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Presidential Address

Profile of thoracic surgery from the sidelines

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It is a great honor to be asked to serve as president of the American Association for Thoracic Surgery. I can remember distinctly receiving the phone call from a former president, Donald Paulson, 2 years ago when the presidency of this Association was in New York City. I was at the time yet somewhat concerned, because I recognized by the time I would assume office, I would no longer be in active practice as a thoracic surgeon. I discussed these concerns to Dr. Paulson, but using his direct managerial technique, he said simply that it had been decided and would I please come to New York City immediately. Unfortunately, I was the only member of the faculty in San Francisco, since two younger members of the faculty had papers on the program and the other two had all coerced a way to attend and serve as authors of the presentations. Thus I still feel embarrassed by not having been present at the time of the nomination. Also, I have recognized that many others could easily fill the requirements and very likely more than I equally deserve the recognition this Association has bestowed on the presidency. In addition, I wish to emphasize my gratitude to my former mentors, who are distinguished surgeons and have served as such exemplary role models; to the residents with whom I have had the opportunity to associate throughout my career in

thoracic surgery; and to all of my colleagues from whom I continue to learn. I will not attempt to recognize these persons individually but know they will understand my gratitude and appreciation.

One is faced with the difficult dilemma of knowing what type of address to present to such a distinguished audience. I believe my colleague, friend, and last year's president, Dr. Norman Shumway, had the best idea when he suggested that last year's presidential address should be the final address. I supported this recommendation at the fall Council meeting and suggested that two additional scientific papers be added instead. So the fault of your having to endure these comments today rests with the Council, and not with me. There was no title in the program for these comments, as I was still pondering how to present the ideas that I had been considering. If there were to be a title, it should probably be, "A Profile of Thoracic Surgery as Viewed From the Sidelines."

This Association is 68 years old, but thoracic surgery's recognition as a specific specialty is much more recent. The American College of Surgeons was founded in 1913 and many of the specialty boards originated around 1934. The American Board of Surgery was founded in 1937, and the American Board of Thoracic Surgery was spun off as an independent board in 1970. Thus we are still rather infants in the hierarchy of American specialty boards. In my view, thoracic surgery has done extremely well in dodging up to now the great pressures to further subspecialize within what was considered as recently as 20 years ago to be a subspe-

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Table I. Papers in THE JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY (October 1931 to 1988; n = 8981)

Category of cardiothoracic surgery	Nature of publication						Total No.
	Clinical		Research-clinical		Research- experimental		
	No.	%	No.	%	No.	%	
Cardiac	3030	58.6	766	14.8	1371	26.5	5167
General thoracic	2900	78.9	361	9.8	414	11.3	3675
Other	84	60.4	17	12.2	38	27.3	139
Total	6014	67.0	1144	12.7	1823	20.3	8981
$P(\chi^2)$		<0.0001		<0.0001		<0.0001	

cialty of general surgery. Obviously there are some who are interested in seeing certain aspects of the field subcategorized. One must recognize that every time a further fragment breaks from the major part, training is altered and the practice of the specialty changes, since a certain piece now is removed forever from the general contour. Further subspecialization clearly has its greatest effect on practice opportunities, and the practice profile of most of the members also may be altered. Thus I compliment all those who have wrestled with these decisions in the past. I believe there is little to be gained by additional certificates, beyond decorating the walls of the surgeon. Resistance to subspecialization does not mean that there have not been considerable changes and advances in the training of thoracic surgeons. What started initially as a loose unstructured format, in which most any type or series of rotations and experience were acceptable, has now become quite structured with a very strong overseeing Residency Review Committee.

It is of interest to review the experience of residency candidates as they present their case experience for review by the American Board of Thoracic Surgery. I simply acquired the operative experience for the 1987 candidates. The minimum number of operations in general thoracic surgery that a single candidate performed was 45, the maximum number was 209, and the mean was 101. Thus the profile of our general thoracic experience is approximately 100 cases, with the majority of those falling in the area of pulmonary resections.

