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Presidential Address

Education of the Surgeon in Diseases of the Colon and Rectum*

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IT SEEMS APPROPRIATE at this, the 68th annual meeting of our Society, to review some of the contributions that colon and rectal surgeons have made in the field of medical education, to analyze some of the changing concepts in medical education as they affect our specialty, and to offer suggestions that, hopefully, will elevate the standards of medical care of patients with diseases of the colon and rectum and improve the influence and the image of our group.

The American Proctologic Society can be proud of its contributions to medical education. Its contributions to the congress of the American College of Surgeons, regional meetings, and the American Medical Association have been well received. The postgraduate teaching seminars given by the University of Minnesota, the Cleveland Clinic, the Ford group, and the Lahey Clinic Foundation have been beneficial to many. The American Board of Colon and Rectal Surgery has been responsible for the high standards that have been maintained by its diplomates and for the development of training programs.

Much remains to be done. As of September 1, 1967, there were 306 active certified colon and rectal surgeons in the United States; from July 1, 1966, to June 30, 1967, only eight diplomates were certified. There were 14 training programs offering residencies in colon and rectal surgery in the years 1968 and 1969. These offered a total of 26 positions and, of these, three were not filled. Nine of these residents were graduates of United States or Canadian schools; 14 were foreign graduates.

Obviously we are not too well prepared for the tremendous demands that will be made on our specialty in the future. The government has guaranteed the best of medical care for every citizen in the United States. With our population growing rapidly, particularly in the number of older persons, there will be an increasing demand for specialists in all fields of medicine and surgery; group practice will increase; and with the increase in hospital complexes,

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more full-time salaried surgeons and internists will be required to staff these institutions. Certainly there will be a demand for more surgeons with special training in colon and rectal surgery.

The American Board of Colon and Rectal Surgery requires four years of a general surgical residency in an approved program plus one year of colon and rectal surgery or three years of general surgical training plus two years in our specialty. These requirements are among the highest of any of the surgical specialties, and nothing must be done to lower them or the high quality of medical care that our patients must receive.

Many articles on the subject of postgraduate surgical education have been published, particularly within the past year. Most of these have been prepared by members of the American Surgical Association or by the American College of Surgeons. I have reviewed 30 articles that have been published during the past two years and I have had personal contact with the chiefs of most of our residency training programs and with others interested in medical education.

Noer[7] discussed the problem of surgery in the undergraduate curriculum in the March-April *Bulletin of the American College of Surgeons* this year. This and other articles have repeatedly emphasized the importance of surgical training at the undergraduate level. Obviously, surgical techniques are problems for the postgraduate level, but I and many others are not satisfied that colon and rectal surgery has been given enough emphasis for undergraduates. Hanley[3] pointed out that only a third of undergraduates have any experience with the sigmoidoscope. I believe that a sigmoidoscope should be as important a part of the physician's armamentarium as the stethoscope, the vaginal speculum, or the ophthalmoscope. Familiarity with the use of this valuable diagnostic instrument cannot begin too soon. We are making progress, however, because last year, for the first time, a small number of undergraduates of the Harvard Medical School were referred to our group for limited training.

I believe our specialty has not done well in selling itself. If we are to attract more top-quality surgeons, exposure to colon and rectal surgery should begin at the undergraduate level. We have held ourselves too aloof from the academic and the general surgeon, the gastroenterologist, and possibly the radiologist and the pathologist. This attitude must be changed throughout our entire training program if we expect to meet the demands of the future.

One of the best articles on postgraduate training in surgery was the Presidential Address given by Creech[2] before the American Surgical Association in May 1967. He pointed out that the day of the so-called general surgeon is almost gone and emphasized that an increasing amount of surgery in the future will be performed by specialists. He and others have advocated a two- or three-year period of basic surgical training for all the subspecialties, except perhaps ophthalmology. I have always agreed with this attitude. I believe, however, that the present one year of internship plus four years of general surgical training could be lessened by at least one year if the general surgical training programs were properly organized. Few of our general surgical training programs devote sufficient attention to anorectal surgery and endoscopic examinations.

