Meeting the challenges of neurosurgery

The 2006 presidential address

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The challenges faced by neurosurgery in 2006 are many. There are five principal challenges that have received a great deal of attention from the Board of Directors of the American Association of Neurological Surgeons this past year. These are the challenge of maintaining a modern, efficient, and responsive educational program for neurosurgery; the challenge of maintaining the boundaries of neurosurgical practice and preventing the incursion of subspecialty groups into the performance of neurosurgical procedures; the challenge of responding to the changing demands of society; the challenge of influencing increased reimbursement; and the challenge of creating meaningful medical liability reform. Each of these issues is discussed.

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The theme of this 74th annual assemblage of the AANS is Meeting the Challenges of Neurosurgery. That is an ambitious objective, but the best time to start is now by providing AANS members with the outstanding educational opportunity that this gathering allows. I believe furthermore that your board of directors has already met many of these challenges, and I hope and expect that this annual meeting will be an extension of those efforts. I would like to bring you up to date with some of the issues your board of directors has addressed this past year. There are five main issues or challenges to which I wish to refer. These are maintaining a modern, efficient, and responsive educational program for neurosurgery; maintaining the boundaries of neurosurgical practice and preventing the incursion of subspecialty groups into the performance of neurosurgical procedures; responding to the changing demands of society; influencing increased reimbursement; and continuing the effort for meaningful medical liability reform.

Maintaining a Modern, Efficient, and Responsive Educational Program for Neurosurgery

Glen Spurling and Temple Fay, who were instrumental in founding the HCS, were clearly concerned about the need for an educational forum for neurosurgeons. The discipline of neurosurgery was relatively new. Neurosurgery had been declared a surgical subspecialty in October 1919 at the meeting of the ACS and was recognized by the American Medical Association in 1937. The HCS first met in October 74 years ago in Washington, DC, and fittingly we will be returning to Washington for our 75th anniversary meeting next spring. Clearly, the driving force in the development of the HCS was the need for an educational forum available to practicing neurosurgeons that allowed them to stay abreast of the rapidly evolving field of neurosurgery.

Just as clearly, education remains the fundamental mission of the AANS, and staying on the leading edge of neurosurgical education is the first issue I would like to discuss. This is the challenge to continue the development of modern, efficient, and responsive educational programs for neurosurgery. This mission is even more important today, as we experience rapidly evolving technology and expanding knowledge in the field of neuroscience and medicine in general. New developments in information transfer brought on by computers, web-based learning, and electronic publishing present new challenges daily in neurosurgical education. Furthermore, maintenance of competence in neurosurgery, which is a fundamental requirement for the maintenance of certification, adds to the complexity of developing educational programs.

Although education remains the fundamental mission of this association, over the last 74 years the AANS has evolved to address other issues. The AANS recently evolved into a 501(c)(6) organization, whereas the American Association of Neurosurgeons became the new name for our 501(c)(3) arm. Although the association still func-
tions seamlessly as two organizations in one, the addition of the (c)(6) allows the AANS the freedom to support political activities and solicit funding for the new AANSPAC, which I will discuss in just a few minutes. This recent evolution of the AANS is similar to changing the name of the association from the HCS to the AANS, when this society assumed the responsibility of speaking for neurosurgery by consensus of neurosurgeons. A name easily identified by the public and government was necessary, and this change occurred.

Maintaining for Neurosurgery the Management of Traditional Neurosurgical Diseases

The preservation of the discipline of neurosurgery and the management of neurosurgical diseases by surgeons trained in this field are clearly in the best interest of patient safety. This principal is intuitively logical. Who is better capable of caring for patients with surgical diseases of the nervous system than those trained in the field of neuroscience? I am proud to report that your board of directors, at its most recent meeting this past Saturday, adopted the following policy statement: “The AANS affirms that patient safety is best achieved when surgical diseases affecting the nervous system are managed by neurological surgeons.”