In congenital heart surgery the numbers are somewhat more diffuse; some candidates had a minimal experience of only two cases in closed procedures such as patent ductus ligation and coarctation of the aorta, with a maximum of 68 and a mean of 20. In other closed procedures for congenital defects, such as shunts, there may have been no experience. This discrepancy possibly represents the philosophy of the specific institution as to how neonates should be treated. One individual may

have a large experience in a hospital in which shunting is considered a standard preparatory procedure, and others may have almost no experience if open correction is more prevalent. One must note, though, that the total experience with closed operations for congenital heart disease shows a mean of only eight cases, which indicates that the majority of the candidates received very little opportunity in this area. The number of open operations for congenital cardiac repair also varies considerably, with a minimum of four, a maximum of 68, and a mean of 20. The mean number of total open and closed operations is approximately 47, with a wide range from eight to 168. Thus a few candidates have a very large experience and others have practically none.

Experience with acquired heart disease is more consistent, with means in the range of 51 for valvular and other forms of acquired heart disease and 127 for cardiac revascularizations. The experience with pacemakers is also somewhat disturbing (range zero to 61) and obviously reflects the changing practice pattern of more insertions being performed by nonsurgeons.

The total operative experience shown, in my view, is rather favorable. The mean number of total thoracic and cardiac cases is 344 with a minimum number of 150. Obviously all attempts should be made to improve the experience of these programs at lower levels, but there seem to be many programs that provide extensive operative experience for their residents.

Reviewing the operative experience from the case records of the 354 recertification candidates for 1985-1987 generates both interest and concern. The average minimum number of operations for the three groups was seven and the average maximum number was 510, with the means for each of the 3 years being 126, 95, and 133. I make no attempt to analyze the lower spectrum of the curve for the minimum number of operations, as some individuals may not be actively practicing thoracic surgery but still wish to be recertified. It is of interest

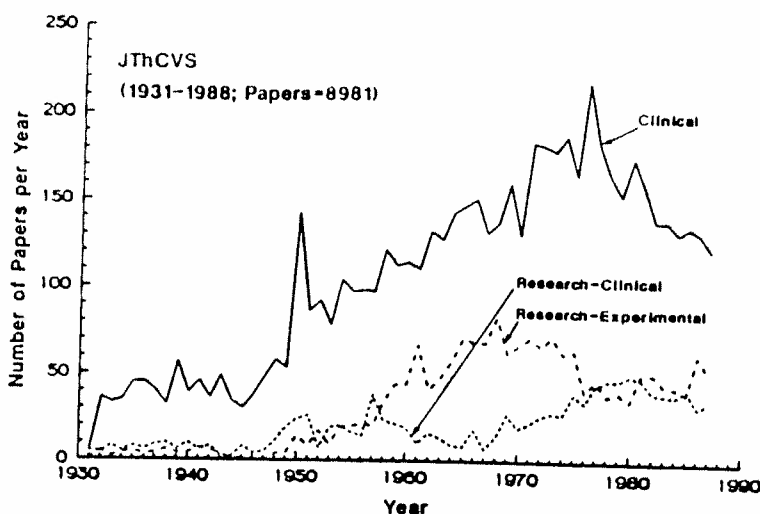


Fig. 1. Number of papers published per year in THE JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY, according to the nature of the publication.

There are those who have taken training and are initially not using it, but desire recertification. The minimum number of operations shown represents a very small portion of the number of candidates, and there is a sharp drop-off from the high numbers. The mean number of operations seems to be fairly representative of the majority of the candidates, with a total number of major operations being in the range of 120. This figure has been fairly consistent except that the most recent group of candidates has a higher mean total and for the last 3 years 43% of those seeking recertification performed more than 100 major cardiothoracic cases per year. No attempt is made to analyze the number of general surgery or vascular cases, which may be pertinent to those who do not limit themselves to thoracic surgery.

These data are preliminary and merit continued observation, as I do not believe any trend or significance can be interpreted from this small sample.

The number of operations performed per year always raises the issue of whether there are too few or too many thoracic surgeons. We are aware of the large increase in medical students that began in the mid-1960's and seems to have peaked. When one compares the actual counts of residents in all areas of surgery with the projections of the Graduate Medical Education National Advisory Committee (GMENAC), the total number of surgical residents projected falls approximately 25% below the GMENAC estimates. General surgery has a somewhat large decrease, and cardiothoracic surgery as projected to 1990 will be approximately only 40% of the GMENAC estimate. In my opinion, this decrease has resulted from maintaining stringent requirements for

adequate supervision, adequate operative experience, and a commitment to quality by the Residency Review Committee rather than by any specific efforts of the profession per se to control the number of trainees.

