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IDEALS IN SURGERY

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THIRTY-THREE years ago a group of very wise men founded the American College of Surgeons. It was their hope that by gathering together in such a College all the surgeons and surgical specialists who were known to be morally and ethically fit and who had demonstrated by their training and by their standing in the professional world that they were properly qualified, the standard of surgical care might be raised to the level that a great people deserves. It was hoped, too, that with the lapse of a few years the diploma of Fellowship in the College would become so desirable and so necessary that all who proposed to practice surgery would seek it and that by and by it would constitute a clear index whereby those who were qualified to do surgery could be distinguished from those who were not.

Since the day of its foundation the College has grown and prospered and it has done those things to a superlative degree for which its founders so fondly hoped.

As time went on, however, and the future of the College had been firmly established, there arose both within it and without, a demand for a definite raising of the requirements for admission to Fellowship, both in the form of longer and better practical training and of proficiency not only in surgery but also in all the basic sciences related to it. The College recognized this demand by two modifications,

in the past eight years, of the length and character of the training required. Others felt, however, that all those who proposed to specialize should be forced at an early stage in their graduate training to demonstrate to a court of examiners that they were proficient in the principles of surgery and in the allied basic medical sciences. From this arose the American Board of Surgery and the boards of the various surgical specialties, to which the College elects representatives.

The aim of both the College and the Boards has been the improving of the quality of American surgery and both have been successful. The College insisted on minimum periods of apprenticeship, evidence of high moral and ethical standing, and proof that the candidate had shown ability in practice. It concerned itself with the raising of the standards of the hospitals in which its Fellows would study and work, it busied itself with advanced surgical education, as indicated by this Congress today and it is now engaged in what may prove to be its greatest effort on behalf of American surgery, the establishment of adequate graduate training. The Boards have outlined more sharply the periods of hospital training that are required and have made sure, by requiring the candidates to pass searching examinations, that they have an adequate knowledge not only of the art of surgery but of the basic sciences, without which no man can be a true surgeon.

Speaking now, not as President of the College, but as a Canadian and a most friendly

Address of the retiring President, before the Clinical Congress of the American College of Surgeons, Cleveland, Ohio, December 16-20, 1946.

onlooker, I recognize the same high motive in both the College and the Boards, and I see great virtue in what each has done. It seems to me, however, that it is a pity to have two separate roads to public recognition and that a combination of the two, with adoption of what is best in each, would add great strength to the crusade for higher standards and would ultimately serve the people best.

But while the setting up of standards for qualification to practice surgery is a step in the right direction it will prove quite futile if conditions are such that these standards cannot be achieved. What does it profit to tell a young graduate that he must serve a period of supervised training in an approved hospital, extending over a period of 3 or 4 years, if a sufficient number of such hospitals do not exist? A survey of the hospitals of Canada has shown that only a few can at present be approved for graduate training and the same lamentable state of affairs obtains in the United States as well. Only in a few of the hospitals attached to medical schools is there any attempt at the planned training of internes and residents and in very few of these, any provision for instruction in the basic sciences. How many hospitals do you know where a three year assistant residency is offered, or where regular ward rounds or conferences are held, or where supervised courses of study are provided in anatomy, applied physiology, and applied pathological chemistry? And how many hospitals do you know where internes are encouraged to make use of the libraries or to take part in surgical research? The answer is, very few. There are, of course, outstanding examples to the contrary, where the training of the interne is a major interest of the staff but when one adds up the number of these hospitals and makes up the grand total of the graduates receiving such training it will be found that the number is very small.

This is the reason for the present activity of the College in graduate training and for its effort to induce hospitals to make the necessary reorganization of their staffs and to adopt the resident system.

Unfortunately the reformation that the College has in mind is by no means so simple as

one might suppose. While most hospitals are interested to a certain extent, because certification by the College that a hospital is approved for graduate training would ensure a constant supply of good internes, yet many of these hospitals balk at the radical staff reorganization involved and hesitate to put the time and effort into a teaching program that could be considered adequate. It is clear that to make a success of its graduate training plan the College will require the good will of the public and the whole medical profession and the strong support of all the Fellows.