Where are we today? A few years ago the involvement of neurosurgeons in spine surgery was challenged by other specialists. A very well-organized effort by our leadership, so eloquently outlined by Dr. Sonntag in his Rhotron Lecture (AANS Annual Meeting, San Francisco, CA, April 24, 2006), reversed this trend and has preserved for neurosurgery this discipline, which has traditionally been a significant portion of neurosurgical practice. Recent proposals by our colleagues in radiation oncology to redefine radiosurgery and eliminate this term in favor of the term “radiotherapy” would have also impacted neurological practice. Stereotactic radiosurgery is a traditional discipline of modern neurosurgical practice. This concept was developed by neurosurgeons, and the overwhelming majority of advances in this field, including the development of robotic radiosurgical treatment, have been made by neurosurgeons. Nonetheless, our colleagues in radiation oncology have sought to redefine radiosurgery and essentially eliminate this term in favor of the term “radiotherapy,” potentially changing the current procedural terminology code to a radiation oncology code. The application of this modality as they have described it would have excluded neurosurgery input. This effort, certainly economically driven, clearly is not in the best interest of patients, whose nervous system diseases are best managed by those trained in the pathophysiology and anatomy of the nervous system. I am happy to report real progress in our recent discussions with radiation oncology. Led by Troy Tippett and the Washington committee, we have reached a mutually acceptable agreement with the American Society of Radiation Oncologists. This agreement, crafted by our joint task force under the direction of Gene Barnett, has resolved most of our concerns and, at least for the present, appears to have eliminated this threat.

Another challenge to the management of neurosurgical diseases by neurosurgery comes in the field of endovascular treatment. Interventional neurosurgery is threatened by individuals with technical expertise in catheter management who, while they may be technically very talented, lack the basic neuroscience training and understanding essential in evaluating and managing vascular diseases affecting the central nervous system. We are currently training some of our members interested in this area of expertise through fellowships for neurosurgeons. Whether this discipline should become a fundamental part of all neurological residency training remains an open question.

A third area of concern is the provision of emergency neurosurgical care. This issue stimulated me to organize an AANS task force to study neurosurgical emergency care. It has also resulted in a recent survey in which over 30% of our members participated. This survey indicates that 93% of our members provide emergency care as part of their practice even though a high percentage (approaching 80%) of emergency neurosurgical encounters are unfunded. These data indicate to me that neurosurgeons are committed to patient care and welfare and are fulfilling their societal responsibilities despite the adverse economic impact this may cause to their practices. Unfortunately, data from current studies suggest that there will be little growth in the numbers of physicians (let alone neurosurgeons) in the next several years, and our nation’s population is growing and aging. I am concerned for these reasons that the problem of emergency neurological care may become even more severe in the coming years. Our task force on emergency care has met twice. The first meeting was in Chicago this past fall and the second was in Atlanta in February of this year. The task force will meet again this week, here in San Francisco. Let me elaborate for you some of the issues that this task force has addressed. There appear to be, and probably are, areas in this country where neurological care is not readily available and may, in fact, be inadequate. It is important, however, to distinguish neurosurgical emergency care from neurological trauma care. The system of trauma center designation, developed by the ACS, has not been fully implemented, but it has been shown to have improved the quality of care for trauma victims where it is functioning as designed.1 Neurosurgical emergency care and trauma care are by definition at least as available as Level 1 trauma centers given that all designated Level 1 trauma centers have neurological capability. There is no way, however, that these centers alone can or should provide the necessary resources for all neurological emergency care. Neurosurgeons recognize that neurosurgical emergency care includes many aspects of disease not related to trauma. Improving this aspect of neurological care will be a challenge for this organization. One solution to be considered will be the development of a better system for providing this care. An improved system has the possibility of not only improving patient safety and the quality of available care, but may also allow an improvement in the lifestyle of neurological providers. Clearly, the development of any such system will require the application of new and currently available technology. It may also require definition of the optimal resources for quality neurological emergency care.

