

An exposition of surgical clinical teaching in Glasgow : being the lecture introductory to the winter course of clinical surgery delivered at the Western Infirmary of Glasgow (University Clinic) / by George H. B. Macleod.

Contributors

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AN EXPOSITION
OF
SURGICAL
CLINICAL TEACHING
IN GLASGOW.

BEING THE LECTURE INTRODUCTORY TO THE WINTER COURSE OF
CLINICAL SURGERY DELIVERED AT THE WESTERN
INFIRMARY OF GLASGOW (UNIVERSITY CLINIC).

BY

GEORGE H. B. MACLEOD, F.R.S.E.,

REGIUS PROFESSOR OF SURGERY; SURGEON AND LECTURER ON CLINICAL SURGERY IN THE
INFIRMARY; ETC.

LONDON.

1875.

AN EXPOSITION

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IN GLASGOW.

BEING THE LECTURES DELIVERED TO THE STUDENTS OF
CLINICAL SURGERY DURING THE WINTER
SESSION OF 1871-72.

GEORGE H. R. MACLEOD, F.R.S.

LECTURER IN CLINICAL SURGERY, ROYAL INFIRMARY, GLASGOW.

LONDON:

1872.

SURGICAL CLINICAL TEACHING IN GLASGOW.

GENTLEMEN,—It is desirable that, at the outset of our clinical work, I should explain to you the nature of the study we are going to engage in, and the system of teaching it which I pursue. Within the University, I have already made known to you the aim and scope of my course of instruction in systematic surgery; and now here, in our practical school, I desire to point out what further duty devolves upon me as your teacher. As professor of surgery in this school, my business divides itself into two parts. These are not distinct or independent; but, on the contrary, form one whole; and that consists in delivering a complete course on the science and art of surgery. One half of my function I perform within the University, and the other half here in the Hospital. No systematic course can be complete without its practical part in the clinical school, no more than systematic anatomy or chemistry can be efficient without dissecting-rooms and laboratory. On the other hand, no bedside instruction can avail without the preliminary education in the class-room. I am desirous of placing thus clearly before you this entire affinity and relationship between what is termed the theoretical and the practical departments of my subject, as attempts are occasionally made to dis sever them, and even to exalt the one at the expense of the other. That of late years a strong disposition should have manifested itself to depreciate “lectures” and all mere oral teaching, and to commend “practical” instruction, need not astonish us when we remember how terribly lecturing was abused in days not long past. It appears to us now almost incredible that anatomy, chemistry, and botany should at one time have been taught without practical illustrations; but there is no doubt they were so. It must be borne in mind, however, that such practical instruction in surgery as can be given here is only capable of supplying you with a certain amount of that learning which you require. It alone cannot possibly equip you for the exercise of the surgical art. You cannot do without it, yet you cannot do everything by it. It is requisite that you be first instructed in the principles on which the practice here seen is founded. You must be made conversant with

the terms used at the bedside. You must know, in some measure, the nosology and pathology of the diseases brought before you, as well as the usual influence exercised by those conditions which are special to the patient, and the effects which are produced by remedies. Systematic surgery is, after all, the sum of clinical experience. Such a course is made up of the conclusions or generalisations drawn from a multitude of bedside observations reduced to order and systematised. Clinical surgery can thus never wholly take the place of systematic; but must ever be merely auxiliary or subsidiary to it. The two branches must be entwined, and then they will mutually support and illustrate one another. If you have been well indoctrinated in principles, you will come half taught to the bedside, and be capable of profiting by what you there see. To learn practical surgery is, however, not easy, and will demand all your attention. Give it as much time as you can. It is by it that you must come to fulfil the chief end of your professional life: the alleviation of suffering, and the saving of human life.