My experience at the Lahey Clinic may be of interest to you. We have a sufficient volume of work, 800 surgical procedures and 7,500 proctosigmoidoscopic examinations annually, to occupy the time and furnish the clinical material for three residents. Most residents come to us after completing four years of surgical training and are ready for board certification in general surgery. In most instances we have been satisfied with the one year's

training that we provide. For one year we filled these three positions with candidates for the board examinations in colon and rectal surgery, and we were dissatisfied. We soon found that we were almost completely isolated from the general surgeons and gastroenterologists and were actually conducting a group within a group. This is not in the best interest of group practice. Subsequently, we have not had more than two residents in our colon and rectal surgical program and have allowed one of our general surgical residents to rotate through our service for a few months at a time. This has served two purposes: First, it has improved the surgical training of those general surgeons who plan to perform colon and rectal surgery upon completion of training. Let us not forget that at present by far the greatest numbers of surgical operations on the colon are performed by general surgeons and probably will continue to be in the forseeable future. Second, association with the general surgical residents has attracted many to our field and has produced a number of our best colon and rectal trainees.

Another recent development that has interested me has been the experience of McAdams[6] of Pittsburgh; he informed me that one of the general surgical services in his area was sending him residents for three-month periods as part of their general surgical training. He believed that this plan had been reasonably successful; he was not satisfied that this was sufficient time to provide for the assumption of much responsibility, but it was certainly a worthwhile addition to their general surgical training.

Recently we have been contacted by a director of one of the leading surgical training programs in the country, requesting that we furnish a similar service for their general surgical program. Soon they will send us two of their third-year men for a few months. We have also encountered two men recently who have taken one full year of colon and rectal surgical training during their four-year general surgical service and have become interested in confining their work to colon and rectal surgery when they have completed the senior year of general surgical residency. These are all steps in the right direction and should be encouraged. I am in complete agreement with Dr. Hanley, the present Secretary of our board, who believes that credit should not be given by our board for training in colon and rectal surgery received before completion of the general surgical residency.

When the number of years required to meet our specialty board requirements is considered, I wish we did not have to be quite so rigid. Creech emphasized something that I believe very strongly—that the educational institution should appraise its trainees first and they should not be allowed to appear before any board until that institution is satisfied that they have been prepared sufficiently to meet the requirements of the board. The time required to train surgeons varies. Some may become capable colon and rectal surgeons after one year; many may need two years of training. I would like to see the basic surgical training period reduced to three years, perhaps by providing the internship in the medical school and allotting an average of two years to specialty training in colon and rectal surgery. Jackman[4] believes a total of four years should be adequate. Bacon[1] insists on a minimum of two years in colon and rectal surgery, and Turnbull and Weakley[9] prefer two years.

On November 2, 1968, John Knowles,[5] Director of the Massachusetts General Hospital, presented a paper before a meeting of the Association of the American Medical Colleges in Houston, Texas, on the quantity and quality of medical manpower. He mentioned that neither the American Board of Colon and Rectal Surgery nor the American Proctologic Society had ever made a study of manpower

shortages in our field. This is correct as far as I know. Such a study probably would be beneficial. However, John Paul North,[8] Director of the American College of Surgeons, has just confirmed, in a personal communication, my impression that such a survey has been made by the American College of Surgeons. In 1962 a questionnaire was sent to all fellows of the College in which one question asked was: "In your community, do you think there are too many, just enough, or too few proctologists?" Of those who replied, 22 per cent thought that there were too few proctologists. Five per cent thought there were too many, which obviously is not of much help in the overall picture, but, as he points out, what is significant is that 22 per cent, including a large number of general surgeons who do not recognize proctology as a specialty, thought they needed more proctologists in their community. The survey also showed that there were fewer certified proctologists than surgeons in any other specialty.

Knowles also pointed out that everyone was aware of the controversy between the American Board of Colon and Rectal Surgery and the American Board of Surgery over who should perform colon surgery. This so-called power struggle has never disturbed me. In our multispecialty group, we have found that when a basically well-trained general surgeon has more and more confined his work to a single surgical subspecialty, the volume of his work has increased and the quality of his surgical operations has improved. I believe that if our colon and rectal surgeons perform better colon and rectal surgery than the general surgeons, the problem will solve itself.

