

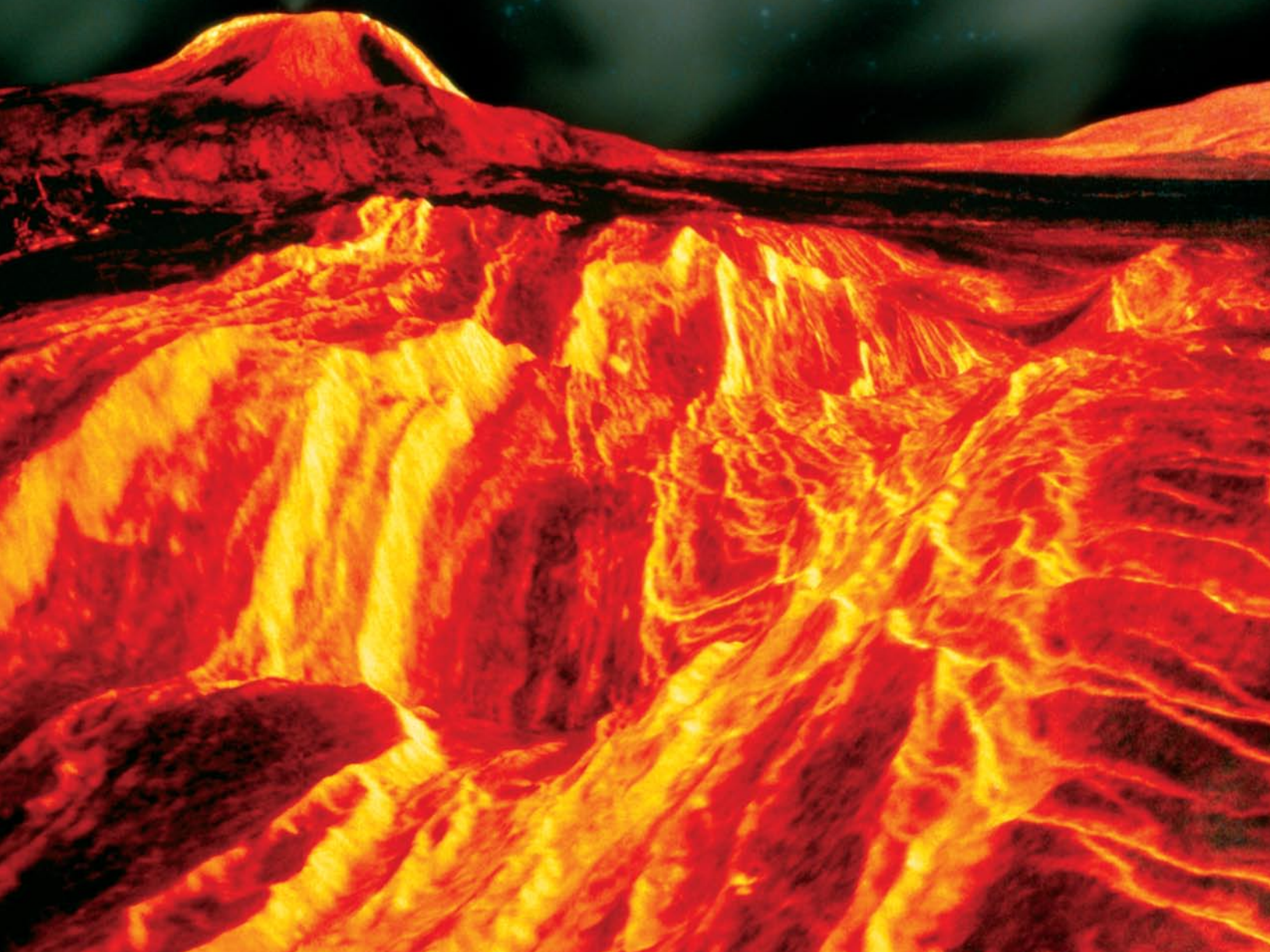
AMERICAN ASSOCIATION OF NEUROLOGICAL SURGEONS

# BULLETIN

The Socioeconomic and Professional Magazine for AANS Members • Volume 15 Number 4 • 2006

## **TOWARD HARNESSING FORCES OF CHANGE**

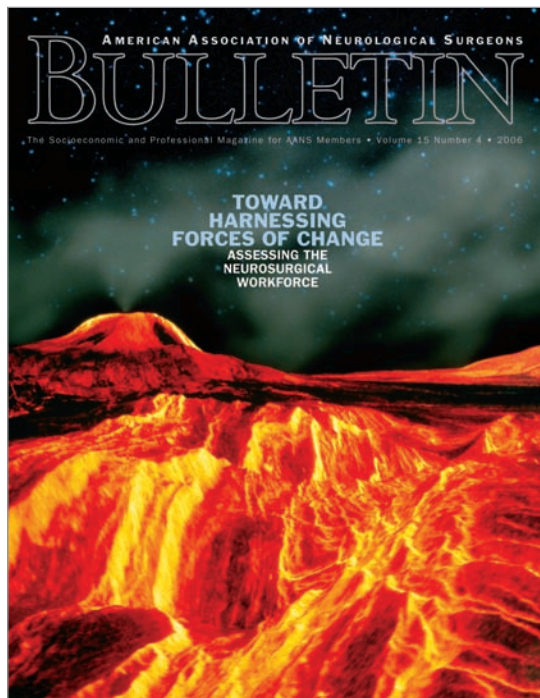
**ASSESSING THE  
NEUROSURGICAL  
WORKFORCE**



