Presidential Address
The Society of Surgical Oncology:
Status of Surgical Oncology in the University

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I FEEL HONORED to have served as your president this past year. It has been my privilege also to have had the opportunity to be active in the Society of Surgical Oncology during these recent vital and important years in which there has been a major effort to establish surgical oncology as a legitimate field. For many years, there has been a group of surgeons with a strong commitment to the cancer problem, and most have been participants in the James Ewing Society. This profound interest has been shared with our nonsurgical colleagues, many of whom we have been privileged to have as fellow members of the James Ewing Society. The subsequent change of the name of our Society to the Society of Surgical Oncology five years ago did cause some consternation on the part of many, some because of a fear that this might signify decreased emphasis on the multidisciplinary nature of our organization, while others felt this change might diminish the pride, respect, and love we all have for the memory of the late James Ewing. Nevertheless, the time had come for surgeons primarily concerned with cancer to work together within some organization to refine and expand the role of surgical oncologists.

Surgical oncology as a field had fallen behind our fellow oncologic disciplines in many ways despite the leadership in oncology that was provided by so many of you as well as other surgical colleagues who were not active in our Society. The surgeons among us who were committed to oncology clearly needed an organizational vehicle to fulfill our responsibilities as surgeons and to oncology as a whole. The James Ewing Society seemed to be an ideal organizational basis for this purpose and, despite some expected criticisms, the transition to the Society of Surgical Oncology has been accomplished with both understanding and the much needed support from most of our nonsurgical colleagues within the Society. Not only that, but any fear that the name change would diminish our inspiration from the memory of Dr. Ewing has proven to be groundless as all attending these annual meetings can attest. The additional leadership responsibilities we have assumed as the SSO have given added strength to our purpose and our actions. During these developmental years for surgical oncology, I am extremely pleased to have had an opportunity to participate in this important process.

My own personal career in oncology began in Dr. Ewing's hospital, the Memorial Hospital, almost 30 years ago. This seemed to me to be the place to go for a surgeon interested in oncology training, since the categorical cancer hospitals were virtually the only institutions that developed oncologists in that era. As the need for further refinement of oncologic training, research, and patient care has become increasingly apparent, the university setting has become a potential arena capable of developing all categories of cancer program activity. In addition, the university structure of education at many levels facilitates the recruitment of bright, young physicians into this field that fascinates all of us so very much. Fortunately, the university departments have become much more involved in oncology in recent years, and this is particularly true for surgery. Since my own professional career has been in the university setting these past few years, and since it is my view that this is an area of vital importance for the further growth and refinement of surgical oncology, I have chosen to examine the status of surgical oncology in the university departments of surgery as the theme of my talk.

The categorical cancer hospitals still play a vital leadership role in surgical oncology, but it is my belief that the growth of the discipline of oncology within general surgery will never reach its full potential without the enthusiastic involvement of the educational system within our universities. We all know that there is an increasing focus on the field of oncology in our medical schools, but a broad survey of all university depart-

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ments of surgery seemed essential to obtain a clear picture of where surgical oncology stands at the present time. Despite many possible defects of a survey by questionnaire, I embarked on the project of collecting information by this method this past year from all the chairmen of departments of surgery in this nation. I am pleased to state that information has been received from all 123 university departments of surgery that have hospital facilities and educational settings that might relate to cancer education, cancer patient care, and/or cancer research. Some university departments have strong programs in surgical oncology in some or all of these categories, some express interest in future development in this area, and some either have no interest or have a specific local situation that makes a focus on surgical oncology impractical. I would like to share these data with you as they are encouraging and demonstrate those areas where we will need to focus our future efforts.

Chairmen of Surgical Departments

The special interest or specialty within the broad field of surgery of the individual chairmen in these 123 institutions is shown in Table 1. An unexpectedly large number of chairmen have indicated their major field of interest to be within surgical oncology (29%). Admittedly, the designation of surgical oncology is still determined by proclamation rather than by specific criteria, since training guidelines for surgical oncology are still in the embryonic state. It is also difficult to determine whether this expressed interest in oncology is truly a recent increase. However, the significant number of chairmen indicating a major interest in this area bodes well for the future development of surgical oncology in the university departments in our nation.

Surgical Oncology Faculty

Another measurement of the strength of surgical oncology within university surgery is the number of departments that have full time faculty positions filled by surgeons with an interest or some type of specific training in surgical oncology. The data obtained indicate that 102 of 123 schools have at least one faculty member considered to be a surgical oncologist (83%), and 83 schools of the 123 have a specifically trained individual in surgical oncology who might be depended upon to develop and refine this area of clinical and research interest. The actual number of formally trained surgical oncologists in these 83 schools ranges from 1–12, and most have received their additional oncology training at one of the categorical cancer hospitals. No information was obtained on the number who had research training or experience in addition to clinical oncology training. As universities develop more organized postresidency training in surgical oncology and surgical oncology research, faculty members who are formally trained in oncology will undoubtedly increase in number.