I do not believe that the abandonment of neurological emergency care by neurosurgeons is in the best interest of either our patients or our specialty. There are other groups, however, who have proposed that they provide neurosurgical trauma care. One of these is the specialty of trauma surgery. Published data from Norway indicate that where neurological trauma care is not provided by neurosurgeons,
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improved care has not resulted and, indeed, the data suggest that there is a degradation in the quality of neurosurgical care. Nonetheless, our colleagues in trauma surgery believe that with the addition of 1 or 2 years of training, their members should be able to provide neurosurgical and orthopedic trauma care. At present, their fellowships in trauma and critical care are not filling, and I fail to see how the addition of 1 or 2 years of training will correct this problem. Furthermore, because the vast majority of trauma surgeons practice in Level 1 trauma centers where, by definition, as pointed out earlier, neurosurgical care is available, it is hard to imagine how training trauma surgeons to treat neurological injuries could in any way improve the availability of neurosurgical emergency care. In fact, it may have the opposite effect, resulting in the decreased availability of neurosurgical emergency care. A recent meeting with trauma surgeons together with the ACS, convened to discuss the broad issue of emergency care, concerns me further because of the realization that their discussions with us were disingenuous at best. Let me read to you what I consider to be an incredibly self-serving, nonscientific, and somewhat threatening statement made by five trauma surgery leaders, Drs. Ernest Moore, Ronald Maier, David Hoyt, Gregory Jurkovich, and Donald Trunkley:

Trauma surgeons of the future are unlikely to tolerate the continued role as housestaff for neurosurgeons in the ED [emergency department] and SICU [surgical intensive care unit] unless some level of invasive procedures (intracranial pressure monitoring, ventriculostomy, limited craniotomy) is enabled. The public expects and deserves prompt care for serious neurologic injuries. If the expanded role of the trauma surgeon is not sanctioned by the neurosurgery leadership, ED and SICU care will likely soon be relegated to neurologists—fragmenting the acute management of the seriously injured patient even more. Ironically, the ultimate outcomes for the vast majority of patients with head injury are predicated on the trauma surgeons’ critical care and timely operative management of the associated injuries.

This excerpt from an editorial in the Journal of the American College of Surgeons was published in April of this year, 3 weeks after we met with trauma surgery leaders at the ACS in March. Clearly, this statement was submitted for publication well before we met with trauma surgery’s leaders in Chicago at the invitation of the ACS. This is compelling evidence to me that these leaders of trauma surgery had no interest in considering the evidence, opinions, and/or recommendations of neurosurgery and had already decided to proceed on their own with what they perceived to be in their own best interest. Even if trauma surgery abandons its goal of providing emergency neurosurgical trauma care, and this seems unlikely, there is a continued desire by trauma surgeons to expand their role in critical care management. Since this is a fundamental aspect of neurosurgical training and practice, it concerns me that these individuals may desire to supervise neurosurgical critical care patients independently even though they lack basic understanding of the pathophysiology of the nervous system.

Responding to Changing Societal Demands

In addition to these interdisciplinary challenges, there are several other areas of concern. One of these is accountability. There are increasing societal demands today for certification and recertification of medical practitioners. Neurosurgery is no exception. The response by the American Board of Neurological Surgery has been measured and carefully studied. Board certification has always been a central tenet to membership in this society and continues to be so. It is in some respects reassuring to see that the American public has finally recognized the importance of this standard for neurosurgical practice. Indeed, society is now demanding that recertification be implemented. This has required an incredible effort by the American Board of Neurological Surgery and it has also been a challenge for the AANS to develop parallel pathways for tracking continuing education credits, which facilitate maintenance of certification for neurosurgeons and other neurological care providers. These efforts have culminated in what are now workable, efficient, pertinent courses and online learning opportunities. Even more venues for continuing medical education are under development. As difficult and time- and resource-demanding as the solution to these challenges has been for neurosurgery, I am sure we are far from finished with this particular challenge.

For instance, it seems straightforward to record attendance and education credits for an annual meeting such as this. If you pay the fee and pick up your registration packet, you receive the credit. Simple, but not acceptable to the Accreditation Council on Graduate Medical Education. Self-reporting, which we now do with the meeting attendance forms provided in your registration packets and available online recording at http://www.myaans.org, remains the acceptable standard. It is unlikely, however, that this form of CME verification will be accepted in the future. Various electronic methods of recording attendance have been developed, and although these are expensive, the future ability to confer CME credits may require that we use this or another more sophisticated and expensive system of verifying meeting attendance. As onerous as these requirements may become, there is little doubt that management of CME for neurosurgeons is best provided by neurosurgeons rather than by outside entities.

