

# The Making of a Head and Neck Surgeon

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The unique nature of a presidential address is that it gives one an unrestricted chance to share one's view on a subject with the organization's membership. The topics chosen by speakers usually reflect their creativity and provide them with an opportunity to be philosophic, professorial, and prophetic in promoting their opinions on a given subject.

This year marks a unique time—the beginning of the last decade, not only of the 20th century but also of a millenium. It is a wonderful opportunity, and an exhilarating process, to reassess head and neck surgery in the past and to prepare ourselves for the future. The latter half of this century has witnessed tremendous strides in the various facets of this complex specialty. How should we then integrate the rapidly changing character of our specialty with the training process of head and neck surgeons to enable them to conduct their professional activities in the 21st century?

The founding fathers of the Society of Head and Neck Surgeons stated that the object and purpose of the Society is "to serve as a medium for exchange and advancement of scientific knowledge relevant to the management of patients with head and neck tumors exclusive of lesions of the brain, with particular reference to the operative treatment of cancer." Although that statement of purpose was thought to be optimal in 1954, the state of the art and science of head and neck surgery has undergone significant change. Today, I believe that the *raison d'être* of the Society should be "to improve patient care by disseminating information on the advances in the multidisciplinary management of tumors of the head and neck through the education of its membership and the profession, to initiate and support clinical and laboratory research, to develop and regulate the standards of training of head and neck surgeons (oncologists), and to provide a platform for leadership in the specialty." Clearly, time limitations will not permit me to share my views on all aspects of this statement, but I would like to address one element from this statement of purpose. This pertains to the training and development of a head and neck surgeon.

Since the mid-17th century, many surgeons have led the way for the development of the specialty with specific works in various aspects of cancer of the head and neck. These included the contributions of Wiseman, Marchetti, Regnoli, Billroth, Kocher, Butlin, and Crile. However, the words "surgery of the head and neck" were first used in 1888 by Lane in his textbook of that name, covering

the fields of neurosurgery, otolaryngology, and ophthalmology. In his presidential address entitled "In Search of the First Head and Neck Surgeon," Dr. William Nelson identified Henry Butlin as the first head and neck surgeon. The first Head and Neck Service was established at Memorial Hospital for Cancer and Allied Diseases in New York in 1915 with Henry Janeway as the first Chief of Service. The term "head and neck surgery," however, had little meaning until the 1940s when Hayes Martin used the term in one of his initial publications, and, in 1948, Grant Ward defined the parameters of this new surgical specialty. Although the specialty was developing in a sporadic fashion in the hands of leaders like Martin and Ward, no organized programs were available for training surgeons in this new specialty.

The founding of the Society of Head and Neck Surgeons, in 1954, spearheaded by Martin and Ward, established an identity and credibility for the specialty. The explicit reason for establishing the Society was to promote advances in head and neck surgery. The growth of the specialty in early years was largely a result of contributions from the graduates of the training program of Memorial Hospital and their disciples. Martin and Ward were pioneers in training surgeons to perform head and neck oncologic surgery and providing comprehensive care to patients with cancer of the head and neck. Four years later, the American Society for Head and Neck Surgery, with similar objectives, was established by prominent otolaryngologists with a significant interest and involvement in head and neck oncologic surgery.

Although no organized training programs in head and neck oncologic surgery were available at that time, several leaders and teachers in the field of head and neck oncologic surgery made significant contributions by individually training the next generation of head and neck surgeons. Time does not permit me to mention the entire list of major contributors, teachers, and leaders of the 1950s, 1960s, and 1970s in the training of head and neck surgeons. However, I would like to mention a few. Dr. William McComb, the first Chief of the Head and Neck Service at M.D. Anderson Hospital, and Dr. John Conley of New York were responsible for training generations of head and neck oncologic surgeons. Drs. George Sisson of Chicago and Joseph Ogura of St. Louis systematically trained otolaryngologists to develop expertise in the field of head and neck oncologic surgery. Drs. Milton Edgerton and Vahram Bakamjian from the discipline of plastic surgery were training yet another group of surgeons in this fascinating specialty with the added facet of reconstructive surgery following ablation of cancer. Among the Young Turks in the early 1970s were two outstanding leaders and chiefs of the Head and Neck Services at the two premier cancer centers in the country. These were the