TABLE 1. Surgical Specialty Interest of Chairmen of Departments of Surgery (1979–1980)

General surgery–surgical oncology		36	(29%)
Other general surgery interests			
Gastrointestinal	18		
Vascular	11	62	(50%)
Other	33		
Cardiac and thoracic			
Thoracic only	4		
Cardiothoracic	20	24	(20%)
Other		1	(1%)
TOTAL		123	100%

Out of interest, I tabulated the number of universities that had both surgical oncology faculty members and surgical faculty with membership in this oganization. Sixty of the 102 schools with surgical oncology faculty had one or more surgeons with memberships in the SSO, and all but six of these schools had surgical faculty with additional specialty training in oncology (90%). Of the 42 departments with surgical oncologists on the faculty who were not members of the SSO, all but 13 departments had faculty with specialized oncology training (69%). This particular group undoubtedly represents a pool of current leaders in oncology who should be encouraged to participate in this Society.

Divisions of Surgical Oncology

An organizational concept that has developed momentum during the last decade is the allocation of responsibilities for oncology within university surgical departments to a specific division, section, or service. Such a unit within some departments was thought to be impractical for a host of reasons including the size of the faculty, the educational objectives of the department and its faculty members, or a lack of local interest in this approach. The development of clearly outlined oncology divisions or other possible sections or services in a surgical department requires the conviction of the chairman and his faculty that such a focus is beneficial and meaningful. It is of interest, therefore, that 64 of the 123 departments surveyed had some form of emphasis on surgical oncology within their department (52%), although the degree of formalization and refinement of these oncology units varied tremendously. There were 45 departments in this total of 64 with a specifically designated division devoted to surgical oncology (37%). The other 19 departments had a clinical service within the department that bore most of the responsibility for cancer patients (Table 2).

TABLE 2. Oncology Divisions and Services in University Surgical Departments (1979–1980)

	No. of departments	Clinical activity			
		Mainly operative	Adjuvant chemotherapy	Palliative chemotherapy	Immunotherapy treatment
Division of surgical oncology	45 (37%)	39	31	29	33
Service with cancer emphasis	19 (15%)	19	10	9	9
No specific oncologic division or service	59 (48%)	—	—	—	—
TOTAL	123 (100%)				

The rate of growth of this concept of a specific group of surgical faculty assuming responsibility for oncology within a surgical department is difficult to determine, but most of this organizational effort has occurred in the last few years. Approximately half of the 45 divisions of surgical oncology were initiated within the last five years (22); 37 (82%) were established within the last decade according to the data received. This is at some variance with the data obtained by Dr. Scanlon in his presidential address in 1975 as he recorded 32 divisions in 86 departments surveyed. Possibly, cancer emphasis services were included in this category of "division" by the respondents at that time.

There were a few departmental chairmen who indicated future plans to develop such a focus in surgical oncology, but the development of the program was awaiting the recruitment of an appropriately trained person. One might safely assume that this organizational development within the university departments signifies a growing commitment of departmental chairmen to the importance of oncology as a field requiring special commitment and expertise. If this is so, it is an observation that should be encouraging to all of us who believe that a focus on surgical oncology as a sub- or superspecialty within general surgery is important to future progress in cancer care.

Role of the Cancer Program of the Commission on Cancer

The approvals program of the Commission on Cancer of the American College of Surgeons is committed to the development of multidisciplinary programs in hospitals of all sizes including the university hospitals. It is logical to attempt an assessment of the impact of this program in medical centers on the development of surgical oncology in the university setting.

Despite some concerns in the past regarding suitability of the guidelines of the ACS cancer programs for the larger and more diverse university hospitals, it is of interest that 90 (73%) of the 123 departments currently have approved cancer programs (Table 3). Sixteen hospitals that do not now have an approved cancer program have had one in the past, and many of these institutions are going through the procedures necessary to again obtain this status. Seven of the remaining 17 hospitals that have never had an approved program either have no specific university hospital (5) or the hospital has been constructed too recently to have undergone the process (2). Since only 10 of the 116 hospitals that were actually eligible for review and possible approval have never achieved this status, it is difficult to view the presence or absence of an approved cancer program of the Commission of Cancer as a major determinant in the development of surgical oncology identification. It is clear that the presence of an approved cancer program is achievable whether surgical oncology is identified as a separate entity or not. It is of interest, however, that there was a slightly higher percentage of approved cancer programs in those hospitals that did happen to have a surgical oncology division or service.