One other suggestion that was discussed by Creech and others is the possibility of using nonprofessional personnel, not as assistant surgeons, but as members of the surgical team involved in the complete care of the patient, performing endoscopic examinations, for example. I can see two objections to this: A young man coming along with increasing living expenses and raising a family must have a future. I am not at all certain that we can offer him much in this limited field. Furthermore, I would not be willing to have proctosigmoidoscopic examinations performed by nonprofessional personnel. Perhaps this will come about in the future because of the shortage of doctors, but I hope I will have retired before this happens.

Now, how can we find the best candidates for our training programs? I have already discussed this, in part. The best prospects are already engaged in the best of our general surgical training programs. Our involvement in these programs should be increased for this reason.

I realize this is a controversial subject, but a special word should be said about foreign applicants. Many of our applicants have been graduates of foreign medical schools. Some of the best residents in the training program at the Lahey Clinic Foundation have been foreign graduates. However, many have presented problems. Some have not had adequate training, and some have had financial, emotional, and family problems that have been serious. I believe much of the fault has been our own in that these applicants have not been screened properly. First and most important is adequate basic training in English. It is impossible to give a physician a good education in any of the specialties if he cannot read, speak, and think intelligently in English. The Kellogg Foundation, for some years, has had an interesting program. Most, if not all, of their young surgeons who come from the Central American republics have initially been assigned to the University of Michigan. These men work in the university hospital in a special program until they can meet English and other requirements; this may require three to nine months. They then are sent to various training centers where their prog-

ress is carefully followed. Our experience with these men has been excellent. Second, personal interviews frequently are not possible. However, I have learned that through friends, medical schools, deans, professors of surgery known to us, the American embassies, and other channels, a fairly adequate assessment of the background of a young surgeon can be made. The American College of Surgeons can be of considerable help in such an investigation through their members in foreign countries.

What should the stipend of these men be? I have always believed that slave labor has no part in medical education. We have been able to upgrade our salary scale at the clinic so that now the majority of men in the advanced training programs are being paid almost enough. At present the stipend is $9,000 annually plus some ancillary benefits. Even this is not adequate and presents a serious problem for those in our group confined to private practice because we have had to carry the tremendous burden of expense in education from our own earnings. We have had little assistance from third-party carriers and hospitals. We are making every effort to obtain funds that can be devoted to education and research and to develop our hospitals so that the entire expense of education can be spread over a broader base and not be taken from the income derived from patient care.

How much responsibility can be given to residents at a private clinic such as ours where there are no service patients? This obviously cannot be stated arbitrarily. Some will develop more rapidly than others, and some have had more extensive surgical backgrounds than others. We firmly believe in the "team approach," and our patients accept it. I introduce my residents to new patients as early as possible and I inform them, "Dr. X will be helping me in taking care of you; he is a member of the team and a very important one." Much of the technical surgery, particularly in the anorectal field, can be performed, with certain limitations, by residents who have developed sufficiently. I am firmly convinced that the chief of the training program or some other qualified surgeon should participate in all surgical procedures of any magnitude, and even for minor procedures he should be in the vicinity at the time of operation. This also has been accepted by our private patients.

During the days of Lahey, Cattell, Marshall, and others, the majority of our surgical patients were examined and usually the diagnosis was established either by our general medical department or by our department of gastroenterology. I have altered this plan somewhat on my own service, and I am certain it has been for the better. In most situations, I prefer that my residents organize and carry out the preoperative investigations under my supervision and, when necessary, in conjunction with an internist or a gastroenterologist. The resident must study preoperative x-rays with the radiologist, review all surgical specimens, both gross and microscopic, with the pathologist, and be present at all consultations with other specialists when required. There may be some argument as to whether the colon and rectal surgeon should serve merely as a consultant, and this situation arises for many who have gone into practice. However, I think it is important, not only from the standpoint of preoperative examinations, but for postoperative care, that the resident be given as much responsibility as possible. He should write the orders, dictate the operative notes, the discharge summaries, and some of the discharge letters to referring physicians. These are fundamental in a good surgical education.

In our group we receive every cooperation from the specialty services. The diagnostic radiologists are never too busy to be interrupted for a few minutes by a

resident who requests a review of a particular patient's films. The pathologists are the same, and so are the gastroenterologists and internists. The only time we ever have any difficulty is when we have not asked for assistance when we should have or have ignored advice.

One of our problems has arisen when our patients are seen by more than one physician and the question arises who should bear the final responsibility. For the surgical patient it is the colon and rectal surgeon. Advice regarding diets, antibiotic agents, management of sepsis, kidney, cardiac, and lung complications can be requested, but the primary responsibility is that of the colon and rectal surgeon and his team.