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VOLUME 15 NO. 4

The surface of Venus, the second planet from the sun, is covered with active volcanoes and solidified lava flows; the temperature is 462C. The digitally enhanced image was captured by a NASA probe.



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## AANS MISSION

The American Association of Neurological Surgeons (AANS) is the organization that speaks for all of neurosurgery. The AANS is dedicated to advancing the specialty of neurological surgery in order to promote the highest quality of patient care.

## AANS BULLETIN

The official publication of the American Association of Neurological Surgeons, the *Bulletin* features news about the AANS and the field of neurosurgery, with a special emphasis on socioeconomic topics.

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Send your comments on articles you've read in these pages or on a topic related to the practice of neurosurgery to [bulletin@AANS.org](mailto:bulletin@AANS.org). Correspondence may be published in a future issue edited for length, clarity and style. Correspondence is assumed to be for publication unless otherwise specified.

## BULLETIN ONLINE

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American  
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# AANS: A Force for Change

## *Shaping the Neurosurgical Workforce of the Future*

**T**his, the 75th anniversary year of the AANS, is a time of celebration, but perhaps more importantly it is a time of evaluation and preparation for the organization's—and the specialty's—future. The cover story in this issue of the *AANS Bulletin* offers an assessment of the neurosurgical workforce and provides useful information for those concerned that patients in the future will have access to neurosurgical care when they need it.

Current data indicate that practicing in the United States are 850,000 physicians. Of these, neurosurgeons number approximately 3,200, a number that has remained static over the last 10 years. There are currently 60,000 students in U.S. medical schools with 16,000 graduating annually, and there are 104,000 in postgraduate training.

In response to projections of a severe physician shortage in the near future, the American Association of Medical Colleges is recommending an increase in the number of medical students by 15 percent in the next 10 years. The 120 medical schools in the United States include five added in the last five years, while five more are planned in the next five years. In addition, 12 medical schools already have increased the number of students admitted by 30 percent.

Neurosurgery this year has experienced increases in registrants for the neurosurgical match, number of positions offered, and number of positions filled. There are 863 residents in 97 neurosurgical residency programs overseen by the Accreditation Council of Graduate Medical Education. Of 172 neurosurgical residency positions offered, 165 positions were filled through the match.

Neurosurgery needs to attract the best and brightest physicians. Great advantages in this endeavor are that our subject is so fascinating and the possibilities, virtually unlimited. A disadvantage is that neurosurgery is perceived as incompatible with

a balanced lifestyle; it is seen by many as too demanding, too difficult. So that negative stereotypes can be dispelled, medical students need to be exposed early in their careers to neurosurgery. To accomplish this goal, neurosurgeons need to become a force for change.

Neurosurgeons in contact with medical students need to provide "shadowing" opportunities for first-year students. Medical school curriculum committees need to be persuaded that *all* students in their major clinical year should rotate through neurosurgery. This will allow medical students to be exposed to the major categories of neurological disease and their neurosurgical management, to ascertain what neurosurgeons can offer their patients regardless of the field they choose to specialize in, and to find out if neurosurgery might be the career choice for them. Neurosurgeons need to teach students basic surgical skills and provide them with general opportunities for patient interaction; in short, neurosurgeons need to be the best teachers that medical students encounter.

### **Encourage Women to Consider Neurosurgery**

Thus far, there has been significant gender inequality within neurosurgery. Today 25 percent of physicians in the United States are women and 50 percent of medical students are women, but only 5 percent of practicing neurosurgeons are women. The percentage of women neurosurgical residents is now an encouraging 10 percent, and the fact that women neurosurgeons now occupy leadership positions throughout the specialty demonstrates real progress. In neurosurgery as in society in general there continue to be barriers to the advancement of women in their careers regardless of their qualifications or achievements: inflexible work environments, negative

stereotypes, lack of support and networking, and absence of role models. All of these hurdles must be overcome in a systemic fashion in order for our specialty to thrive.

It is clear that mentorship of women is essential and that role models are needed. An excellent source of role models is Women in Neurosurgery, a group devoted to the encouragement and advancement of women in our field. A fascinating role model is Louise Eisenhardt, MD, the only woman, thus far, to have been president of the AANS. She initially worked with Cushing to collect data on his cases and, through his mentorship, determined that she could make more of a contribution as a doctor. She graduated from Tufts Medical School in 1925 with the highest marks of any student to that date and became a neuropathologist who made major contributions in the field. She was the first editor of the *Journal of Neurosurgery*, holding that position for 21 years and setting the standard of excellence for this premier neurosurgical journal.

