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Education in Trauma

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I AM DEEPLY CONSCIOUS of the honor that I have in being privileged to deliver the twenty-fifth annual Oration on Trauma. As I review the list* of my illustrious predecessors, a list studded with names that have come to represent milestones in modern surgery, I am so sensible of my own inadequacy that my humility is, perhaps, equaled only by my temerity in venturing to speak to you about a subject that has remained a matter of abiding concern to the American College of Surgeons for many years. Out of this concern, the American College of Surgeons in 1922 formed a Committee on the Treatment of Fractures, to be tempered by a prevailing surgical consensus aptly epitomized by the blunt pronouncement of the late Dr. Charles L. Scudder that "the results of fracture treatment in the United States and Canada are deplorably bad."

Thirty-five years have passed, years during which medical science may have advanced as much as in all preceding time. Any early doubts about the usefulness or necessity of a committee charged with promotion of better care of the injured were quickly and dramatically dispelled by a growth of the original committee of 18 members into the far-flung organization now known as the Committee on Trauma, with 202 regional committees and an active membership of nearly 3,000 general surgeons and surgical specialists. This large group, representing approximately 15 per cent of the total membership of the American College of Surgeons, has toiled unremittingly in one way or another to improve the standards of treatment; not for fractures alone but, in recent years, for every form of trauma. It was not without some justification that Dr. Frederic W. Bancroft once described the activities of the Committee on Trauma, for which he did such yeoman service, as the greatest project in postgraduate medical education in the world.

In a recent publication Dr. William L. Estes, Jr., now president of the American College of Surgeons, reported, "It has been said that the successful activities of the Fracture Committee have constituted the greatest contribution made by the American College of Surgeons to the American public and to the medical profession." An illustrious past president of the College, Dr. Frederick A. Coller, has said "The Fracture Committee (now the Committee on Trauma) has done as much to help the injured as any other influence in modern surgery has done." Both these men know whereof they speak and neither is given to platitudes. The American College of Surgeons may be justly proud of its contributions to the surgery of trauma. Similar and concerted attention to the problems of trauma by all surgical educational and regulatory bodies during the past three decades would undoubtedly have saved more lives and prevented more cripples than many of the more spectacular medical discoveries of our time.

But, this is not the case. On the contrary, it is a matter of wide agreement that standards for the treatment of trauma remain at a level lower than in any other branch of surgery. The significance of this situation assumes more serious proportions when considered in the broad context and perspective of the over-all advances in medical science; the extracurricular indoctrination of the present generation of surgeons in the treatment of trauma, which resulted from active war service; and, the probability that the results of trauma continue to fill more civilian surgical beds than any other condition, excepting cancer. It would be trite to remind a gathering of surgeons that the ten million annual civilian casualties of accidental injuries dwarf those of any war; but, the fantastic cost of this continuing epidemic in terms of physical and mental suffering, to say nothing of an annual cost of ten billion dollars in the United States alone, cries for profound meditation concerning a more adequate program for the education of future gen-

*Directory of the American College of Surgeons, 1956, p. 606.

The Oration on Trauma

THE ACCOMPANYING Oration on Trauma was presented by Dr. Harrison L. McLaughlin at the Clinical Congress, American College of Surgeons, Atlantic City, New Jersey, on October 17, 1957. Dr. McLaughlin is professor of clinical orthopedic surgery at Columbia University College of Physicians and Surgeons, New York; director of the Fracture Service, Columbia-Presbyterian Hospital; and consulting surgeon at a number of suburban institutions. He was elected to membership on the A.C.S. Committee on Trauma in 1948, and is presently its vice chairman.

erations of surgeons which, it is to be hoped, will not be supplemented by practical experiences in the care of battle casualties.