In support of the program of graduate training I propose to discuss with you briefly the plan which has been in operation in the University of Toronto for the past 18 years. I have no thought that it is adaptable to all situations nor have I any notion that it is as good as that in many of the great American universities, particularly those with sufficient endowments to enable them to grant numerous fellowships toward graduate training. It does illustrate, however, what can be done by long term planning and by persistent effort at reform.

Twenty-five years ago the Toronto General Hospital (1,000 beds), staffed by the best surgeons in the land, all members of the Medical Faculty, had never trained a surgeon. Internes came for a year or two and departed, usually into general practice. Those who aspired to become surgeons sometimes went to New York to seek a further internship, or more often, went to London or Edinburgh to study for the coveted diploma of Fellowship in one of the Royal Colleges. These Fellowships were won by passing the stiffest kind of examinations in anatomy, physiology, pathology and surgery and they were a guarantee that the successful candidate at at least one stage in his career had been familiar with what the textbooks said about them. They did not, however, guarantee that the Fellow had any satisfactory apprenticeship or had become a master of his craft. It was only when he returned to his home and had received a junior hospital appointment that his practical training began.

Under this system a small group of surgeons was developed from which the medical school and the hospitals selected their staffs.

Then came the era of the building of small hospitals and with it the enormous increase in the number of surgical operations. These operations, of necessity, were performed by practitioners of very little training who had learned what they knew from books, from observational tours, and from the hard experience of trial and error. I know one such hospital serving a neighborhood of six or seven thousand people where the operating rooms are busy every day from nine to one and where not a single operator ever had more than a rotating internship. It was to try to force an elevation of the standards of education of these surgeons that the American College of Surgeons was founded.

Recognizing that the raising of standards was useless unless provision were made for training candidates to meet those standards the University of Toronto, 18 years ago, embarked on a program of graduate surgical education which gradually became standardized and which now constitutes the chief source of supply of trained surgeons for the Province of Ontario and indeed for the whole country.

The course is based on the theory that if the highest type of medical graduate is attracted to it, the best results will be obtained by combining the virtues of the apprenticeship system with those of the tutorial system. We had in mind that to ensure that the student profit most from his years of surgical residency he must be forced to undertake systematic study. To do this we arranged a definite curriculum composed both of practical training in hospital and of the instruction and study necessary to enable the candidate to face examination for the Master's degree, M.S.

The following is the minimum course:

1. A rotating internship in an approved hospital with at least 6 months of general medicine.
2. At least 6 months in pathology.
3. One year on a general surgical ward.
4. Six months in each of three surgical specialties.

At the end of this minimum course many of the candidates qualify for the M.S. and go out to practice. Others who have shown outstanding qualities and are thought worthy of Uni-

versity staff appointments here or elsewhere are selected to remain as Fellows in general surgery or in one of the surgical specialties. During this period they rank as junior members of the staff and are permitted to assume independent responsibilities.

This plan of graduate training is quite elastic. As I have outlined it, it is a minimal course which may not be shortened but which may be lengthened as circumstances seem to require. Thus for the young man whose object it is to leave the university and go into practice at a distance, we suggest that he take in addition to his general surgical training, as many of the surgical specialties as possible. Six months assistant residencies in orthopedic surgery, gynecology, urology, and the surgery of childhood are of great value to him. On the other hand for the man who has made up his mind to devote himself to one of the specialties, such as orthopedic surgery, we release him from service in gynecology and urology and limit him to 6 months in neurosurgery and an extra 18 months' fellowship in orthopedics.

For men who because of their scholastic attainments, general aptitude, and qualities of mind are considered as possible candidates, at some future date, for residencies and ultimately for staff appointments, a longer course is provided. These men, after their rotating internship, spend one or more years in the Departments of Anatomy, Physiology, Pathological Chemistry or Pathology before finally embarking on their surgical training. Then, if as assistant residents they have continued to do well, they are sent abroad for a year in some active surgical center before returning for their period of residency and ultimate appointment to a Fellowship in Surgery and a junior post on the staff. Often before finally settling down to their staff appointment these men spend a year in one of the more active producing surgical laboratories, a preparation for research work when they come home.

As already mentioned this planned apprenticeship is combined with a prescribed curriculum of studies leading to the degree of master of surgery. To win this degree the candidate must pass a stiff examination in surgical anatomy and in applied physiology and pathological chemistry. Later he faces

written and clinical examinations in pathology and surgery. Finally he must present a thesis on some clinical or experimental studies conducted by himself during his years of training.