The inaugural Louise Eisenhardt Lecture at the 2007 AANS Annual Meeting will be delivered by an excellent role model, Sally Ride, PhD, the first woman astronaut in space and a physics professor at the University of California at San Diego. Another outstanding role model featured at the meeting is Lisa Randall, PhD, who will deliver the Rhoton Lecture. A physics professor at Harvard University, she is a cosmologist, an expert in particle physics and string theory, and the author of the highly acclaimed book *Warped Passages: Unraveling the Mysteries of the Universe's Hidden Dimensions*.

Like these two outstanding scientists as well as Cushing, Eisenhardt, and many others, each neurosurgeon is a potential role model. I invite you to give this responsibility serious consideration, and also to join me April 14–19 in Washington, D.C., when the AANS celebrates 75 years as a force for change. ■

**Donald O. Quest, MD**, is the AANS president. He is the J. Lawrence Pool Professor of Neurological Surgery at Columbia University, College of Physicians and Surgeons, New York, N.Y.

# NEWSLINE

NewsMembersTrendsLegislation

## **New Hair-Thin, Flexible Microendoscope Transmits High Resolution, 3-D Images**

A new microendoscope may greatly expand the application of minimally invasive diagnostic and therapeutic procedures, say researchers at Massachusetts General Hospital. Yelin and colleagues describe their prototype device and its use in a mouse model in the Oct. 19 issue of *Nature*.

- **In Last-Minute Legislation, Congress Halts Five Percent Medicare Physician Payment Cut** Before adjourning in the early morning hours of Dec. 9, the 109th Congress passed legislation that stopped the expected 5 percent cut in Medicare physician payment from taking effect on Jan. 1, 2007. Complete text of the legislation is available at <http://thomas.loc.gov>. Details of the legislation and its implications for neurosurgeons are expected to be available at [www.AANS.org](http://www.AANS.org).
- **The AANS Board of Directors Approves the AANS/CNS Position Statement on Emergency Services** In November the AANS Board of Directors approved the AANS/CNS Position Statement on Emergency Services and the Acute Care Surgeon: Ensuring Patient Safety: "Optimal patient care and patient safety are best achieved when surgical diseases affecting the nervous system are managed by neurological surgeons. Neurosurgical procedures should therefore not be performed by practitioners in other fields." Background and rationale for the statement are provided in the document, available at [www.AANS.org](http://www.AANS.org), article ID 42749.
- **The AANS and CNS Applaud Results of the SPORT Study** The AANS and CNS issued a joint press release commenting on the Spine Patient Outcomes Research Trial results published in the Nov. 22 issue of the *Journal of the American Medical Association*. Known as SPORT, the multicenter, prospective, randomized controlled trial explored the efficacy of surgery for sciatica due to lumbar disc herniation. "We are delighted that this major scientific study affirms the value of high quality surgical care in the relief of disabling painful disc herniations of the lumbar spine," stated Charles Branch Jr., MD, chair of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves. "This study affirms that we can continue to give our patients advice for surgical or nonsurgical care based upon their individual medical condition and needs." The press release is posted at [www.AANS.org](http://www.AANS.org), article ID 42702. In addition, a letter from the AANS and the CNS was sent to *The New York Times* in response to an article in the Nov. 22 issue. The letter is available at [www.aans.org/SPORT\\_Letter\\_to\\_Editor\\_NYTimes1106.pdf](http://www.aans.org/SPORT_Letter_to_Editor_NYTimes1106.pdf). The AANS Board of Directors also developed a general lumbar spine surgery document that can be used as a resource for local media inquiries. This document, accessible by members only, is posted in the Resources area of [www.MyAANS.org](http://www.MyAANS.org).
- **Reduction in Protein Levels After TBI Leads to Seizures and Memory Loss** Researchers showed in mice for the first time that traumatic brain injury reduces the levels of a protein called potassium-chloride cotransporter 2, KCC2, within the dentate gyrus, a gatekeeper in maintaining a balance between the glutamate system and the gamma-aminobutyric acid system, GABA(A). Glutamate stimulates neurons to fire, while GABA(A) inhibits that activity. "When lower levels of the KCC2 transporter weaken the dentate gyrus's ability to act as a gatekeeper, neurons become more excitable, and seizures can occur," stated Akiva S. Cohen, PhD, the study's team leader. In addition to its role in inhibiting seizures, the dentate gyrus is also believed to be important in memory formation. Further animal studies will investigate whether supplying KCC2 directly to the dentate gyrus will restore normal functioning in that structure, and whether it may improve symptoms in brain-injured mice. If this proves to be the case, the protein may someday be used as a medical treatment for patients with TBI. The study will appear in the January 2007 issue of the journal *Neurobiology of Disease* and was published online on Oct. 10.