Therefore, it is high time for the surgical profession to hold an accounting of its stewardship of the trauma problem. The Armed Services are entitled to young doctors who have been prepared adequately to treat the injured. Industry is entitled to speculate about the value of services received for an annual bill for industrial accidents equal to 50 dollars for every wage earner in the United States, and organized labor is entitled to scrutinize the quality of care rendered to the injured workman. Public appreciation of the impact of trauma upon the social and economic structure of our society is but a matter of time, and will most certainly be reflected in public insistence upon the best possible care of the injured. This insistence could take many forms, few of which would be palatable to a profession which heretofore has remained in control of its own destiny; and, once imposed from without, it is unlikely that regulatory measures would be altered substantially by arguments that they were, in the long run, detrimental to the public welfare. The alternative is for those who teach and practice surgery to anticipate the ultimatum of public opinion, and there are more than a few indications that little time remains.

Quality of Care Up to Teachers

Certain fundamental facts of surgical life must be kept in clear focus if standards for the treatment of trauma are to be elevated. Treatment of the injured has been and will remain in the hands of the general practitioner. The general surgeon steadily has become less and less general, and the surgical specialist more and more specialized. There can be no specialist or specialty for the surgery of trauma, for the results of injury flout, with consummate scorn, the man-made boundaries of all divisions of surgery. Most important of all is that the quality of care rendered to the injured of the future depends not upon the medical students and residents of today, but upon their teachers.

Well-trained surgeons and surgical specialists are available for only a small fraction of 10 million annual civilian injuries. Virtually all injuries are treated, at least in part, by a general practitioner whose knowledge of trauma stems mainly from experience, and whatever instruction he absorbed as an undergraduate medical student and as an intern. Undergraduate instruction in trauma has been woefully inadequate, and a recent study by the Committee on Trauma made abundantly clear that the immediate cause for this deplorable situation was neither a lack of time nor a shortage of clinical material for the teaching of trauma, but rather a veritable repudiation of responsibility by surgical educators, consistently reflected in a casual and haphazard presentation of the problems of trauma. Usually the injured patient was divided up into as many parts as there were specialties, each of which then proceeded on its own pedagogical way, more or less oblivious of the others. Integration of the basic sciences with the problems of trauma, or coordination of instruction between the clinical divisions of surgery was the exception rather than the rule. It seemed logical to conclude that this outmoded, multiple watertight compartment system of instruction reflected, in some degree, a similarly outmoded therapeutic approach to trauma by many surgical educators.

Some dichotomy of authority is mandatory to undergraduate instruction by all divisions of surgery, but in a subject as broad as trauma, which may implicate every surgical specialty in a single patient, the over-all teaching program must be co-ordinated. Otherwise, there is a great danger that young men will continue to graduate from medical schools with every compartment so filled with knowledge that little room remains for development of the intangibles that mark the character of a real doctor; and replete with a chaos of information about trauma which was derived from many sources, but never integrated into a workable pattern. An adequate program for integration of instruction by various services can be developed and supervised by any member of a medical school faculty; but, the ultimate responsibility for undergraduate instruction in trauma, which involves all divisions of surgery, should remain an obligation of the director of the service of general surgery.

That this obligation has not been satisfied was brought into sharp focus by the lack of knowledge concerning even the fundamentals of trauma displayed by young doctors inducted into the Armed Services. In 1952 the Association of American Medical Colleges, in conjunction with representatives of the Armed Services, took formal notice of the inadequacy of undergraduate instruction in trauma. The program, Medical Education for National Defense, was activated under the auspices of the Department of Defense, with Dr. James R.

Dr. Harrison L. McLaughlin (left) is seen here with Dr. Preston A. Wade who, as chairman of Committee on Trauma, presented him when he made Oration.

Schofield as national co-ordinator. In essence, this project was charged with the promotion of interest in, and integration and co-ordination of undergraduate instruction in trauma. At the present time 45 medical schools in the United States participate voluntarily in this program. Obvious and gratifying improvements in undergraduate instruction in trauma have been accomplished in these schools, without increased time demands upon their curricula or infringement upon the prerogatives of their faculties. The projected participation of 10 additional medical schools each year promises that, within the foreseeable future, undergraduate instruction in trauma will gain a place in medical education commensurate with its importance. But, is it not ironical that millions of dollars have been and will continue to be expended to implant in our medical schools what in some circles would be called lobbies, in this effort to persuade medical educators to do what they should have done long ago?