A general trend has also been noted from data of the American College of Surgeons that the retirement age of surgeons is decreasing, possibly because of the more vigorous strains of the profession and increased malpractice costs. These observations are noted over the past 5 years and appear to indicate a trend. The axiom that cardiac surgery is a young person's arena may be even more true in the coming years.

Another question relating to our profile is whether we have reached a point of essentially minimum advancements from a scientific standpoint. A field needs to continually move forward with new ideas and thrusts to remain vibrant and exciting and attract the top talent.

I would like to review two methods by which we might evaluate ourselves, and I would like to extend my appreciation to Thomas Ferguson, Editor of *The Annals of Thoracic Surgery*, and to John Kirklin and especially Gene Blackstone, who spent an immense amount of time providing data from THE JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY to determine the trends in the publication of research and clinical material, which can serve as an indication of activities of thoracic surgeons. To look at another form of hard data over the past 10 years, we can evaluate the cardiothoracic surgery projects funded by the National Heart, Lung, and Blood Institute. Such funding has gradually increased. These are grants in which the principal investigator is a cardiothoracic surgeon or the subject

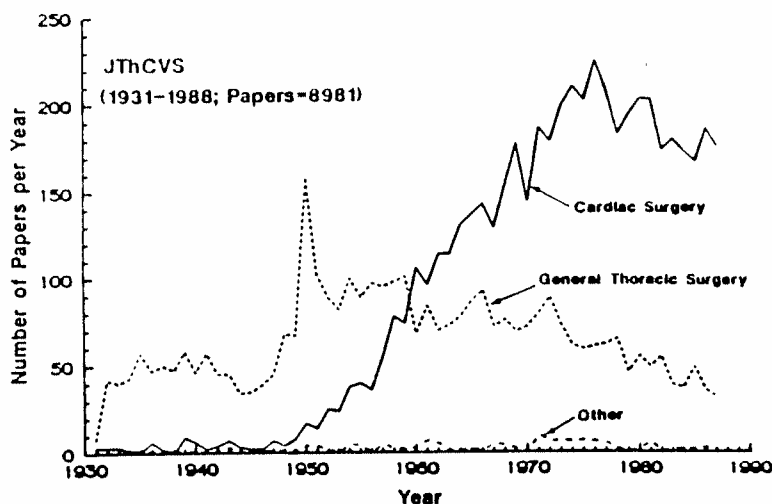


Fig. 2. Number of papers published per year in THE JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY, according to the category of cardiothoracic surgery.

studied is clearly surgical, irrespective of the principal investigator, but a cardiothoracic surgeon is listed as an investigator. There were 147 cardiac surgery projects funded at a resource of \$31,000,000 in 1987. In pulmonary surgery, the funding is somewhat less dramatic. Through the National Heart, Lung, and Blood Institute, there were two grants for \$198,000. Through the Cancer Institute, an additional 15 projects were funded in 1987, for \$1,814,000.

Editors of both thoracic surgery journals comment that the quality of the manuscripts has improved so much over the past decade that there is little question that clinical and clinical research papers are far superior to those published in the past and probably will be even better in the future. The number of cardiac and general thoracic papers published in THE JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY between 1931 and 1988, and the nature of the publication, are given in Table I. The distribution of the papers between general thoracic and cardiac surgery is shown graphically over time in Fig. 1. Fig. 2 shows the time relationship between the areas of clinical publications and those articles related to research. This information may be somewhat filtered data, since it does not reflect the total number of papers submitted, but it does assume that quality was a factor in the selection process and may have influenced the ratio.

In general, I was pleased by the continued activity in the area of clinical research and basic experimental work. It appears that though subjects may change, a sound, vital effort in creative activity continues among thoracic surgeons.