In addition to the need for CME and for verification of attendance, appropriate CME requires freedom from bias and commercial influence. Under the able direction of our secretary, Dr. Jon Robertson, we have developed over the past few years a very thoughtful and carefully crafted set of guidelines for our interaction with industry. We are fortunate to have outstanding technological capabilities and innovative developments supported by our colleagues in industry. They have fostered remarkable advances in our ability to deliver outstanding care to our patients. On the other hand, it is natural and appropriate for industry representatives to desire to influence the use of their products. It is critical in the provision of educational opportunities for our members that bias and financial relationships with manufacturers be disclosed by course instructors. Members, in availing themselves of educational opportunities, should be able to evaluate the possible bias or industrial influence on course directors and instructors. It is also extremely important that the AANS remains free of such industry influences in designing its educational materials so that we do not betray the trust our members have placed in us to function as an independent and disinterested party. The NREF plays a pivotal role here in providing support for young investigators, free of commercial influence and bias. Our member-
ship’s financial support of the NREF is essential. One hundred percent of the AANS executive committee contributes to the NREF. I invite you to join us.

**Influencing Liability Reform and Reimbursement**

As difficult and demanding as the previously discussed challenges have been for neurosurgery, these pale in comparison with the challenges of affecting medical liability reform and preserving or improving reimbursement. I have listed these challenges as the fourth and fifth not for their lack of priority, but because they are the most difficult issues for us to resolve. They require that we help our fellow citizens and legislators understand the issues neurosurgeons face on a daily basis that so dramatically affect the care we are able to provide. Our new AANSPAC is a major advance in this area. It is closely aligned with your board of directors and will therefore be responsive in reflecting the agenda of organized neurosurgery.

Let me say a few words about liability reform, which is so critical to preserving efficient and effective patient-centered medical care. This is not a problem unique to neurosurgery; it is an area of concern for all of medicine. It is here that cooperation with colleagues in other specialties is critical if a workable solution is to be found. We must educate our fellow citizens on the fact that liability reform is in their best interest because it allows for more cost-effective, high-quality medical care.

Reimbursement is a more difficult issue to influence. Unfunded mandates are a continuing challenge. The provision of emergency care is but one such example, and this may become a worse problem in the future as I have already pointed out. Concern about emergency care has reached the attention of the Institute of Medicine, which is preparing a report on this issue to be released in May of this year.

I know you will not be surprised when I tell you that neither I nor your executive committee have solutions for all of these challenges. I cannot predict the solutions to some of these challenges since most present a moving target. I am reminded of the words of Yogi Berra, who said, “The problem of predicting the future is that you can’t see it.” A few challenges, however, can be more reliably foreseen. One of these is the issue of patient safety, which appropriately is enjoying great visibility at this time. The importance of patient safety cannot be denied. It is a fundamental tenet of the AANS and our position that patients are safest when neurosurgeons provide neurological care. Another challenge for us in neurosurgery, it seems to me, is the apathy of many of our members. We need to support our research and education foundation, the NREF. As I mentioned earlier, we also need wider support for the AANSPAC. In its first 9 months, contributions to our new PAC amounted to slightly less than $64,000 from 76 members. Although this is an encouraging beginning, I should note that it represents only 1% of AANS members. This compares unfavorably to our orthopedic colleagues, 10% of whom contributed $1.2 million to their PAC. We must do better! In addition to supporting the PAC, AANS members must take the time to respond to surveys and to continue to volunteer to serve on committees and task forces that require an incredible amount of time and effort beyond the already stringent demands of clinical practice and research. We need broad participation in this association from all areas of neurosurgical practice for the future. The AANS is no longer purely an educational organization. We have been challenged to become involved in socioeconomic issues and have responded to these needs. As I see it, education and socioeconomic issues are closely intertwined in all aspects of neurosurgical practice. It would be a great mistake to neglect one of these aspects of neurosurgery in favor of the other since the finest educational program that does not reach our members would be useless, and socioeconomic activity without the goal of improved patient safety and in which education is an inherent element would be meaningless.

This organization has been meeting challenges on the behalf of neurosurgeons for nearly 75 years. I challenge you, as individuals, to step up to the plate and become more involved in the activities of this association and more supportive of the PAC and the NREF. These efforts deserve your time, energy, and money. Get acquainted with your congressman and senators. Support those politicians who deserve your respect and support your views, and you as an individual neurosurgeon can have a positive influence on your specialty. As an individual, you will be able to positively influence improved patient welfare far beyond your finest efforts in your neurosurgical practice.

**References**


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