During the past 35 years the jurisdiction of the general surgeon has been attenuated steadily by the birth and growth of the surgical specialties. This is as it should be, for the scope of surgery has expanded until no longer can it be mastered completely by more than a few exceptional surgeons. Nevertheless, it is as natural for the general surgeon to resist each new pre-emption of authority by the specialist, as it is impossible for the specialist to desist from frequent forays into the greener fields across the existing boundaries of his own bailiwick. These are healthy impulses that will insure an eventual division of labor predicated solely upon competence. But meanwhile, the lure of collective aggrandizement sows the seed for jurisdictional bickerings in fertile soil, from which already has sprung the fantasy that certain conditions of trauma must be treated by one type of surgeon, and may not be treated by another, regardless of the competence of either. Out of such a welter of fearful and selfish interests in this academic tower of Babel may well arise a series of dilemmas from which the profession will not escape unscathed.

Nowhere is this contentious atmosphere more evident than in the surgery of trauma, and especially in the field of fractures. Paradoxically, those who contend most vehemently that trauma problems must remain prerogatives of general surgery have in large part defaulted, and with some exceptions, relinquished to the specialities their former leadership in teaching and training in trauma. That the surgery of trauma is the practice of surgery in its most general sense is obvious, but it is equally clear that many types of trauma have become more and more the accepted responsibility of the specialist; indeed, they have become of no small moment to his survival.

Subversion by Small Cold Wars

This then is the stalemate that has promoted petty jealousies and intransigent bigotries, even in high places, and perpetuated a series of small cold wars which have done so much to subvert the quality of teaching, training, and practice in the surgery of trauma. Before it can be resolved it must be conceded on the one hand that in selected fields of trauma the specialties are no longer satellites but equals; and on the other, that coincident with a specialized approach to trauma there must be a broad enough training in surgery so that the young specialist will be something more than a technician skilled in the management of specific injuries. There must be bilateral recognition of common jurisdictional areas in which both the general and specialized surgeon will be called upon to cope with the pandemic ravages of trauma, and bilateral agreement that neither the general nor the specialized surgeon should be certified as such until he has been indoctrinated thoroughly in the fundamentals of all trauma, and has displayed a sound

comprehension of the specific problems to which his work will be dedicated.

Certification by examination following a prescribed training program has done much to elevate and maintain the standards of treatment in all branches of surgery. Perhaps it would not be amiss if all such surgical examinations were a little more searching about the common problems of trauma, and if, from time to time, the details of certain minimum training requirements were reviewed and reconciled more precisely with the constant changes and evolution of modern practice. These simple measures rapidly might obviate the irresponsible concept that trauma may be considered subordinate to all other phases of a surgical graduate training program because "residents will be trained in trauma after induction into the Armed Forces." They would make it less likely for a young man to present himself for examination after five years of training in general surgery, fully versed in the disciplines of heroic procedures he might seldom or never be called upon to perform, but never having seen a Colles' fracture; or for a young man whose major work is to be in the care of motor-skeletal injuries to be certified as the ultimate authority in this field after only a nominal training period as a junior or assistant resident.

Undoubtedly all surgical certification bodies are aware of the existing defects in the field of trauma and acquiesce in their correction. The American Board of Surgery has paid more than lip service to this postulate by projecting measures to make more certain that the young general surgeon who treats trauma will do it well. But, it is improbable that any satisfactory solution of the over-all problem can result from unilateral action, or even from multiple but separate actions, for the surgery of trauma is a joint responsibility of all surgical certification boards.

Identical standards of performance by general surgeons and surgical specialists in common areas of trauma are not consonant with double standards of training. Ideally, the general surgeon should be as thoroughly versed as the specialist in whatever injuries he undertakes to treat, and the specialist should be not only fully conversant with the trauma problems of his limited field, but also sufficiently grounded in the fundamentals of trauma to all fields to recognize quickly the presence and portent of obscure or overt associated injuries.