The profile of the thoracic surgeon, as well as other physicians, has been influenced tremendously by rapidly rising health care costs. In 1988 it is anticipated that as a nation we will spend approximately 12% of our gross national product on health care. We have all been encouraged to be more efficient, to be concerned with cost effectiveness and with the cost benefit to the patient regarding certain types of therapy, and to consider whether a given procedure or service is truly indicated. We have been encouraged to be more active and involved in determining health care policies, especially as related to budget.

Clearly the rapidly rising percent of health care costs has to be alarming to each of us as individuals and as surgeons. Thoracic surgery has fared reasonably well, with an expanding volume, a rather fixed number of practitioners, and favorable reimbursement rates for our services.

When I view the profession from the sidelines, the decisions to be faced in 1988 are not always as simple or pleasant as those in the past. There is considerable concern over the delegation of postoperative care to nonsurgeons, not just for ethical and professional reasons, but because in most instances cost is increased. Although delegating postoperative care is sometimes considered expedient in allowing more operating time and facilitation of our practice, postoperative care has always been a hallmark of the cardiothoracic surgeon. Our skills and experience are not reproducible in shorter nonsurgical training.

In a similar direction of cost containment, there is great pressure in the medical and insurance communi-

to influence surgeons to accept reduced fees by preferred provider organizations or by subcontracting services to other health maintenance organizations. Surgeons who accept such proposals argue that they need this volume to survive or to keep the hospital beds full, or they state that they can afford to accommodate a certain number of these reduced-fee patients. These decisions may come back to haunt us very rapidly, as it is becoming evident that a reduced fee for a service provided by a given surgeon stands a good chance of becoming the market price for that particular surgeon. There has been great pressure to document the quality of care. The perception of the American public and many legislators seems to be that quality is not what it should be. As a result, simple methods of comparing raw mortality data have become popular. The thoracic surgeon is an easy target because his work is almost entirely in the hospital and mortality data are readily accessible.

A somewhat related, perfectly legal by law, but distasteful to many in the profession is the amount of advertising, by both hospitals and surgeons, that has become popular. Using this same raw mortality data, some have chosen to benefit simply because they were on "better teams." These nonstratified data are so difficult to interpret when no severity of illness index is provided that it is an embarrassment to acknowledge any credit from them when the majority of national organizations are deploring the techniques and intent of the information. Advertising is legal, relatively speaking, as long as it is honest. Thus certain claims of higher quality made by advertisements may have to be proved in the future, and certainly the creation of unreasonable expectations by the more optimistic advertiser may be deleterious in the long run. The sad scenario is that this form of advertising is not an attempt to provide new techniques or information to the public but to redistribute patients by implying that one hospital or surgical group is better and elsewhere is worse. This also promotes the concept of poor quality of care being provided.

When one sees advertisements using poor and untested data such as raw mortality numbers, one has to

recognize that economists and management experts have come to the conclusion that medicine per se is really a business and not a profession and thus attempt to place physicians in a service-only capacity in regard to reimbursement and availability. They certainly enjoy the amount of money spent to try to entice patients to come from one locale to another for similar services on the basis of the interpretation of questionable data. Informing the public of advances and new therapies is one thing. Advertising simply to shift the market would seem to have little benefit to the profession or to the beneficiary. This issue always reminds me of my days in athletics: It used to be said that if you were good you rarely had to tell anyone; the opponents found it out promptly.

It is probably good for each of us to review our perception of the profession of thoracic surgery and its future direction. Most of us have been served well by our chosen field. We undergo the longest training program of any surgeons. Most likely, during our training period, which encompasses two chief residencies in general and thoracic surgery, we have more total operative experience than trainees in any other surgical program. The advancements in the field have been immense in the past decades. When anything moves so rapidly, it is important to emphasize the need to continually improve the field with new and creative work. For example, the area of myocardial revascularization moves so quickly and trends change so rapidly that complacency cannot be tolerated. The final line should be that if advances are made and we do not compromise on the quality of care provided to our patients, then it is likely we will be able to have less interference from external forces, as good clinical outcomes result in our patients being our strongest advocates.

I did not intend to editorialize or summarize this presentation, but simply to present information with a few personal views. I hope that each of you will interpret it in your own way. It has been my greatest honor to serve as president of The American Association for Thoracic Surgery.