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late Dr. Richard Jesse of M.D. Anderson Hospital and Dr. Elliot Strong, who continues to serve as the Chief of the Head and Neck Service at Memorial Sloan-Kettering Cancer Center. These two individuals built upon the traditions established by Martin and McComb and were responsible for training dozens of surgeons in the field of head and neck oncologic surgery. Until this time, no organized training programs in head and neck oncologic surgery were available although preceptorships in the specialty were in vogue.

In the mid-1960s, the two head and neck societies were independently involved in the continuing education efforts of their respective memberships. In order to understand where we are today and where we have come from, some historical vignettes are worthy of mention. In 1968, President McComb of the Society of Head and Neck Surgeons appointed a committee to study and make recommendations concerning the training of head and neck surgeons, under the chairmanship of Dr. Harry Southwick. At the meeting of this committee in October of 1968, a multidisciplinary training plan was suggested for the first time. In December of 1968, a similar committee appointed by the American Society for Head and Neck Surgery met in Pittsburgh. It took nearly 6 years, and not until October of 1974 did the Training Committee of the Society of Head and Neck Surgeons start developing a course curriculum for a fellowship training program. On December 11, 1975, a joint meeting of the Head and Neck Training Committees of the two head and neck societies was held in Chicago, and this amalgamated training committee further refined the course curriculum for training head and neck oncologic surgeons. That committee is known today as the Joint Council for Approval of Advanced Training in Head and Neck Oncologic Surgery. The course curriculum developed by this committee was approved by the Society of Head and Neck Surgeons in 1976 and by the American Society for Head and Neck Surgery in 1977. The council currently is composed of five members from each society. Credit is due to many individuals who played a significant role in the development of the Joint Training Council, but I must single out Dr. John Lore, who has made the training of head and neck oncologic surgeons, the establishment of the Joint Training Council, the development of the course curriculum, and the implementation of the approval process a lifetime project. His efforts in this regard are unparalleled by any other individual. For his outstanding efforts, Dr. Lore received the Special Recognition Award from the Society of Head and Neck Surgeons in 1985.

However, despite the implementation of stringent standards for the approval process, problems exist in the quality of care. The clinical case load in several fellowship training programs is not adequate to develop proficiency and expertise. In the past decade, the problem has been further complicated by the requirements of the respective Boards of Surgery, Otolaryngology, and Plastic Surgery for exposure to and involvement in head and neck oncologic procedures as a mandatory component of the case-load requirement for qualification and certification by the respective boards. Clearly, this requirement narrows

the already limited patient base available for the training of head and neck surgeons. It has been pointed out by training directors that only 25% of surgical cases in the United States are performed in institutions with training programs. The projection of the Graduate Medical Education National Advisory Committee for 1990 is that, of the 11,200 residents in surgery, otolaryngology, and plastic surgery, approximately 1,800 candidates will be completing their chief residency. Each year approximately 35,000 surgical patients require head and neck surgery. Of these, about 9,000 patients are being treated at institutions with training programs. This works out to an average of five patients per candidate, a majority of whom will not pursue head and neck oncologic surgery. What a tremendous misuse of the precious patient base that is so essential for training fellows in head and neck oncologic surgery.