Clinical study, then, aims at applying the rules and doctrines of the class-room to actual cases of disease. In the hospital, we see the living illustrations of those affections of which we have read or heard; and in many cases we are able to compare the relationship which exists between certain signs seen during life, and the state of textures and organs after death. It is in clinical research, properly conducted, that we gain that accuracy in the employment of the special senses which is so desirable; and learn to exercise the judging and reasoning faculties in sifting evidence, and separating what is accidental and immaterial from the essential and important, in those facts or signs which are presented to our observation. Careful attention, patience and diligence, truth and candour in observing and applying facts to support theories—accuracy in generalising or deducing principles—these are qualifications which are requisite in a clinical student.

In this school, as in most others, clinical instruction is conveyed both by "lectures" and by bedside teaching. Once a week, a more formal lecture is given by each medical attendant, and on several days you receive instruction in the wards. Both these methods are advantageous when combined. In some schools, the bedside work is neglected, and the "lecture" is the main or sole means of teaching; while, in other hospitals, the reverse is the case, and ward lessons are alone employed. The traditions and usages of the school, or the means and time at the disposal of the teacher, appear in many cases to determine the choice. I do not think that, in many schools, this practical work has been so zealously cultivated as it has been for some years here. You will soon find how strictly attendance is enforced. At five minutes past nine in the morning, whether it be at lecture or in the ward, the roll will be called, and every absentee must give a satisfactory account of himself. I shall endeavour this session, as in the past, to be at my post every morning to a moment, and to allow no private engagement to interfere with this important duty; and I shall expect from you like

diligence and punctuality. I want no sluggards here ; and none who, by careless attention, disturb the application of others. Every man of you must act as dresser, either now or in summer. I will give every facility for a long continuation of that service. It is as dressers that you will come to have a true interest in the patients, to observe their cases with care, and feel some part of the difficulties and responsibilities of the work.

After studying the various plans of clinical teaching followed in other schools at home and abroad, the method I have been led to adopt is this. On Monday, my friend Dr. Knox (one of our assistant-surgeons and able demonstrator) will give you in the side ward minute instruction in bandaging, dressing, and the application of surgical apparatus. This duty I used myself to perform ; but I am glad to have it taken up by younger and abler hands. What is there shown you will individually have to repeat before your instructor, and afterwards in my presence, in the fulfilment of your duty as dressers. All dressings of any consequence, as well as all apparatus for fractures, etc., are applied either by you, or, in your presence, by myself or my house-surgeon. It is quite impossible that any accident can prevent, as too often in my own time, a student who attends the wards regularly from seeing all the usual fractures and dislocations frequently dealt with in all their details.

On Tuesday, I meet you in the theatre, and "lecture". By this, I mean that I then dwell upon the teaching derived from a series of cases of the same affection, which, either at the moment or quite recently, have been under treatment before you ; or a wider and more general view than can be taken by the bedside is given of some of those accidents or diseases we have been studying—a view checked and regulated, however, at every point by the example with which we have been dealing. At other times, the causes, the nature and results of an operation recently performed, or some of the more general questions affecting the sick under our care, are taken up. Cases of the same disease in different wards are, as it were, collated and compared, and what practical lessons they teach are enforced. In this part of the work, pathological specimens and drawings are occasionally employed ; yet it is most desirable, even in these more formal meetings, to avoid controversial and critical discussion as much as possible.

On Wednesday, Thursday, and Saturday, we meet in the wards. Friday being the lecture day of my colleague, you are excused attending with me (as his students are on Tuesday), in order that you may be present at his lecture. My ward work is thus conducted. We have a side room, well heated and lighted, fitted up with seats and a bed, into which all those patients which can be moved are brought on a light, noiseless, easily-wheeled couch. If a patient cannot leave his bed, then we visit him in the ordinary way ; but I much prefer having them taken into the side room, because they can be there seen and examined with ease. Every student, being seated, can give his whole