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# Bringing the Message Home

## *Ways to Reshape the Neurosurgical Workforce*

A great deal of attention recently has centered on the neurosurgical workforce. There are many facets to this broad topic, but focusing on even the apparent simplest of them—the numbers of neurosurgeons—can become a complicated exercise.

A rapid expansion of residency programs and graduating neurosurgeons occurred in the 1960s and 1970s, with the growth in numbers of neurosurgeons exceeding the growth in population during this period. However, with the advent of managed care in the 1980s and a shifting trend toward primary care at that time, it was assumed that numbers of neurosurgical specialists, among other surgical specialists, exceeded the demand for services. This assumption, manifested in policy, ushered in a period of stasis in the number of training programs and graduates.

More recently, given studies that quantify advertised employment opportunities for neurosurgeons suggesting an increasing demand for these specialists, the wisdom of the 1980s was called into question. The profession began to ask anew whether the number of neurosurgeons is too many, too few, or just right.

In this issue of the *AANS Bulletin*, Benzil and von der Schmidt report results of the recent neurosurgical workforce assessment conducted by the Council of State Neurosurgical Societies. While the difficulties in obtaining a direct assessment of the workforce are well outlined in their cover story, I personally carry home the following messages.

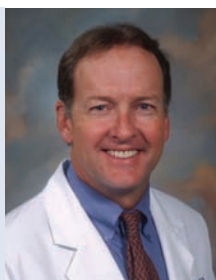
### **Meet Demand With Supply**

Firstly, there has been stasis in the total number of medical school applicants and enrollment. While the number of medical school applicants actually waned in the latter 1990s (concurrent with the boom in the stock markets!), the number of applicants has

been increasing in recent years. Only very recently has there been an increase in the number of neurosurgeons in training, but this increase has been outstripped by the population increase over the same period.

Also, as noted in Figure 4 of the cover

*William T. Couldwell, MD, is editor of the AANS Bulletin. He is professor and Joseph J. Yager Chair of the Department of Neurosurgery at the University of Utah School of Medicine.*



story, the number of ABNS diplomates stayed roughly the same from 1991 to 2003. This stability demonstrates the “pipeline effect” from extended training and the specialty’s difficulty adjusting its workforce in response to market demands.

### **Attract Women to Neurosurgery**

Secondly, a major demographic shift has occurred in medical school enrollment. The number of female students in medical school has been increasing, and women now comprise more than 55 percent of enrollees. Women in my own medical school class in the early 1980s comprised only 30 percent of the student body, illustrating the dramatic increase of the last two decades.

Women, however, comprise only 10 percent of neurosurgical trainees. Clearly, the neurosurgical specialty lags behind the medical profession in attracting women candidates. Unless we make our training programs, and neurosurgery as a specialty, more attractive to female applicants, we will continue to face a net reduction in the pool of talent from which we are drawing.

Attracting women to careers in neurosurgery will require infusing neurosurgical residencies with flexibility, making

training more compatible with the demands of starting or raising a family. This flexibility will need to extend to both the private and academic practice settings, especially since a recent JAMA review demonstrated that medical students as a whole are significantly weighing lifestyle as a criterion for career choice.

