tepid water to which a very little carbolic acid has been added. After the wound is closed by silver sutures, a piece of waxed paper is applied over it as a protective, and a thin layer of oakum (held in position by a bandage or put in a single fold of lint) is placed outside the waxed paper. Care should be taken that the oakum does not touch the skin, as it gives rise to a considerable amount of irritation.

In the case of stumps, after applying the waxed paper, a single ply of lint is brought over the end, so as to support the flaps, and this is kept from slipping, and at the same time lateral support is given to the stump, by means of a fold of lint encircling the stump, and containing a layer of oakum between its folds. In order to give more thorough support to the flaps and prevent them retracting, a bandage applied from above down may be used before the dressing is put on. The stump is laid on oakum, and oakum is put loosely over the end, and if this dressing be properly applied, the stump can be looked at without raising it from the bed. In the evening, after an operation, the wound is syringed out, and all clots removed, a stitch being taken out at the angles of the wound, if necessary, to allow of this being done. Great care is always taken that the discharge gets freely away; and for this purpose some stitches are removed at the most dependent part of the wound very soon after an operation. By this means the serous discharge at first, and subsequently the pus gets free vent, and bagging of the end of a stump or abscess in the limb above is prevented. A small piece of drainage tubing introduced between the edges of the wound still further favours discharge by keeping the lips from closing at that part.

When granulation is going on, instead of using the waxed paper, a strip of lint soaked in a stimulating lotion and applied to the wound often proves of great service in the healing process. When the granulations are strong and healthy this may not be required, and under these circumstances the use of the waxed paper may be continued.

Should redness appear at the edges of a wound, stitches which seem to be giving rise to tension are at once removed, and strips of

adhesive plaster substituted, so as to give support to the flaps. The plasters are applied between the stitches, because, if they were placed over the holes made by the sutures, when suppuration occurs the discharge from these holes would be prevented. At the same time, a single ply of lint dipped in warm water is put over the wound. This must not be covered by gutta-percha, as, by so doing, the moisture is confined and the parts rendered sodden and weak. The lint is changed frequently. This treatment generally soothes the irritation, and the redness subsides. If the wound show a tendency to become dirty or sloughy, the surface may be touched lightly with solid nitrate of silver, and then the application of lint soaked in charcoal and water of a thick consistence is had recourse to. This is much more easily applied than the charcoal poultice, it allows the discharge to get more freely away, and it generally has the effect of cleansing the surface of the wound and causing it to take on a more healthy action. When a deep wound, such as a stump, has healed to a considerable extent and has cicatrised at some places, in dressing the remaining superficial sores, pieces of lint exactly the size of the sores are dipped in some stimulant lotion, and, after being applied to the ulcers, are covered with pieces of gutta-percha a very little larger. If the wounds need no stimulation, small pieces of waxed paper cut exactly the size of the wound are sufficient; but if, on the other hand, the granulations are weak and exuberant, the application of solid sulphate of copper proves very beneficial. In no case should the dressings be applied over the cicatrised parts, for by so doing the cicatrix is softened and tends to break up.

The treatment thus briefly sketched is easy of application, and, if it be carefully carried out, large surfaces, such as those left after amputation and after removal of large tumours, heal extremely well.

REMARKS BY PROFESSOR SPENCE.

The foregoing Statistical Report, drawn up by Dr. Kirkwood, in which the cases have been very carefully collated by him, illustrates the advantages to be derived from stating the conditions which necessitate operations, by showing how far certain forms of disease may influence the result. In my published Lectures I drew special attention to the necessity for doing this in statistics which were to be of any practical value; for, besides being subject to many sources of fallacy, the mere fact that, after any great operation, so many patients live and so many die, teaches us little. In the present report an example of this is afforded by the case of *one patient* who furnishes *two deaths* in the general statistics—once in the amputations of the thigh, and again under the amputations of the leg. But on examining the table in which the different diseases are specified, I

find a remarkable corroboration of the results, under similar circumstances, given in the larger statistical tables of amputations in my *Lectures on Surgery*. I feel more and more satisfied that constitutional states connected with certain forms of disease, as well as epidemic and endemic influences, have marked bearings on the results of operations.

Much attention is given in the present day to different methods of dressing wounds, and to the merits of various antiseptic applications; and within certain limits, this is very proper, for care and cleanliness in dressings are most important. But here, as in other things, we are apt to give more than its due weight to some special method of dressing. Dr. Kirkwood has stated the method used in my wards during the period embraced in the Report; when, however, I turn to the statistics of my wards during the years 1860, 1861, and 1862, when I treated my amputation wounds by merely washing the surfaces thoroughly with tepid water, and occasionally sponging them with tincture of iodine, either alone or diluted with water, and when the only dressing applied was a single layer of lint or muslin placed lightly over the stump, I find the following results in cases of amputation for disease and in other operations:—

AMPUTATIONS.

	Number.	Recovered.	Died.
Hip-joint	1	1	0
Through Thigh	25	23	2
Leg	5	5	0
Ankle	22	22	0
Shoulder (injury)	3	3	0
Arm (disease)	3	2	1
Forearm	4	4	0
Total	63	60	3

EXCISIONS.

Shoulder	1	1	0
Elbow	21	20	1
Knee	1	0	1
Total	23	21	2

OTHER OPERATIONS.

Lithotomy	7	7	0
Hernia	12	10	2

At the time these statistics were taken, the hygienic conditions of the Surgical Hospital were by no means so good as they are now ; and looking at results such as these different statistics afford, we may pause before crediting the methods of dressing with the success. Instead of speaking of brilliant results in some special cases, we require statistics which show us the nature of cases operated on, and other conditions which will enable us to judge of the comparative results of different methods of dressing and treatment.

John Tweedy

Esqre
F. R. C. P.

33 Harley St

Cavendish Square