In fact, in many institutions, fellows and chief residents compete for surgical cases. The Joint Council requires that residents be exposed to 50 cases before they can apply for a head and neck fellowship. Paradoxically, the Joint Council does not require that a minimum number of surgical cases actually be performed by the head and neck fellow. This, in my opinion, is an error that must be corrected. During the year of fellowship, the candidate should operate on at least 100 surgical oncologic patients. On the other hand, if we accept the requirements for membership to our society as the minimum number of cases necessary for maintenance of basic proficiency in head and neck oncologic surgery, then the number of head and neck surgeons required in the United States at any given time would range from 500 to 1,000. As Dr. Lore once pointed out, assuming an average of 25 years' active practice in the specialty, the number of newly trained head and neck surgeons in the work force needed to replace those retiring or dying each year would be no more than 30 to 35 per year. The approved 18 Head and Neck Fellowship Programs and a few new programs awaiting approval would clearly provide the necessary work force of optimally trained head and neck surgeons who can maintain high standards of care for patients with head and neck malignancies. Unfortunately, the diplomates of each of the basic boards consider themselves to be adequately trained to do head and neck oncologic surgery and dabble in the specialty, resulting in poor patient care. Thus, each year, nearly 2,000 new surgeons will join the marketplace, with a need to share the limited volume of head and neck oncologic surgery. The outcome of the performance of these "dabblers" is increasingly becoming manifest at many major centers of excellence in head and neck surgery where an increasing number of mismanaged and recurrent cases is seen.

Those of us who have dedicated our lives to the treatment of patients with head and neck cancer and to the training of head and neck oncologic surgeons have to come to grips with the issue and make some hard decisions. We clearly do not have a sufficient patient base to train residents in the three basic specialties to meet their board requirements, and we do not have enough cases to adequately train all head and neck fellows.

**TABLE I**  
**Basic Requirements for Exposure to Head and Neck Surgery for all Chief Residents**

- Head and neck examination
- Endoscopy
- Tracheotomy
- Trauma
- Early staged oral cancer
- Neck dissection
- Salivary tumors

**TABLE II**  
**Additional Requirements for Exposure to Head and Neck Surgery for Chief Residents in the Three Basic Specialties**

Surgery	Otolaryngology	Plastic Surgery
Thyroid and parathyroid surgery	Larynx and paranasal sinus surgery	Skin cancer, local, regional, myocutaneous, and free flaps

**TABLE III**  
**Surgical Experience for Fellows in Head and Neck Oncologic Surgery**

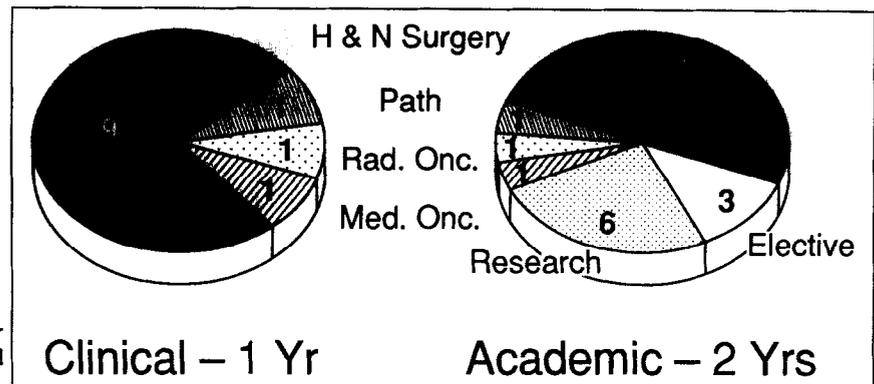
- Craniofacial surgery
- Temporal bone resection
- Radical maxillectomy
- Composite resection
- Pharyngolaryngectomy
- Partial laryngectomy
- Esophagectomy-gastric transposition
- Mediastinal dissection
- Modified neck dissections
- Soft tissue, bone, and neurovascular tumors
- Regional, myocutaneous, and free flaps
- Mandible reconstruction
- Brachytherapy
- Laser surgery

As I see it, it is essential that we take some action quickly—we need to urge the three boards to seriously reconsider the issue of requirement of training in head and neck oncologic surgery. This requirement should be reduced to include only basic exposure to head and neck surgery. Although such basic exposure to head and neck surgical experience is desirable for residents in the three surgical specialties, reducing the requirement would reserve the bulk of major head and neck tumor surgery for fellowship training.