### **Embrace New Therapies**

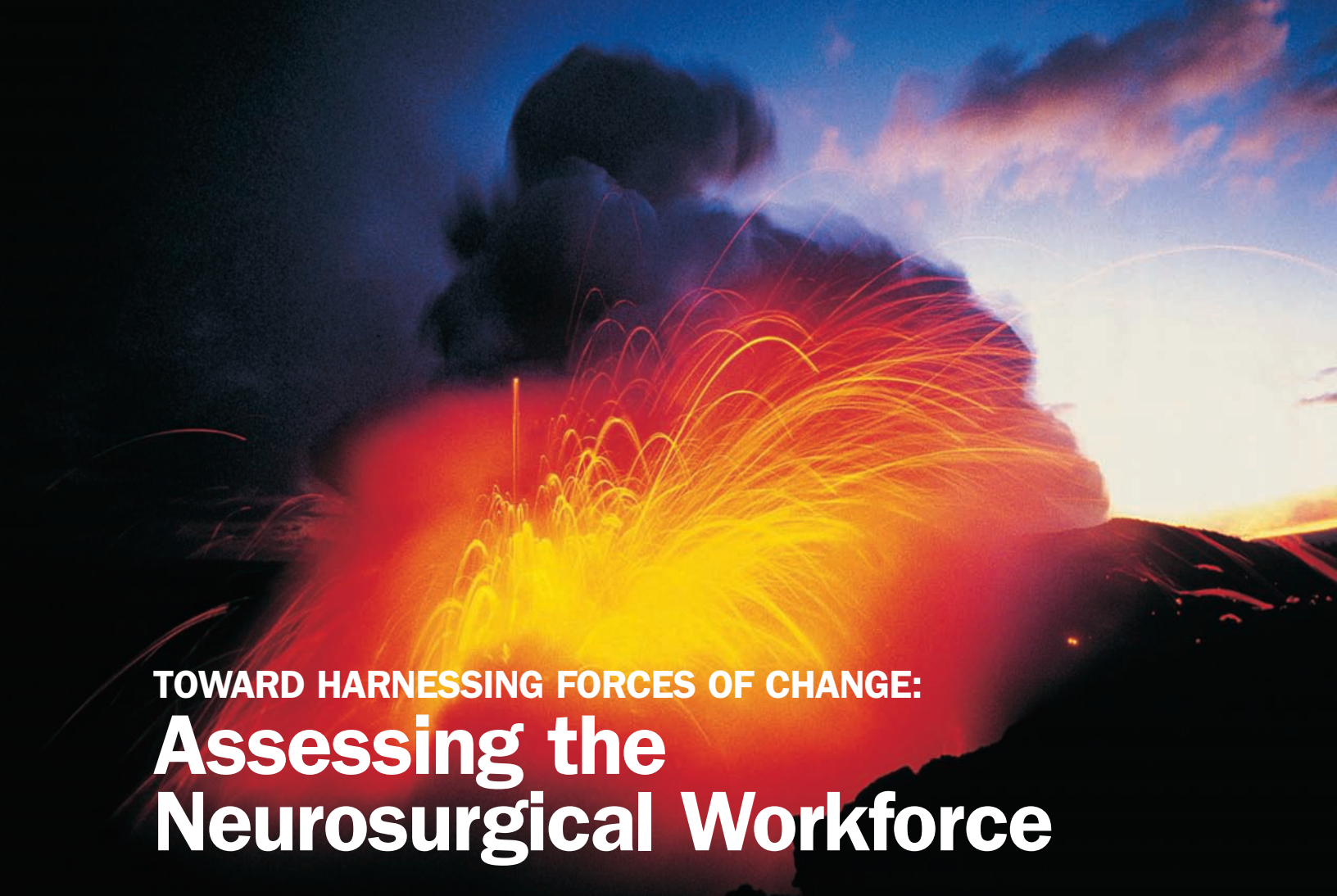
Lastly, neurosurgeons represent roughly 3 percent of allopathic physicians. Because we are few, our capacity for adopting new therapies into our practices is limited. With the specialty’s existing workforce working hard, as measured by production of significant relative value units, neurosurgeons have less of an opportunity to engage in new areas of practice. Our history has been one of competition from those specialties with greater workforce capacity. For example, neurosurgery has competed with orthopedics in surgery of the spine, with radiology in endovascular therapy (and more recently with cardiology in stent technology), and even with general surgery in trauma cases. We must provide enough workforce capacity to be able to embrace new therapies for treatment of neurological disease.

These should be among the primary considerations in plans for the future, particularly in light of projections that neurosciences represent the largest arena for growth in the next generation. ■

### **For Further Information**

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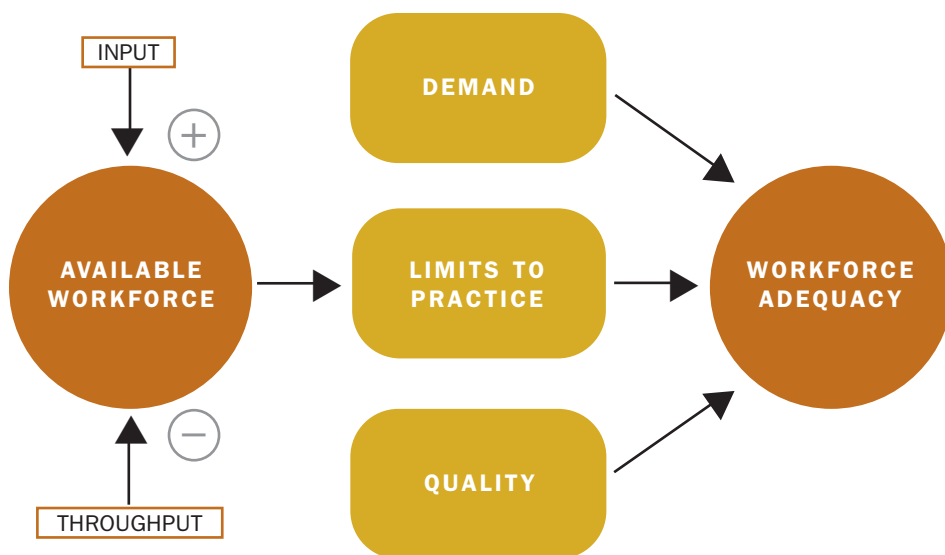


# **TOWARD HARNESSING FORCES OF CHANGE:** **Assessing the Neurosurgical Workforce**

DEBORAH L. BENZIL, MD, AND EDWARD VON DER SCHMIDT III, MD

Resident workweek restrictions, changes in practice related to the malpractice crisis, technological advancements leading to new therapies, fluctuating reimbursement, and lifestyle expectations are among the many factors that impact the availability of a neurosurgeon to treat a patient when the need arises. The interplay among these social and economic influences, the profession of neurosurgery, and society constantly shapes the neurosurgical workforce, making this is an important issue to revisit on a regular basis.