attention to what is doing, and can take notes accurately and comfortably. The patient is placed on the bed in full view of all, and his ailment systematically inquired into. You will observe that I ask each question in a loud voice, and repeat the reply, so that you can follow what is done. After a little initiatory practice, you will each be called upon to take my part, and examine the patient. I shall, in any case, try to show you how best to obtain and apply information; and I shall, by examining you on what you see and hear, know whether your comprehension follows the work performed. Explanations can be given regarding each case, both before the patient enters and after he leaves. All remarks which it is undesirable that the patient or his fellows should hear, can thus be freely given utterance to; and so all fear of wounding his feelings avoided. The harm, too, which so frequently is done to weak and nervous patients by the rush of an eager crowd into the ward, is prevented; and thus the interests of both patients and students are promoted. The lesser operations I also perform at these meetings; and as you are close to the patient, and each step is explained, you will, I think, get more good from them than is usually attainable. Great and dangerous operations unfortunately require not unfrequently to be undertaken; but these you will see performed in the theatre on Saturday. In this hospital, I hope you will not find any of that ill-placed sensationalism regarding operations which, to the great detriment of students and the profession, is too often indulged in. Our aim should be to diminish the number, and lessen the risk, of those operations which mark surgical practice.

The cases we shall chiefly deal with in our ward work are the common and every-day surgical ailments, not the rare and curious, which seldom occur in actual practice. The more usual an ailment or accident, the more claim it will have on our attention. Each morning, we will only take up a very few cases; and these typical, and well marked examples of their kind. The great point will be to secure a clear comprehension of a few ailments, and the principles deducible from them. All risk of such confusion as would arise from dealing with too many, and, above all, unrelated cases must be avoided. Here we have always abundance of material from the large and busy city around us. I shall try to be as simple and elementary as possible in conveying information, remembering that the receptivity of first-year's hospital students cannot be great; and I shall also aim at rendering the whole teaching as conformable as possible to a system, so as to supply, by the end of the session, a fair summary of surgical practice. We must so group our cases as to make them afford the greatest amount of instruction, and, at the same time, secure order in our work. To accomplish this effectually, two things are provided. I have put into your hands a short guide to case-taking, in which you will find an outline of the chief points to be observed, both as regards cases in general and special ailments. By following this, a uniform system will be attained. The other requirement to orderly procedure is that I keep a daily register

of what we do in the wards ; so that an easy control is maintained, and a definite arrangement in a great measure pursued, in following out our study. I shall expect every dresser to have an intimate acquaintance with his cases ; and occasionally I shall ask for written reports from him, besides questioning him at the bedside. Rewards (medal and certificates) are awarded for diligence and proficiency ; and the house-surgeons are bestowed (if the applicants be otherwise eligible) on those who attain the highest place in this department.

But besides the junior class to whose studies I have hitherto referred, I have been induced, by the spontaneous request of the senior men (those who have passed on to the medical side of the hospital), to meet them once a week for clinical purposes ; and I would here refer to that class, as it is a voluntary one, and beyond doubt, to my mind, the most useful I have ever conducted. This is the third year of its existence ; and this session it contains the great majority of the most advanced students. The hour of meeting is after the usual visit on Thursdays ; and, for their instruction, I employ chiefly the out-door patients, who come up to my ward for advice. In the sick ward, we hold our conferences, which are as nearly as possible the same as they would be in private practice. Each student in turn examines a case, and gives an account of everything in the anatomy, physiology, pathology, and surgery, which can be connected with it. Not only do they in this way get their knowledge corrected, but they come to discover what subjects they are ignorant of, and so are led to supply the deficiency. The utmost frankness of communication is cultivated. The students have also organised themselves, by my advice, into a society, which meets on Saturday. Two examiners from their own number are appointed for the subsequent meeting ; and it is their duty to prepare themselves thoroughly on some medical subject which has been within the range of their study ; and, for half an hour, each presides and examines the rest. Of course, he does not let the subject he is going to take up be known beforehand ; and his authority for the time is strenuously maintained.