In my opinion, the required exposure for the primary boards as it pertains to head and neck surgery should be as follows (Table I): Chief residents in all three specialties should have basic exposure and experience in examination of the head and neck area, endoscopic evaluation, tracheostomy, care of head and neck trauma, simple surgical management of oral cancer, neck dissections, and

management of salivary tumors. In addition, chief residents in general surgery should have additional experience in surgery of the thyroid and parathyroid glands, whereas chief residents in otolaryngology should have additional training in routine surgical procedures on the larynx, nasal cavity, and paranasal sinuses. Chief residents in plastic surgery should have additional experience in the surgical management of skin cancer, and exposure and experience with local, regional, myocutaneous, and free flaps (Table II). This limited approach to head and neck surgical exposure will then retain a bulk of major head and neck oncologic surgery for fellowship training. These include craniofacial resections, temporal bone resections, radical maxillectomies and composite resections, pharyngolaryngectomies, partial laryngectomies, esophagectomies, gastric pull-ups and mediastinal resections, various modifications in neck dissections, soft tissue, bone and neurovascular tumors as well as myocutaneous, regional, and free flaps, mandible reconstructions, major surgery for salivary glands and thyroid cancer, prosthodontics, brachytherapy, and endoscopic laser surgery (Table III). In addition to the advanced surgical oncologic experience, the head and neck fellow is expected to have exposure to various allied specialties including radiation oncology, medical oncology, pathology, maxillofacial reconstruction, prosthodontics, nuclear medicine and diagnostic radiology, rehabilitation, and biostatistics as well as basic and clinical research.

If indeed such an equitable distribution of the case load is achieved, then we need to further improve the fellowship training program by developing a more-specific core curriculum to meet the needs of a modern day head and neck surgeon. This would require a cooperative effort between the Joint Training Council and the program directors. The currently existing fellowship programs train two types of head and neck surgeons: Some programs offer excellent clinical-operative training, whereas others emphasize laboratory research. As I see it, a head and neck fellowship of 1 year would adequately train an individual in clinical head and neck surgery. On the other hand, a head and neck oncologic fellowship for an academic head and neck surgeon will require a 2-year tenure with mandatory rotations in laboratory research and elective time to meet the academic pursuits of the individual. Such an individual would then have both a solid clinical background and the additional training in research methodology and educational techniques necessary to compete at a national level for grant support and academic track appointments in universities. My particular recommendation for the 1-year clinical head and neck oncologic fellowship would be a 9-month rotation in clinical surgery with 1-month rotations in radiation oncology, medical oncology, and pathology (Figure 1). On the other hand, the 2-year academic head and neck oncologic fellowship should have a 6-month rotation in basic research with 1 month each in radiation oncology, medical oncology, and pathology, 12 months of clinical surgery, and a final 3-month elective period devoted to the completion of projects initiated during the 2-year fellowship. A surgical case load of at least 100 cases as the primary operating



**Figure 1.** Rotations in months for 1-year (clinical) and 2-year (academic) head and neck oncologic fellowships.

surgeon is essential in each of the two categories of fellowships. The clinical fellowship will provide training for a head and neck oncologic surgeon to be able to pursue the specialty in a private practice setting. The academic fellowship, on the other hand, would offer additional training in basic research, biostatistics, the education of others, and the ability to develop clinical trials. Candidates would be expected to complete at least two publications, one in basic research and one in a clinical category. These academic head and neck oncologic surgeons will be greatly in demand at major universities and centers of excellence in head and neck surgery. Candidates trained in this fashion will then be prepared to meet the challenges in head and neck surgery in the 21st century. The current system of training in head and neck oncologic surgery, although pragmatic and cumbersome, has produced an enviable record of accomplishment. New directions and future changes will undoubtedly bring about progress,

excellence, and professionalism that will characterize the specialty of head and neck surgery. We will have to train head and neck surgeons to develop an inquiring mind, with an ability to understand the need and the role of clinical research and the ability to conduct such research, for progress to be made. A balanced training program between research and clinical care will be the ideal—we must train specialists who will not only treat the disease, but also the patient affected by the disease. In closing, let me remind you of the prophetic statement made by Sir Robert Hutchison in 1905:

From inability to let well alone, from too much zeal for the new and contempt from what is old; from putting knowledge before wisdom; science before art and cleverness before common sense; from treating patients as cases, and from making the cure of the disease more grievous than the endurance of the same—Good Lord, deliver us.