Presidential Address

Self-assessment and Self-education*

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THE AMERICAN SOCIETY OF Colon and Rectal Surgeons has a number of important functions. Certainly we enjoy being together with a group of people who engage in similar professional activities, to meet with old friends and with new ones. Another important function of the Society is that of representing our specialty and promoting recognition and status among collegial societies, before the public, and, if necessary, before governmental agencies. The Society is well represented nationally, with representation on the Council of Medical Specialty Societies, the American College of Surgeons, and its Advisory Council in Colon and Rectal Surgery, its Board of Governors, and its Continuing and Graduate Medical Education Committees. We are also represented in the American Medical Association through its Section on Colon and Rectal Surgery. We are represented on the American Board of Colon and Rectal Surgery and, indirectly through them, on the American Board of Surgery, on the Residency Review Committees, and on the American Board of Medical Specialties. Such widespread representation and recognition of our specialty would be impossible without a strong American Society of Colon and Rectal Surgeons. Both the social and representative functions of our Society are important and essential, but, in my opinion, the major reason for our existence lies in this Society's absolute commitment to quality continuing medical education. The Annual Scientific Session which you are now attending is designed totally as an educational experience; the original papers, the symposia, the scientific exhibits, the postgraduate courses all have been assembled for the singular purpose of fulfilling that commitment.

Additionally, this Society sponsors *Diseases of the Colon & Rectum,* an excellent Journal devoted solely to our specialty. Regular and conscientious reading of this publication is truly an educational experience, and this Journal is provided to you without cost as a member of this Society. Less well known and appreciated is the Society's sponsorship of educational programs for category 1 CME credit in the various regional colon and rectal surgical societies.

Because of this Society's representation and participation on the Advisory Council for Colon and Rectal Surgery of the American College of Surgeons, movies, scientific exhibits, symposia, and postgraduate courses in our specialty have become an integral and ever more popular part of the Annual Clinical Congress of the American College of Surgeons.

This Society has not stood still in promoting newer educational and evaluation techniques. Recognizing that scientific programs and journals may, at times, fall short as educational tools, our Council mandated a Self-Assessment Program and, in 1973, the first examination was given to our membership. The questions which self-assessment uniquely addresses are:

1. Individually, what does the examinee know or not know?
2. Where does he or she rank amongst colleagues of similar age, training, and experience?
3. Collectively, what areas of knowledge particular to our specialty are not understood as well as they should be?

Having served on the Self-Assessment Committee for nine years and knowing something of its origins and history, its successes, its failures, and its progress, I would like to spend the next few minutes discussing

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with you how and why the Program exists and what it has accomplished as an educational tool.

Historically, many of the Self-Assessment Programs now considered essential in the educational plans of most medical and surgical specialties owe their origin to the enthusiasm and encouragement of Dr. Edward Rosenow, then the Executive Director of the American College of Physicians. In exploring additional means of improving postgraduate educational opportunities for members of the American College of Physicians, he felt that postgraduate courses were often planned by teachers with little orientation to the needs of the learner. Did, in fact, such programs present information that was or was not known to the attendees? Was the information presented merely interesting to know or was it really important to know? Was passive learning, as exemplified by sitting and listening to lectures and panels, an efficient learning environment? Was it possible to assess the current state of one's knowledge by the regularly used teaching tools?

In answering these questions, it became obvious that what was needed was an educational technique which would help the physician himself to determine what he did or did not know. Such an exercise would allow self-assessment, and implied in this quest for self-assessment was the absolute commitment to self-improvement or self-education, once self-assessment was established. With the help of the National Board of Medical Examiners and at great expense to the American College of Physicians, the Medical Knowledge Self-Assessment Program was developed which, to this day, provides an important part of the teaching program of this group. Following its successful introduction in February 1970, the Board of Regents of the American College of Surgeons also established a committee for the preparation of a surgical-knowledge self-assessment program; in June 1970, the Committee met under the chairmanship of Dr. James Maloney, Jr. This group, at very great expense, was assisted by the National Board of Medical Examiners and by Dr. Rosenow.

The examination under the present name of the Surgical Education and Self-Assessment Program (SESAP) was first available in the Fall of 1971, and the computer scoring aspect ended three months later on December 31, 1971, with approximately 9000 surgeons partaking of the Program. The excellent response was due in part to a planned publicity program assuring anonymity and confidentiality and also to veiled inferences of eventual governmental interposition if self-assessment were not voluntarily carried out.