side

Now, gentlemen, in all this I have frankly laid before you the plan of clinical teaching I have been led to adopt ; but it will be useless unless it receives your most cordial support. The knowledge you seek must be conquered by yourselves. All I can do is to point the way as best I can, and try to awaken your observing faculties, and lead you to reflect. I cannot give you perseverance and attention ; but I can and will give you an example of industry and punctual attention to my duty. It is essential to your advancement that you keep yourselves abreast of the cases. You may visit the wards freely during the morning ; and the ward-journal, in which all changes in the patients are noted, is open for your inspection ; and I shall at each visit tell you carefully of anything which has occurred during the interval since our last meeting. Everything done is open to your most minute inspection. Every error or oversight made you have the amplest means of discovering ; and I

promise you that they will be frankly admitted and discussed. Candid criticism is the best security against the repetition of mistakes, and gives a guarantee for future improvement.

To get the utmost good from your hospital work, you should read up at home on the different diseases, examples of which have been shown you in the morning ; and to facilitate this, I will, at the end of each day's demonstration, mention to you the subjects on which you should thus seek further information.

It is of no use to begin all this work which I have outlined to you with spirit, and let the effort soon die out. The early enthusiasm must be sustained. Steady perseverance is far better than spasmodic application. The sooner students begin to get accustomed to hospital work the better ; and the longer they keep to it, the more they will like it. I have always regretted that foolish craving for "settling down" in practice which seizes so many of our men after they have graduated. It is just then, when they are free from the phantoms of examination, that hospital attendance becomes really valuable ; and a year of quiet study at that time, in such an institution as this, would, as a mere commercial venture, repay them well, putting out of account the incalculable satisfaction it would prove in after years.

Every morning, I may add, I shall remain fully two hours with you, and nothing will afford me more pleasure than to answer any questions you have to put, or to assist you in any difficulty. My staff of assistants is more than usually numerous, and on their aid you can always rely.

In what time remains to me, I propose to give you a brief outline of the history of clinical surgery, and explain to you the present position of the teaching in this school.

As might be expected, very little is known of the early history of clinical teaching. It is generally said Hippocrates took his pupils to the bedside for instruction, and his careful annotations of disease at least prove him to have been a careful clinical observer. In the Alexandrian school, Herophilus and Erasistratus get the credit of having given bedside lessons ; but nearly all trace of such teaching is lost from that early time down to the end of the sixteenth century. True, it is said that Thessalus and Symmachus during the first century, and the teachers in the school of Salerno in the twelfth century, attempted such instruction, but our knowledge of its exact nature is too slight to enable us to form any opinion concerning it. For a brief period at the end of the sixteenth century, clinical teaching was pursued at Padua and Pisa, but it was soon abandoned ; but afterwards, in 1764, a clinical chair was established at the former school. In the sixteenth century, medicine was much oppressed by the authority of the ancients. The dogmas of the "Fathers" Hippocrates, Galen, and Celsus held men's judgments in all-powerful fetters till the awakening which followed the Reformation, and the discovery of printing stimulated medical like all other knowledge. Anatomy was in a great measure born, and her eldest child Surgery grew to a certain degree of vigour, mainly

through the guidance of Ambrose Paré (a pupil of Fallopius), who had the courage to think for himself, and to add his own observations and reflections to the traditional teaching of the schools. He, though, like most of his distinguished contemporaries and successors, a "barber-surgeon", gave surgery somewhat of a scientific position. He established a school of surgical practice which for a hundred years governed France, and, in fact, Europe. The seventeenth century marks the division between ancient and modern practice; and, under the influence of the philosophy of Bacon and Descartes, men's minds began to open, and the all-powerful effect of authority was abolished. Harvey and a host of able anatomists in all countries by their discoveries greatly advanced medical science, while Leeuwenhoek opened up the vast field of minute anatomy by the application of the microscope to histological purposes.