Every week, in our organization, large numbers of informal and formal seminars, lectures, grand rounds, and other programs are coordinated by our Department of Medical Education. It is not possible or desirable for our colon and rectal residents to attend more than a small number of these. However, the director of education, if you are fortunate enough to have one, should carefully evaluate programs such as clinical pathologic conferences on ulcerative colitis, Crohn's disease, cancer of the bowel, and the many other subjects that apply to our field and see that the colon and rectal trainee attends these presentations. If you are not fortunate enough to have a director of education, the chief of the colon and rectal service should have this responsibility. A certain number of these presentations are made by our colon and rectal service, and we call in other specialists when we believe their presence and discussion would be helpful. If carefully planned, this can be organized into a well-rounded program. During the year we attempt to cover the entire field of colon and rectal surgery and its allied specialties.

Special mention should be made of the development of a stoma clinic by Dr. John Rowbotham at the New England Deaconess Hospital.* Our residents spend half a day each week in his clinic. It has been a valuable addition to our training program, and I am proud to say that two stoma clinics in other cities have already been organized by our former residents. You are all familiar with the pioneering work that Turnbull has done in this field. He and his associates are training nurses from all over the country in the care of the stoma patient.

Something should be said concerning basic and clinical research, publications, and the presentation of papers. With the limited time available to us for our educational program in colon and rectal surgery, I have found that little can be done in basic research. We have had one or two men who have been interested in projects before they came to us and intended to continue them after they left. We do have the laboratory facilities and personnel available for some basic research if a resident wants it, but I have not gone out of my way to encourage this. I feel differently about clinical research—studies of patients with bowel cancer, polyps, inflammatory diseases, and other conditions. This is very important in the training program and I insist that several such studies be done by each of our residents. Sometimes it is not satisfactory, usually owing to lack of supervision on my part, but in recent years, it has been possible for all of our residents to publish a number of papers that have resulted from such studies. This is one of the surgical disciplines that should be considered most important in any training program.

Experience in public speaking is important; one of our residents has taken such a course at one of the local universities.

There are many other essential features of a training program that should be mentioned. In this day and age, most

* *Editor's note:* An article by Dr. Rowbotham, describing the clinic, appears on page 59 of this issue.

trainees should be familiar with computers. At the clinic, histories are computerized. Forms are filled out, in advance, by patients, and these are fed into a computer and summarized. This results in a tremendous saving in time if the data are programmed properly. Laboratory work is now ordered by profile and results are fed into computers. This has resulted in a considerable saving in expense. This past year one of my residents began, but probably will not be able to complete, a program for computerizing surgical notes. I still believe this can be done and I hope it will be developed one of these days. Many of our residents have had some experience with biostatistics, which also is an important field.

Whether or not our residents should be exposed to insurance problems, Blue Cross, Blue Shield, Medicare, Medicaid, and so forth, as a part of their training program is open to argument, but it appears that they should be exposed to some of these facts of life.

One subject that I did not mention is "the ancillary treatment of cancer." We have a large experimental program that has been going on for several years and is now quite well coordinated, utilizing the best of the technics of both supervoltage radiation therapy and chemotherapy. A resident should be exposed to these programs so that he can appreciate their limitations and be familiar with the technics involved.

This has not been intended to be a highly academic or scholarly presentation or a review of the entire subject of the education of the surgeon in diseases of the colon and rectum. Instead, it is meant to be a summary of some of the subjects that have appeared recently in medical literature and some of my personal views. My only regret is that I did not become seriously interested in this subject many years ago. Indeed, it has been one of the most gratifying experiences of my 40 years' experience in medicine. Sometimes it has been frustrating, and perhaps it has added a few gray hairs, but the fact that I have been able to assist a small number of fine young surgeons in increasing their interest and acquiring knowledge of our specialty has been most rewarding. I hope my remarks may inspire some of you to become interested in teaching and in educational programs and thereby assure that our specialty will be maintained at the proper level in the future.

I leave one last thought with you. I believe it is imperative that in all our training programs we maintain a close liaison with our general surgeons and the boards of colon and rectal and general surgery. If we produce, it can only result in improvement in the image and effectiveness of our specialty.

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