To encourage these young men to take full advantage of their opportunities the University has given them the privileges of the anatomical laboratory and has provided first class tutors. Half of the assistant residents go to the laboratory on one night a week, and the other half on another. In this way they review the whole human anatomy in two years.

Similarly the Department of Physiology conducts a series of lectures and discussion groups on applied physiology and the Department of Pathology does likewise.

And finally, in order that these young men may be prepared for the examination for Fellowship in one of the Colleges or for certification as specialists by one of Canadian or American Boards, a series of evening discussion groups are directed by younger members of the staff on the principles of thoracic surgery, vascular surgery, neurosurgery, urology and orthopedic surgery, which many of the assistant residents may have missed in their selection of specialties.

Such a program may appear pretty extensive and to require a great deal of organization. This is not so, however, for the various departments involved have shown keen interest in graduate education and are glad to have students who are in earnest in their search for knowledge. The Department of Anatomy affords a good example. In these days when the time allotted to the teaching of anatomy to undergraduates is being so reduced that none but a superman could be expected to acquire any practical knowledge of it, the department welcomes the opportunity to teach students who have the time to devote to it and who really want to know what is under the skin.

The real difficulty in inaugurating such a planned course of graduate training will be met with in the Department of Surgery itself. The idea that as members of the surgical staffs of teaching hospitals our most important duty is to train surgeons has not been appreciated by many and is an idea which requires propaganda to inculcate. The old plan of using

internes and assistant residents as servants must be abandoned if we are to get good results. Indeed, I am convinced that even in many old established teaching hospitals a rebirth in the ideals and aspirations of the staff will be required before real progress is made. I suggest to you that the ideal of the teaching surgeon should be not how skilful and impressive he can make himself by constant practice and repetition, but how many young men he can train to be as good or better than himself. Only when such an ideal is established can we hope to supply the needs of our country.

The difficulty is that busy surgeons often find it irksome to stand on the opposite side of the table assisting a young tyro in his first difficult operations. Too often they impatiently do the operation themselves or turn the job over completely and take no further responsibility for it. This, in my opinion, is poor teaching and is clear evidence that it is time for a change in the personnel of the staff. There is, of course, no excuse whatever for the old custom in which a star performer at some well known metropolitan hospital posts a list of operations for certain days in the week and does them all himself. Fortunately that sort of thing has almost passed away.

The truth is that in modern first class teaching hospitals the diagnosis should be made, the type of treatment selected and the operation performed by the resident staff under the constant guidance and supervision of their teachers. The attending staff should reserve for itself only special groups of cases on which they are conducting clinical research and those cases which obviously require more experience and skill than the assistant residents have so far acquired. These are the hospitals with huge lists of applicants and which attract the high honor graduates from near and far. Such hospitals are famous across the land for the quality of the men they produce.

But, as I have already pointed out, I feel that there should be added to this program a planned purposeful course of study, leading to an examination for a higher degree and to Fellowship in our Colleges. Such a curriculum, spread over 3 or 4 years, is no hardship to the student and I feel sure that a review of the basic sciences carried out concurrently with

clinical work, and a definite program of clinical study and instruction results in a far sounder surgical education than the haphazard methods of other days.

But even with all the teaching hospitals of America supporting such a plan, not nearly enough opportunities for graduate training will be provided. To give such opportunities to the crowds of young men now demobilized from the Armed Forces and to meet the urgent needs of the country, other means must be found to secure for these men the 3 or 4 years of clinical training necessary and to give them an opportunity to review the basic sciences. This is the basis of the present "Graduate Training" campaign of the College. It is really an effort to persuade the larger non-teaching hospitals to adopt the "resident" system and certain minimum standards considered by the College and the Boards as essential to the proper training of a surgeon or surgical specialist.

If this campaign is successful it will undoubtedly overcome the present dearth of qualified surgeons. It can be successful, however, only if it has the overwhelming support of the Fellows and it is for this that I appeal tonight.

To make it work the hospital must have a sufficient number of public ward beds to provide an adequate service for a resident staff. The attending staff must be persuaded that in return for privileges of their appointment it is their duty to train the internes. The staff should be small and should contain one or more men who have been trained in the "resident" system in a teaching hospital. They must be prepared to give much time to a teaching program, much as is done in teaching hospitals, and to compensate younger members of the staff an honorarium of some sort should be provided.