In the middle of the seventeenth century, Boerhaave (a student of Pitcairn of Edinburgh) taught clinically and with great *éclat* at Leyden; and to Dr. John Rutherford and De Hæen, his pupils, the Edinburgh and Vienna schools owe the introduction of the teaching of practical medicine. In 1754, the celebrated Van Swieten was ordered by Maria Theresa to establish a clinical school at Vienna, and De Haen became the first professor. At the period of which I speak, it was in Italy and France that surgery chiefly progressed; but Wiseman in England and Purmann in Germany gathered, in the bloody tumults of the time, many important surgical axioms.

The Royal Academy of Surgery, founded by Louis XIV, gave a great impetus to surgery; and in the Institution of the Garden of Plants Dionis found a field for his great talents. He began clinical teaching in France; and after him Saviard, Mareschal, and others pursued it at the Hôtel-Dieu. The College of Saint Côme and the Royal Academy of Surgery gave a life, though often a very stormy one, to surgical discussion and research. Ledran, Louis, Garengot, and before all others J. L. Petit, gave a prominence to French surgery at the beginning of the eighteenth century, which was increased and extended by their successors Desault, Sabatier, Chopart, Anel, Pouteau, and after them in succession Bichât, Dupuytren, Boyer, Roux, and Nélaton, all of whom have been the chief surgical clinical teachers of Europe. It is, perhaps, Desault's chief glory that he established permanently clinical teaching in Paris (in 1750), and to his clinic Chopart, Bichât, Dupuytren, and Boyer in succession followed.

The Edinburgh Infirmary was established in 1736; and in 1748 Rutherford was busy teaching clinical medicine. I have seen it stated that before that date Monro had undertaken clinical surgery; but I have been unable to verify this. Rutherford tells us his plan was (1) to give a history of the disease in general; (2) then to inquire into its cause; (3) next, to give his prognosis; and (4) lastly, to lay down indications for cure. In the hands of Cullen, who succeeded Rutherford, and afterwards from Gregory and Alison, clinical medicine in Edin-

burgh secured a high reputation ; while, at the end of last century, Mr. Russell was appointed professor of clinical surgery, though the anomalous position in which he was placed as regards hospital wards made it impossible for him to succeed. Mr. Russell had no patients assigned him for the illustration of his course ; but, on obtaining the permission of the professor of anatomy and surgery (then conjoined), he was allowed to comment upon the cases under the treatment of his colleagues, but he could at any time be debarred by them from access to the wards. When anatomy and surgery were disjoined, the right to teach clinically was by an error attached to the former chair, and thus an opportunity was afforded for the establishment, on a truer basis, of that department of instruction, which has been so ably developed by its more recent incumbents. The exclusive rights now attached to the clinical chair of surgery in Edinburgh have, as is well known, occasioned much heartburning in that school. Nowhere else are students compelled to attend the teaching of one professor. To get this arrangement abolished, has been strenuously but futilely tried by the Royal College of Surgeons. So long as the chair is filled by an eminent man, perhaps no harm is done, but such exclusive privileges might be productive of the greatest harm under other circumstances.

In 1782, Richter began at Göttingen the first of those admirable clinics which have made many of the German schools famous, and now at nearly all the medical centres there exists a most elaborate system of bedside teaching.

In 1792, Sir Astley Cooper began to employ his hospital cases to illustrate his surgical lectures. The effect of this, he tells us, was most gratifying. While in 1791 his class only numbered seventy-three, the year he made this change it increased to one hundred ; and the steady augmentation to four hundred and six in 1824, he ascribes to this clinical method of instruction. In 1792, some arrangements for teaching clinical medicine appear to have existed at the London Hospital. In 1813, Sir B. Brodie began to give regular bedside lessons.

In Dublin, wards were set aside for clinical purposes as early as 1785, and by degrees a practical school of great eminence arose, for, while Crampton, Smyly, and Porter taught clinical surgery, Marsh, Corrigan, Graves, and Stokes brought practical medicine to great distinction.