In order to harness forces of change rather than simply react to them, a clear view of the present workforce landscape is necessary. Two major efforts to analyze the neurosurgical workforce recently have been undertaken. First, the Workforce Committee of the Council of State Neurosurgical Societies devoted significant resources to complete a comprehensive primary analysis of workforce adequacy. In addition, the AANS appointed an ad hoc committee to reassess the neurosurgical workforce particularly with respect to geographical distribution and limitation of practice. While the final report of the AANS ad hoc committee is pending, the CSNS Workforce Committee presented its primary findings during the CSNS plenary session on April 22, and those findings as well as additional data are reported in this article.

**Figure 1: Model of Workforce Adequacy****LEGEND FIGURE 1**

INPUT	THROUGHPUT	DEMAND
Medical school applicants	NS positions	Population statistics—general
Medical school matriculates	NS graduates	Population by states
NRMP match	Early retirements	Population by age
NS match numbers	Limits to practice	Incidence of disease
NS match type	Geographic distribution	New treatments/technology
NS match positions		

Source: Workforce Committee of the Council of State Neurosurgical Societies  
 NS = Neurosurgical; NRMP = National Resident Matching Programs

### Developing a Model of Workforce Adequacy

Before developing its work plan, the Workforce Committee first evaluated previous efforts to define physician workforce.

Traditionally, physician workforce analysis for assessment of nationwide need focused on a statistical calculation of disease incidence and hours required for treatment; the result was expressed in physician full-time equivalents, or FTEs. Such an approach was used in the 1933 landmark study by the Committee on the Cost of Medical Care. This CCMC study established the basic tools of workforce analysis, reconstructing the system by measuring component parts using time as

the primary metric. While this study included the warning that if a reader “expects to find here the finality of judgment and precision of detail, he is doomed to disappointment,” the study’s impact was widespread. Fifty years later, the Graduate Medical Education National Advisory Committee used the same rubric and a panel of experts to predict physician needs 20 years into the future! The same problematic approach was used in the 1990s to extrapolate a significant excess of medical specialists by the end of the 20th century. All of these projects led to major restructuring of medical school education, which affected enrollment and funding.

More recently, the Council of Medical

Specialty Societies developed an alternative methodology that utilized a “trend approach.” This model attempts to employ a statistical approach to assign vectors, magnitudes and probabilities to many trends to better assess workforce issues. In this model the economy is seen as the primary trend, but other important trends include technology, demographics, physician productivity and the changing role of nonphysician clinicians. The CSNS Workforce Committee adopted this methodology for much of its analysis.

The Workforce Committee reviewed input, throughput, demand, overall trends and gender trends from 1995 to 2005. Data analyzed included:

- applicants to medical school and to the National Resident Matching Program;
- neurosurgery residency applicants, positions, programs;
- neurosurgery residents: starting and graduating;
- regional and nationwide trends in numbers of neurosurgeons;
- practice profiles;
- demand for neurosurgery care; and
- indicators of adequate neurosurgery coverage.

What evolved was the Model of Workforce Adequacy depicted by Figure 1. Evaluating each component of this rubric demonstrates some very important trends.

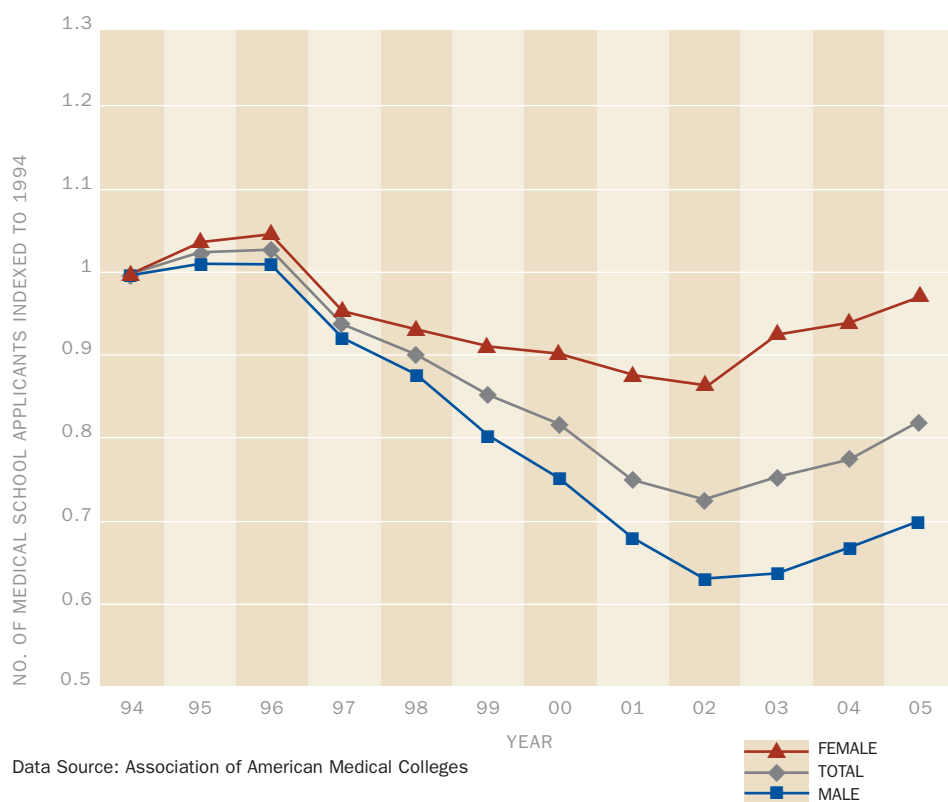
### Entering Neurosurgical Practice: Input