In an effort to provide reassurance to the surgeon and, therefore, better acceptance, the Program was referred to as an exercise rather than an examination. In addition, the Program provided for an open-book option if so desired. A bonded, nonmedical agency was hired to keep individual scores from the hands of either the American College of Surgeons or the National Board of Medical Examiners. (I am not raising these points to belittle this approach. I sincerely believe that in order to achieve acceptance in sufficient numbers to be meaningful, it was necessary to resort to numerous preexercise assurances.) I am not going to enter further into the mechanics of the SESAP test except to state that it was an exercise performed at the physician's option and consisted of 750 clinically oriented questions covering nine broad fields of general surgery. There was no passing or failing grade, and the evaluation was particularly oriented as to how the subject scored in relation to his peers and in relation to specific areas of subject matter: (1) cardiovascular and respiratory, (2) musculoskeletal and neurosurgery, (3) skin, breast, and burns, (4) gastrointestinal, (5) genital–urinary and gynecology, (6) metabolism, shock and endocrine, (7) head, neck, ear, nose, throat, and eye, (8) cancer, and (9) trauma. The cost of preparing, giving, and grading these examinations averaged well over one million dollars for each of the four tests presented.

Our Society, as specialty organizations go, is a very small one, numbering about 1200 members. We have neither the finances, manpower, nor other resources which are available to the American College of Surgeons. Knowing this, but keenly interested in continuing education, the Council of our Society encouraged its membership to participate in the American College of Surgeons' examination but recognized the following limitations with regard to meaningful participation by the majority of our members.

1. Ten years ago, a significant percentage of our members were also members of the American College of Surgeons, but there was a far larger group that was not.
2. At that time, our membership had a moderately larger group, about 25 per cent who limited their work to anorectal surgery and, therefore, were not routinely exposed to the vastness of subject matter present in the College's examination, in the nine categories previously listed.
3. Although the Section on Colon and Rectal Surgery was and is an active one in the American College of Surgeons, no representative from our section was appointed to their Examination Committee. This Committee was responsbile for the compilation of appropriate questions in all categories, including gastroenterology and cancer, which contained essentially all the questions on colon and rectal diseases. (As a very pleasant aside, nine years later this oversight has been corrected, and our specialty now has representation on the American College SESAP Examination Committee.)

In short, the ACS Program would not attract a worthwhile number of participants from our Society. It would, therefore, be inadequate for the educational goals envisioned for this group. As an examination, despite its obvious value, it could not provide the peer-evaluation value of such a program for our specialty. Concerned by these considerations and prodded by a suspicion that if the Society did not, on its own, set up such a program, one day another agency, probably governmental, would do so, the American Society of Colon and Rectal Surgeons established a committee responsible for both peer review and self-assessment for its membership. Peer review was considered in early 1972 to be of less importance, and the energies of the committee at that time were expended solely toward the development of a self-assessment examination. The purpose of this program was to offer a mechanism by which a participant could assess his surgical progress, define his deficiencies, and thereby correct them, and at the same time allow him to note his position among his peers. Moreover, such a program could pinpoint subject matter for continuing educational programs which would be determined by these deficiencies.

At this point, I would like to quote from a paper presented by Dr. Rosenow to the Continuing Medical Education Section of the Association of American Medical Colleges in October of 1968. In speaking candidly of the planning of the self-assessment examination, he wrote:

> Certain premises were assumed to be true. The first and most important premise is that physicians want to learn and to improve their skill. Second, they would like to know their own deficiencies provided that no one else knows them. Finally, most physicians have varying paranoid feelings and need careful reassurance. The following features seemed to be desirable: (1) The test should be voluntary. (2) The test should be available at the convenience of the physician as to both time and place. (3) Confidentiality must be assured. (4) No grades, even on a group basis, would be recorded.[1]

I do not know how many of our Committee members were familiar with Dr. Rosenow's paper at our first meeting, but we quickly came to similar conclusions, although subsequently it became necessary to modify some of the more desirable features. Our Committee was well aware of severe financial limitations. We were restricted to a small fraction of the amounts spent on other examinations and, therefore, we ruled out consultation with the National Board of Medical Examiners and with computer resources and various bonded agencies. We also ruled out pay for the Committee. These financial restrictions also helped to focus on presenting the examination in one form and at one time, the form being an objective self-graded examination, and the time and place, in assembly at the Annual Meeting of the American Society of Colon and Rectal Surgeons in Detroit on June 12, 1973.

Since the 1973 examination, biennial examinations have been given in 1975, 1977, 1979, and 1981. More recently, in the intervening years, the Committee has presented a "give and take" critique of the previous examinations at which time questions that were poorly constructed or poorly conceived and poorly answered were discussed. In the two accrediting agencies which evaluate our Society's Clinical Program for continuing medical education credits, this feature of an examination given one year, followed by discussion of the examination in the following year, is considered to be unique, innovative, and highly valued as an educational exercise.

From the time the Committee first met in 1972 until the examination was completed, hundreds of man hours were devoted to devising questions in all areas of our specialty. It is impossible to appreciate the effort that was expended in such an endeavor without having actively participated. Members of the Committee who at that time were also members of the American Board of Colon and Rectal Surgery did not allow the use of previous Board questions. Neither were appropriate questions from the American College SESAP examination available. The questions were of two types: there were 30 type A or single best answer questions and 70 type K with five choices of multiple combinations of right answers. The latter, incidentally, were thought to be very difficult for older examinees who had never encountered this type of question. Therefore, a number of sample questions was sent to the membership on several occasions in order to familiarize everyone with the mechanics of the exercise.