Since oncology is a multidisciplinary problem from the standpoint of both education and patient care, and since this is the basis for the approvals process of the Commission on Cancer, the findings of this survey about the availability of chemotherapy and radiotherapy services, tumor registry, and multidisciplinary

TABLE 3. Cancer Program of American College of Surgeons RE Development of Surgical Oncology Units (1979–1980)

	No.	Status of program				
		Approved	Not approved			Total
			Prior approval	Eligible hospitals	No hospitals	
Division or designated service	64	51 (80%)	7	4	2	13
No division or service	59	39 (66%)	9	6	5	20
TOTAL	123	90 (73%)				33

educational programs are important. The survey revealed that only 5 of the 123 departments were in hospitals without adequate cancer chemotherapy services, and only 8 of the 123 hospitals have no radiotherapy facilities. Some form of tumor registry exists in all but five, and a multidisciplinary education program exists to some degree in all but 12. It would appear that for the most part the university hospitals do have a suitable environment for both ACOS approved cancer programs and the growth of surgical oncology.

Cancer Activities of University Surgical Departments

Research: The data obtained from this survey allow a determination of the focus of the individual university hospitals on laboratory research, clinical research, or both of these activities. It is apparent from Table 4 that most university departments of surgery have some form of cancer research in progress, but it is impossible to quantitate the level of this activity. Only 15 (12%) have no basic or clinical cancer research activity. Of the 106 departments that have clinical research activities, 85 are involved in cooperative clinical trials research alone or in addition to local intramural clinical research projects. Eighty-eight of the departments described one or more laboratory research program in cancer as well. Despite the impression that cancer research has not been a very vigorous activity in the university departments of surgery, these data demonstrate considerable interest in the areas of laboratory and clinical cancer research. This survey was not actually designed to be quantitative in terms of these activities, but the general trends that were obtained are encouraging from the standpoint of future development of surgical oncology in the universities.

The surgical oncologist with research training and experience has an uncommon opportunity to carry out research in areas of particular interest to surgeons or areas requiring the special expertise possessed by surgeons. Collaborative research opportunities with the other oncology specialties are many as demonstrated by the soon to be distributed summary of the Surgical Oncology Research and Training Workshop held in March of this year. The development of a cadre of academic surgical oncologists, both clinically competent and possessing research abilities, is a national priority and highly dependent on the expansion of surgical oncology research training in our universities.

Clinical activity and cancer: An attempt was made to determine the nature of the clinical activities of the specific oncologic divisions (45) and services (19) within these departments. The broad categories of clinical activity considered in this group of 64 hospitals that had either a division or a cancer service included adjuvant chemotherapy, palliative chemotherapy, immunotherapy, and operative activity (Table 2). All of these were frequent activities of the divisions and services, but the pattern of clinical activity varied somewhat from place to place. It would appear that both operative and nonoperative activities are important to the surgical oncology units, but the operative role is probably the most prominent one in the minds of chairmen who have established these divisions or services.

TABLE 4. Cancer Research in University Departments of Surgery (1979–1980)

	No.	Percent	
Laboratory investigation only	2	2%	
Clinical investigation only	20	16%	88%
Both laboratory & clinical research	86	70%	
No cancer research	15	12%	
TOTAL	123	100%	

One clinical activity that is often considered a major concern of the surgical oncologist is the management of cancers arising in the head and neck region. Other disciplines in surgery also focus on this collection of operative problems (ENT, plastic surgery, oral surgery) as well as radiotherapy. In this survey, an attempt was made to determine the pattern of provision of head and neck cancer care (and education) in university departments. Although it would appear that a multidisciplinary approach to this problem might be ideally accomplished in a university setting, only 28% of the departments surveyed had a multidisciplinary head and neck cancer team while in an additional 10% of departments, the head and neck cancer surgery was the sole responsibility of the surgical oncologists. The responsibility for head and neck cancer surgery was delegated totally to the ENT or the Plastic Surgery services in some instances, but a disorganized approach, with two or three disciplines independently functioning in this area, was the most frequent method used. This lack of coordination between disciplines undoubtedly impacts adversely on the ability of many universities to provide adequate educational training in this special head and neck area. It also demonstrates the slow progress that is achieved in universities despite major efforts by leaders in the field to establish standards and methods for

TABLE 5. Status of Head and Neck Cancer Surgery in Universities (1979–1980)

	No.	Percent
Multidisciplinary program	35	28%
Surgical oncology only	12	10%
ENT only	23	19%
Plastic surgery only	5	4%
Multiple separate competing units	48	39%
TOTAL	123	100%

TABLE 6. Training Programs in Surgical Oncology in University Surgical Departments (1979–1980)

	No.	American cancer society fellowships
Training in intermediate years (in Gen. Surg. Program)	12	11
Postresidency training program (1–2 years)	12	9
Both intermediate and postresidency training	8	7
No specific surgical oncology training program	91	11
TOTAL	123	38

achieving optimal training in head and neck cancer surgery.