Formulation of a scheme to make possible an approach to the foregoing ideal would require high echelon collaboration, characterized by a unanimous adherence to the end in view. Success might well depend upon a moderation of negotiations by some all-inclusive surgical body, devoid of any vested interests except a desire for improvement in the surgery of trauma. There is no surgical or-

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Symposium On Trauma

Participants in this session at the 1957 Congress were (left) *Dr. Preston A. Wade, New York, chairman;* (standing, left–right) *Drs. E. Stanley Crawford, Houston, Louis M. Rousselot, New York, Edward B. Schlesinger, New York;* (seated, left–right) *Dr. Jere W. Lord, Jr., New York, Colonel Joseph R. Shaeffer, Washington, and Dr. Frank B. Berry, Washington.*

tion 6 of the *Principles of Medical Ethics** by the Judicial Council. The contract offered by the hospital merely provides a procedure whereby the bill for two distinct services is sent patient.

"The Association has never recognized that radiology or pathology is divisible into professional and nonprofessional aspects. Pathology and radiology are the practice of medicine. They are to be practiced only by those qualified and licensed to perform them. Fees for that professional service are to be set, billed and collected by the doctor who actually performed the service. No provision is made in the contract providing who shall set the fee for the 'service.' It merely provides how the fee is to be divided and may put the physician in the position of having to set his fee for a professional service according to the wishes or dictates of the governing board of the hospital.

"The Judicial Council in a special report to the House of Delegates in June 1954 reiterated its opinion that separate bills should be submitted by physicians for the services they rendered to their patients. It recognized that some insurance companies demand a single bill. Even though a single bill might be demanded, the Judicial Council insisted that physicians should, however, seek separate remuneration for their services. It is to be doubted that the Judicial Council would approve of a joint bill of a hospital and a doctor, any more than joint bills of doctors.

"In another opinion of the Judicial Council, having to do with groups and clinics, the Council pointed out that an arbitrary 50-50 division of an amount received for services performed by physicians associated with one another in practice is not justifiable under the *Principles of Medical Ethics*. If for bookkeeping purposes a division of income according to percentage is desirable and warranted, such ratio must be in proportion to the services contributed by each doctor.

"An analogy seemingly would apply here. The contract provides for a 50-50 distribution but does not establish that the professional service of the doctor is equal to 50 per cent of the bill submitted. In other words the arrangement is arbitrary and the 50 per cent allotted to the doctor has no relation to the value of the professional service performed by the doctor.

"Sincerely,
Edwin J. Holman, Executive Secretary
Judicial Council, A.M.A."

*The reference is to the 1955 edition of the *Principles of Medical Ethics*, which were revised by action of the A.M.A. House of Delegates in June, 1957. However, the Judicial Council has stated that no opinion or report of the Council interpreting these basic principles which were in effect at the time of the revision has been rescinded by the adoption of the 1957 version.

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ganization more desirous of this objective, or more suited to the mantle of leadership, than the American College of Surgeons. In the College BULLETIN,* Dr. Paul R. Hawley pointed out that responsibility for failure to co-ordinate the potential of the American College of Surgeons and the surgical certification boards rested largely with the College, and he characterized this defection as a sin, subsequently attended by 20 years of penance. Might it not constitute some measure of atonement for the American College of Surgeons, which is already collaborating with individual surgical boards in a review of residency programs, also to participate in a resolution of this problem which is common to all surgical boards; and to contribute to the consummation of sound and uniformly acceptable standards of training in the neglected field of trauma, by accepting the responsibilities of leadership and liaison, and functioning as the catalyst so necessary in a formula which will be pregnant with highly volatile elements?

Sound standards of training would stimulate quickly the development of adequate training facilities. The era of an emergency ward or receiving room, chaotic with the indecisions and inadequacies of a junior resident, is drawing to a close; but, while this travesty on the practice of surgery has been the subject of a great deal of discussion, only a few far-sighted surgeons have implemented the measures necessary to eradicate the faults which they so easily and so often deplore. It would be difficult to overestimate the value to any hospital of a service for the care of trauma, backed by a competent staff and supervised, not in spirit but in the flesh, by mature residents from every surgical department, as a reward for the knowledge and judgment they have acquired, and not merely as an opportunity to wet their fingers in small procedures; a service where, in every branch of surgery,

*September-October, 1957, p. 291.

knowledge does not trickle uncertainly down a ladder but is transmitted directly from those who have it to those who need it; where residents from every division of surgery are exposed to all the problems of trauma; and, where decisions are made, rationalized, and implemented with dispatch. Such services as presently exist are few and far between, but they have proved their worth in values which are obvious to all who are willing to see, and they will serve admirably as models for the future.