The Committee decided arbitrarily on a 100-question three-hour examination to be taken voluntarily during a period of time usually set aside for postgraduate training courses. Several letters restating the reassurances from the Society to its membership were sent during the year prior to the examination. To be of any educational value, it was originally felt that the questions, answers and references should be available after the examination but, because of the initial difficulty in compiling questions and because of the desire not to lose a hundred good questions from each future examination, a mechanism was worked out by which the questions were retained. This created much frustration and negative comment from the participants.

What was the outcome of this exercise? In an effort aimed at excellence in their SESAP Program, the American College of Surgeons aimed for the highest level of professional knowledge available for their

program. They felt that the testing of medical knowledge was a unique science which had reached a high level of development in the last several decades and that the Fellows of the College were fortunate in having the participation of the National Board of Medical Examiners in their Program. The staff of the National Board of Medical Examiners is composed of physicians, medical educators, psychometricians, and editors, with the backup of appropriate computer technology. Our committee lacked all of the foregoing. We had very little idea of the validity of the examination in terms of whether or not it measured what we wanted to measure. We now have had five examinations to evaluate. The following are some conclusions based on acceptance, results, reliability, success, and failures of this examination:

1. Acceptance by the membership was and remains enthusiastic. There is a distinct impression that the biennial examination is appreciated by the great majority of members attending. It is approached seriously and provides and promotes peer discussion in the postexamination period. It was not unusual for the Committee to receive comments and critiques and, indeed, viable vocal and well-thought-out arguments demonstrating the stupidity of some of our questions and answers.
2. Lacking the expertise of professional-examination drafters, the Committee was unable to fully appreciate whether the questions were reliable and whether they tested that aspect of knowledge that they were designed to test.
3. Lacking the expertise of professional statisticians, the committee was unable to fully evaluate scores either as basic raw data or as curved refined data.
4. Consistent throughout all the examinations was the impression that doubly boarded examinees performed best—residents and singly boarded less so. Those limiting their work to anorectal diseases scored the lowest, and this was felt to be quite understandable since many colon and rectal questions were based on, not only colonic disease, but on fluid and electrolyte balance, hyperalimentation, chemotherapy, etc., subjects not generally related to competency in anorectal surgery.
5. Those general surgeons who attended our meetings and took the examination generally scored well on colon topics but did very poorly on anorectal disease and its management.
6. The highest scores were in the 30-to-39-year age group, with drops in performance with each ten-year increment in age.
7. Until the 1981 test, it was believed that there was probably no correlation or validity in changes in raw scores over the first four examinations. Some questions were repeated time and time again and, disappointingly, were missed as frequently. It was impossible to decide whether the questions were poorly constructed or whether the examinees had inadequately performed their postexamination homework. The clear and oft-stated purpose of the examination is not only self-assessment but self-education. It was hoped that the examination would provide stimulation for postexamination home study which would be reflected in improved scores. Generally, this did not prove to be the case.
8. Two years ago, after a monumental effort by the Self-Assessment Committee, a study syllabus containing questions, answers, references, and critiques was published and made available for home study prior to the 1981 examination. Statistical evaluation of the 1981 examination revealed that those who received and studied the syllabus scored significantly higher than those who did not. This improvement was the first significant exchange in scores noted over the four previous examinations. Certainly, some of the improvement was related to the similarity of some of the questions appearing on both the examination and in the syllabus, but the Committee believes that learning took place if the syllabus was thoroughly studied and that this learning reflected itself in higher examination scores.
9. Efficient learning is not a passive exercise. If one passively takes the examination (or passively attends the scientific sessions or the postgraduate courses) but does not follow up with active reinforcing study, minimal learning will occur.

Well, so much for the discussion of continuing medical education. Happily our Society has had the good fortune to have as members a large group of skilled volunteer workers who willingly write and present scientific papers, appear on symposia, teach colorectal electives, publish a Journal, prepare self-assessment examinations, and develop home courses.

Is it worth it? Personally, I believe that continuing quality medical education is as absolute a necessity for the professional life and well-being of the physician as is food and oxygen for his physical well-being. There is no other profession that demands as much steadfast and uninterrupted learning as does ours. If this process is discontinued, death results—not of our physical life, but of everything else essential to the very basic justification for our professional existence; that is, for the promotion, maintenance and delivery of the highest quality medical and surgical care for our patients. Continuing education for us is the very staff of life.

Because the members of this Society also hold these beliefs, they have always enthusiastically supported all efforts at maintaining the high standards of our educational projects. For this reason, we should congratulate each other for our past accomplishments and yet actively strive for continued excellence in our future educational programs.

Reference

1. Rosenow EC Jr. The medical knowledge self-assessment program. J Med Educ 1969;44:706–8.