Surgical oncology training: (Table 6) Adequate preparation of the surgical oncologists of the future will be dependent, in part, on training opportunities available in university surgical departments. It was not surprising to find that only 20 of the 123 departments claimed any postresidency training opportunities in surgical oncology. The organization, depth, and length of these programs was not determined, but the relative lack of detailed guidelines and funding sources for postresidency surgical oncology training programs has clearly been a major deterrent to a high level of activity in this area. However, the work on guidelines begun by the 1978 Surgical Oncology Training Workshop (that was jointly sponsored by the NCI and our Society) will strengthen surgery in this area. A recent workshop on research in surgical oncology (sponsored and supported by the ACS, the NCI, and our Society) further strengthened our resolve not only to develop training programs in clinical surgical oncology along the guidelines described above but also to establish a significant oncology research commitment in the training programs. There is considerable hope that the funding agencies (and the NCI in particular) will now allocate funds desperately needed to expand these programs.

In addition to postresidency surgical oncology training, 20 of the 123 departments claimed to have specific surgical oncology training at an intermediate level (during general surgery residency training). For 12 of these departments, the intermediate level was the only surgical oncology training offered; the other eight departments had postresidency surgical oncology training as well.

The funding of surgical oncology training has been limited by the lack of organization and refinement of training programs on a national scale as well as by limited funding sources. The American Cancer Society Clinical Fellowship Program is one source of partial funding for such training, but these fellowships have generally been targeted for the intermediate rather than postresidency level of surgical oncology training. Nevertheless, the number of these fellowships to surgical trainees is down to 25 in 1980. It was of interest in 1979 that 38 of the 123 departments claimed ACS Fellowship support, while 11 of these same departments stated that they had no formalized intermediate level or postresidency training in surgical oncology. It was of interest also that only five departments without commitment of ACS support had developed an organized surgical oncology training of any kind.

It appears that there is a relationship between limited training opportunities in surgical oncology and surgical oncology research within university departments and the limitation of funding opportunities for these programs. The lack of detailed and tested standards for surgical oncology training is undoubtedly a major basis for these funding problems. This is an area that the SSO has addressed in the last few years, but much more work by our organization is needed if we are to develop opportunities for adequate surgical oncology training within the university structure.

Discussion

It has been my conviction that the future of surgical oncology depends on the incorporation of this concept by the university with the corresponding development of expanded educational opportunities in this field. This survey was undertaken, therefore, to obtain a clearer picture of the status of surgical oncology in the university today, to expose potential problems for this new discipline that might exist in the university environment and to allow planning for the future. What have we learned?

The first observation might be that surgical oncology is "off and running," from the university standpoint, since more and more Divisions of Surgical Oncology are being developed, full time surgical oncology faculty are increasing in numbers, and surgical departments are heavily involved in both laboratory and clinical cancer research. The overwhelming majority of university hospitals have the services and facilities required for multidisciplinary oncology programs, and a large number of surgical chairmen have indicated their special interest in oncology. These are the more positive features of this study. They should be encouraging in terms of the capability of the university becoming committed to the needs of this relatively new specialty.

The problems for surgical oncology that are revealed by this survey should not be surprising to us. Despite the potential of our universities for encouraging appropriate candidates, and preparing them for both aca-

demic and clinical careers as surgical oncologists, the actual training process for both clinical work and clinical research is virtually undeveloped. This is a problem that is quite soluble by means of appropriate planning by our own Society with colleagues from other oncologic disciplines and the funding agencies. Actually, we have had a good start in this process as a result of the two national workshops that were stimulated, planned, and chaired by members of the SSO. The first was the workshop on graduate education in surgical oncology in September 1978 (jointly chaired by Robert Schweitzer of the SSO and Margaret Edwards of the NCI). The second workshop on surgical oncology research and training was held in March 1980 (chaired by Donald Morton), and it addressed funding problems as well as diligently working out specific plans or blueprints for needed future research that is related to surgeons and surgical oncologists. Already various committees of the NCI are responding in a positive way to the recommendations made. These concerned both training and long-range research planning in surgical oncology. Hopefully, the refinement of our mutual plans initiated through this process will allow more vigorous future funding of worthy projects in surgical oncology research and education within our universities. The universities must join the cancer institutes and cancer hospitals in both the training and research arenas if surgical oncology is to achieve its full potential and play its proper role on the oncology team.

In closing, I want to thank the membership of the Society of Surgical Oncology for the opportunity you have given me this past year. To serve as your president, a post held in the past by so many distinguished men and admired friends, has been flattering and enjoyable experience for me. You are wonderful friends and I thank you all.