**Medical School Statistics** Over the last decade, the total number of medical school applicants has dropped dramatically. From 1994 to 2005, the male and female applicant pools have diverged (Figure 2). Using 1994 as an index year, the number of female applicants was largely static while males dropped to 70 percent of their 1994 numbers.

Medical school acceptances over the decade were relatively stable (17,300 in 1994 and 17,900 in 2005). However, since 1998 females have outnumbered males in



**Figure 2: Medical School Applicant Trends by Gender, 1994–2005**



medical school acceptances with the 2005 class at more than 55 percent female (Figure 3). Currently, only 10 percent of entering neurosurgery resident positions are filled by women.

#### Residency and Neurosurgical Residency

The total number participating in the National Resident Matching Program has remained stable over the last 10 years. During that time, a constant 65 percent of the applicant pool consisted of U.S. medical school graduates.

In contrast, the pattern of applicants to neurosurgery residency showed significant fluctuation (Figure 4). With 1996 used as an index year, applications reached a nadir in 2002. While there has been some recovery since then, numbers have not yet returned to those of 1996. The proportion of U.S. graduates to international medical school graduates matching in a neuro-

surgery residency has remained fairly constant with very low numbers of IMGs. The total number of offered residency positions has risen just 10 percent during this period, from 140 to 156, with a total of more than 800 neurosurgery residents training in any one year. This trend contrasts sharply with the growth from 1952 to the early 1990s when the total number of residents increased from 241 to more than 800. Despite the increased number of neurosurgery residency positions offered, the number of ranked applicants remained static.

#### Exiting Neurosurgical Practice: Throughput

Many factors impact neurosurgery throughput including early retirement and limitation of practice. Assessing the complement of American Board of Neurological Surgery diplomates over time reveals

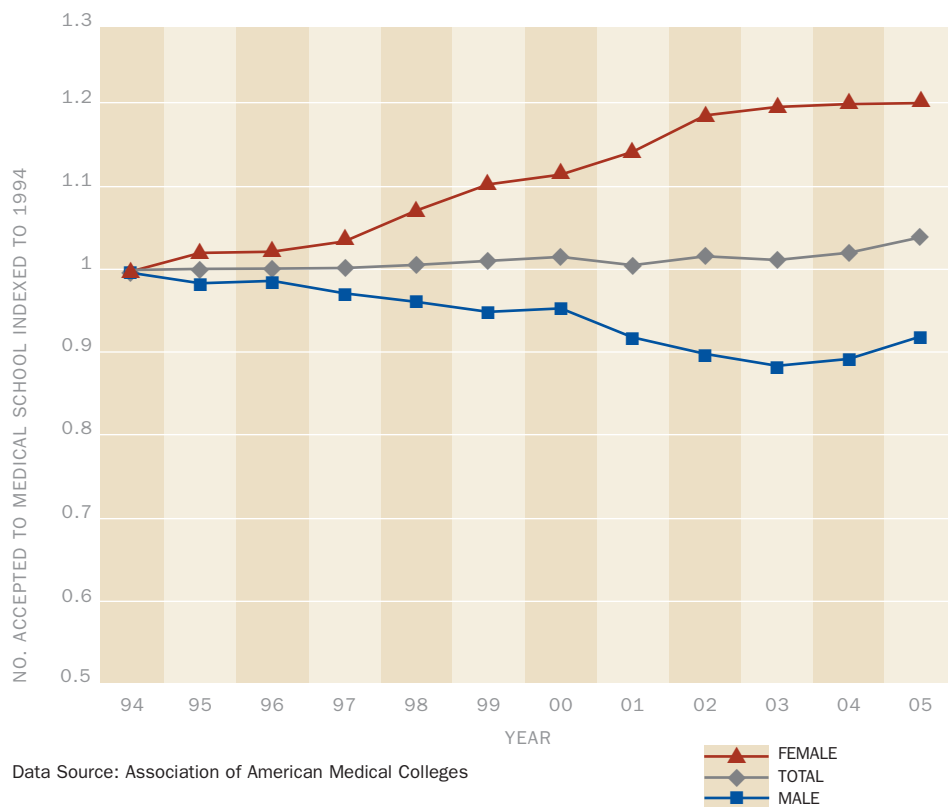
some dramatic swings in total numbers (Figure 5). The large drop in ABNS diplomates between 1998 and 2001 has been attributed primarily to early retirement since the number completing training during this time was stable. Following this precipitous decline, the number of diplomates has climbed, reaching 1991 levels in 2003. The current age distribution, however, suggests the high potential for decline during the next five to 10 years since a high proportion of current diplomates (32 percent) were born before 1943 and the average age at which neurosurgeons retire has been estimated at 60.