In order that an assistant residency in these hospitals may qualify a candidate for admission to examination by one of the Boards or for Fellowship in the College, provision must be made for instruction in the basic sciences. This calls for an arrangement with a neighboring medical school and may require a moderate expenditure to defray the expenses of the school. If the hospital is in the same town the

problem is simple but if it is at a distance it is more difficult. It can be overcome, however, as has been done in Hamilton, Ontario, where the assistant residents come 40 miles by train to spend one evening a week in the anatomical laboratory and to attend a lecture on applied physiology.

Now while I am urging that it is the plain duty of all surgeons on the staffs of public hospitals and particularly the Fellows of this College, to join in this campaign, I should point out that the reward for hearty co-operation in it will be great and the penalty for failure will also be great. You must all have observed that with the establishment of higher standards for qualification by the Boards and the College, those hospitals known to provide approved courses of training are being so inundated with applications that they are able to fill their resident staffs with the pick of the graduating years. On the other hand those hospitals which have not been approved for graduate training or are known to provide indifferent courses, have very few applications and these only from graduates who are not acceptable elsewhere. The result is too obvious to require comment.

As the years have rolled along it has been interesting to observe the results of our planned course of training. Some of the graduates who have shown aptitude for teaching or research have won appointments on teaching hospitals and a few have become professors. The outstanding result, however, was that when the Canadian Armed Forces needed highly qualified young surgeons they were ready and were able to give our soldiers, sailors, and airmen a service that has hitherto been unsurpassed. And now with demobilization these officers are settling into civilian life and bringing to the Canadian people both in the cities and towns a quality of service of which their teachers are very proud.

This group which now has grown to seventy-five, has banded itself into a club which meets once a year to spend a day at the hospital where they were trained and to enjoy a clinical program and a dinner. To this gathering are brought all the trials and difficulties of practice and it is seldom that the trouble is so great that it cannot be solved. Through it

there has developed an excellent esprit de corps and a tradition which ensures that the general plan will long continue.

It is the opinion of this group that the young surgeon, recently certificated and accepted to Fellowship in one of the colleges should limit himself entirely to surgery or his particular specialty. At first it was thought that this could not be done and that a surgical practice could only be acquired through general work. It has been shown beyond a doubt, however, that this is wrong and that, on the contrary, it is the surest and quickest road to success. The explanation is that general practitioners are far more willing to refer surgical work to a specialist who is not in competition with them for general practice, than to another general practitioner. They do it, too, without asking a share of the fee, which is something on which to ponder.

In thinking over our experience of the past 18 years in this planned course of graduate training, I commend to your consideration the following suggestions:

First. In order that the student may acquire a satisfactory knowledge of anatomy, applied physiology, and applied physiological chemistry he should be provided with a planned curriculum of studies running concurrently with his apprenticeship.

Second. In order that he may be stimulated to engage in these studies earnestly and not perfunctorily he should be confronted with written and oral examinations.

Third. The awarding of a degree such as "Master of Surgery" to candidates who have shown a practical knowledge of the basic medical sciences and who have demonstrated to a

court of examiners skill in the art and science of surgery, gives a stimulus to the whole course. Gradually the tradition develops that the M.S. is more than a diploma won by examination but that it is a written guarantee that the holder is known to his teachers to be thoroughly qualified to practice his profession. Because of this fact the attainment of the degree is much desired.

I have taken long to tell you the story of our efforts in Toronto. As I said earlier, I have no notion that our plan is an ideal one or that better plans do not exist. At this time, however, when the College is engaged in a great campaign to provide an increased supply of qualified surgeons it may be helpful to those who will be engaged in organizing and administering somewhat similar plans, to hear of the difficulties and disappointments and the triumphs of a plan that has been in operation for 18 years.

The honor of being President of this great College throughout the whole of the European and Asiatic war has been far beyond my deserts. The last Clinical Congress took place in Boston just before Pearl Harbor and you elected me to the presidency in order that you might do honor to my country which was already deeply involved in war. Thank God, as allies, we came through safely together and can now turn our minds to the urgent problems of peace. Of these none is more important than the health of the people, and, as far as this College is concerned, than that each one of our citizens, be he in the heart of the city of New York or on the fringes of Arctic civilization, may be assured, in some way or another, of competent surgical care.