That there is an obligation to train all surgeons to be proficient in the management of trauma is clear, but the responsibilities of those who are trained remain less well defined. Certainly they should be much more than skilled mechanics, and it would be unfortunate, indeed, if ever they overlooked their debt to the general practitioner, without whose support their own efforts would approach in futility those of the backfield on a football team without a forward line. The general practitioner must keep pace with developments in a field much more extensive than any branch of surgery. For many years a major objective of the Committee on Trauma has been to refresh his recollection of the principles, and help him keep abreast of developments in the surgery of trauma. If the benefits of a modern graduate training program in any branch of surgery can be assimilated without the coincident acquisition of a moral obligation to fulfill a similar function, individually within the community and collectively within the sphere of influence of existing surgical societies, who are the more to blame, the trainees or their preceptors?

Education in trauma is, of course, only a small facet in the over-all complex of medical education in a world where constant change and evolution are inevitable. By and large, the profession of surgery has succeeded in adapting most of its educational programs to changing conditions without any sacrifice of fundamental principles; but education in trauma, whether for want of a single strong sponsor or because too many part-time cooks have spoiled the broth, has been allowed to fall by the wayside. As is true of so many of the riddles confronting modern society, this neglected stepchild of surgery may be succored now, or imposed upon the next generation. The decision will be made by those who teach and practice surgery today.

At the present time the total annual spending on all higher education in the United States is a little over three billion dollars, less than one-third of the annual cost of accidental injuries. The President's Committee on Education Beyond the High School, in its second report released in August, 1957, concluded that higher education needed more of everything; but mainly, brains and money. Rehabilitation of the standards of education and training in trauma requires little except brains and co-operation. Surely the surgical profession with such an abundance of brains and such a great potential for co-operation can ill afford to decline such a challenge; so that before long there will come a time in medical history when the long-standing indictment by Dr. Scudder may be forever quashed by a reply that, "Today the results of treatment of the injured in the United States and Canada are consistently good."

Twenty Movies Receive Honors

(*Continued from page* 15)

Temple, Texas; *Choledochojejunostomy for Restoration of Biliary Drainage*, by Dr. Charles G. Child III, Boston; *Elective Cardiac Arrest in Open Heart Surgery*, by Drs. Donald B. Effler and Laurence K. Groves, Cleveland; and *Bile in the Etiology of Acute Pancreatitis*, by Drs. Dan W. Elliott and Robert H. Albertin, of Columbus.

Other films in this third group were *The Mitral Valve—Dynamic Pathology and Surgery*, by Drs. Robert P. Glover, Julio C. Davila, and Robert G. Trout, Phildelphia; *Emergency Surgery of the Acutely Injured*, Dr. James D. Hardy, Jackson; *Vaginal and Abdominal Hysterectomy*, Mr. W. Hawksworth, Oxford, England; *Closure of Interventricular Septal Defect with Induced Cardiac Arrest*, Drs. Conrad R. Lam, Thomas Gahagan, Charles Sergeant, and Edward Green, Detroit; and *The Anatomical Correction of Tetralogy of Fallot Defects Under Direct Vision, Utilizing the Pump-Oxygenator*, Drs. C. Walton Lillehei, Richard A. DeWall, Herbert E. Warden, and Richard L. Varco, Minneapolis.

Technic for Repair of Sliding and Paraesophageal Hiatal Hernia, by Dr. John L. Madden, New York, *Coarctation of the Aorta*, Dr. Earle B. Mahoney, Rochester, New York; *Indications and Technique of Right Hepatectomy*, Dr. John T. Reynolds, Chicago; *Congenital Atresia of the Esophagus*, Drs. William L. Riker, Arthur DeBoer, and Willis J. Potts, Chicago; and *Reconstruction of Bronchus with Dermal Graft*, Dr. Watts R. Webb, Jackson.