In our own city, clinical teaching appears to have existed as early as 1787, as a ticket for a course of "Lectures on the Cases of Patients in the Town's Hospital, Clyde Street, by Robert Cleghorn, M.D.", is in the possession of my colleague Professor Cowan. The Royal Infirmary was established in 1793, and shortly afterwards bedside teaching was, to some extent, pursued ; but it was not till 1829 that such instruction obtained a permanent or important place in the education of students. No proper or efficient system of teaching could be pursued by the general practitioners of that day who were elected to serve in the hospital for two years at a time, and who were only in actual charge of patients for three months in each year. In later times, in the hands of

Macfarlane, Lawrie, Andrew Buchanan, Moses Buchanan, Lyon, and Fleming, clinical surgery in Glasgow was more carefully cultivated. The teaching has always been quite open, and at no time has this been the case more than at present, when every surgeon in charge of wards in each hospital is placed, as regards the recognition of his teaching, on precisely the same footing, and students are at perfect liberty to choose any of them as their instructor. In order to fulfil the necessary course, each student attaches himself to two teachers, and he is compelled to divide his time between them—attending the “lecture” of both every week, but confining his visits to the wards of one for three months at a time. He has thus the opportunity during the six months’ session of watching the practice of two men, and yet following to a termination the cases treated.

Before the clinical teaching was transferred from the Royal Infirmary, Professor Gairdner and myself were the only representatives of the University engaged in clinical teaching. When the institution was opened last year, two of our former associates as clinical teachers in the Royal joined us here, and to them the University gave the well-earned status of professors. In this way, Drs. M’Call Anderson and George Buchanan were associated with Dr. Gairdner and myself in this very important and laborious work ; but their appointment and official position as professors of clinical medicine and surgery has in no sense changed the relation in which Dr. Gairdner and myself stand to the teaching, nor has their appointment in any way narrowed or restricted the choice which you are allowed to make of your teachers. These appointments have brought augmented force to our school, but they have conferred no exclusive position on their holders, such as was pointed out existed elsewhere.

The conditions favourable to the healthy development of clinical teaching have greatly improved of late years in our school. The division which now markedly exists between medical and surgical practice, and the restriction to consultation work which several of the teachers have imposed on themselves, have allowed more time to be devoted to hospital duties, and have enabled them to concentrate their attention on special departments ; and to this circumstance more than any other do I ascribe that increased vigour which has marked the teaching of later years and the rapid increase of our school which has followed. The prolonged hospital appointments permit such improvements to be made in practical teaching as was before impossible, and to no event of my professional life do I look back with more satisfaction than the part I took in that reform. The almost complete severance which existed between the University and the Hospital up to a few years ago was a total bar to the development of the clinical teaching.

Gentlemen, in closing these remarks, I would only add that the duty demanded of us teachers is most anxious and responsible, whether viewed with reference to you or to the patients. It is a very grave affair to be charged with the instruction of others in any matter : how infinitely

more serious is it when the issues are so momentous and far reaching as those embraced in medical education. We are entrusted with the practical education of men who go to all quarters of the earth, wherever the British name has penetrated. Your knowledge and skill may affect the health and happiness of innumerable families, and any error you imbibe here may be multiplied in endless ways; yet, on the other hand, all good and true lessons will have a wide circuit for their action, so that the clinical teacher is, as it were, the centre from which far reaching waves of good or of evil may spread. It is also a most anxious duty we have to perform, as we must, as it were, think aloud before an intelligent audience, and recognise disease, foreshadow results, and direct treatment almost on the spur of the moment. If this is most trying to a teacher's reputation, there is at least a compensating gain both to himself and his patients, as it must needs render him most careful in his words and actions, and in this augmented attention and caution the patients secure a further guarantee for their prudent treatment. All of us, whatever our experience may be, are likely to err and fail; but, if each strenuously endeavour to do his best, he has a right to rely on the loyal support of every true student.