Limitation of practice also has become an important factor. In the AANS 2006 Workforce Survey, 38 percent of responding neurosurgeons had limited their practices. More than 10 percent had eliminated cranial (11 percent) and trauma (13 percent) procedures from their practices and more than 50 percent no longer provided pediatric neurosurgical care.

#### Meeting Demand

According to U.S. census information, the total U.S. population increased by more than 30 million between 1990 and 2000, a growth of more than 10 percent. Comparing the number of ABNS diplomates to census population data reveals a marked change in the neurosurgeon-to-population ratio from 1:80,000 in 1990 to 1:91,500 in 2000. During this same period the population in the over 65 and over 85 age groups increased across the United States.

Between 1990 and 2000 neither the overall population nor the aging population increased uniformly across the country (Figures 6 and 7). The top 10 most populous states remained the same but their ranking changed, with Texas leapfrogging New York and Illinois topping Pennsylvania. While growth in the over 65 population was seen in all states, there was disproportional growth in California, Florida and Texas (Figure 7). It is not clear if neurosurgeons have similarly distributed, but a study currently under-

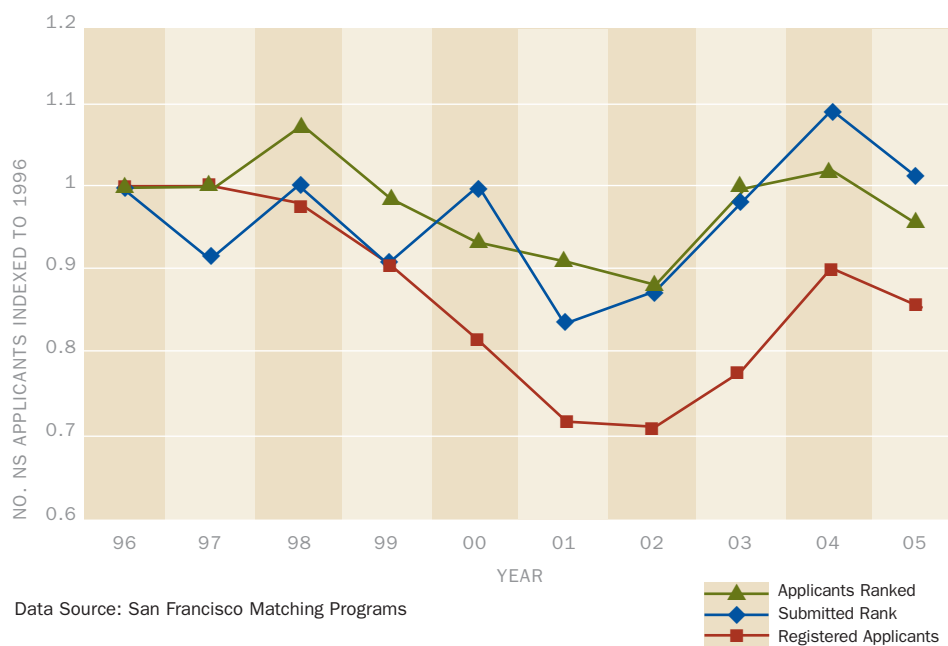
**Figure 3: Medical School Acceptance Trends by Gender, 1994–2005**

way at Columbia University should give answers to this important question.

**Regarding “Supply”** One of the most important issues identified by the CSNS project is the difficulty of fully defining the current or past numbers of neurosurgeons actively practicing at any given time in any given place. Not all neurosurgeons are members of the AANS or the Congress of Neurological Surgeons, and some who are “Active” members no longer actively practice. Further, a search of state medical licenses would overestimate the number of current neurosurgeons in practice because some physicians maintain licensure in states after they retire or relocate, while others practice simultaneously in several states.

The Workforce Committee conducted a meticulous effort to count neurosurgeons in New Jersey and found that neither of the utilized sources provided accurate data. The AANS roster of practicing neurosurgeons was compared with the results of an exhaustive telephone census that involved contacting all N.J. hospitals to identify practicing neurosurgeons and then calling each neurosurgeon to identify practice status. The AANS roster listed 79 neurosurgeons versus 83 identified by the telephone census; however 22 of the 79 AANS-listed neurosurgeons were no longer actively practicing, and 25 of the 83 neurosurgeons identified in the telephone census were not listed with the AANS. Only 57 names appeared in both neurosurgical data sources. A significant variance of more than 25 percent between data sources was demonstrated.

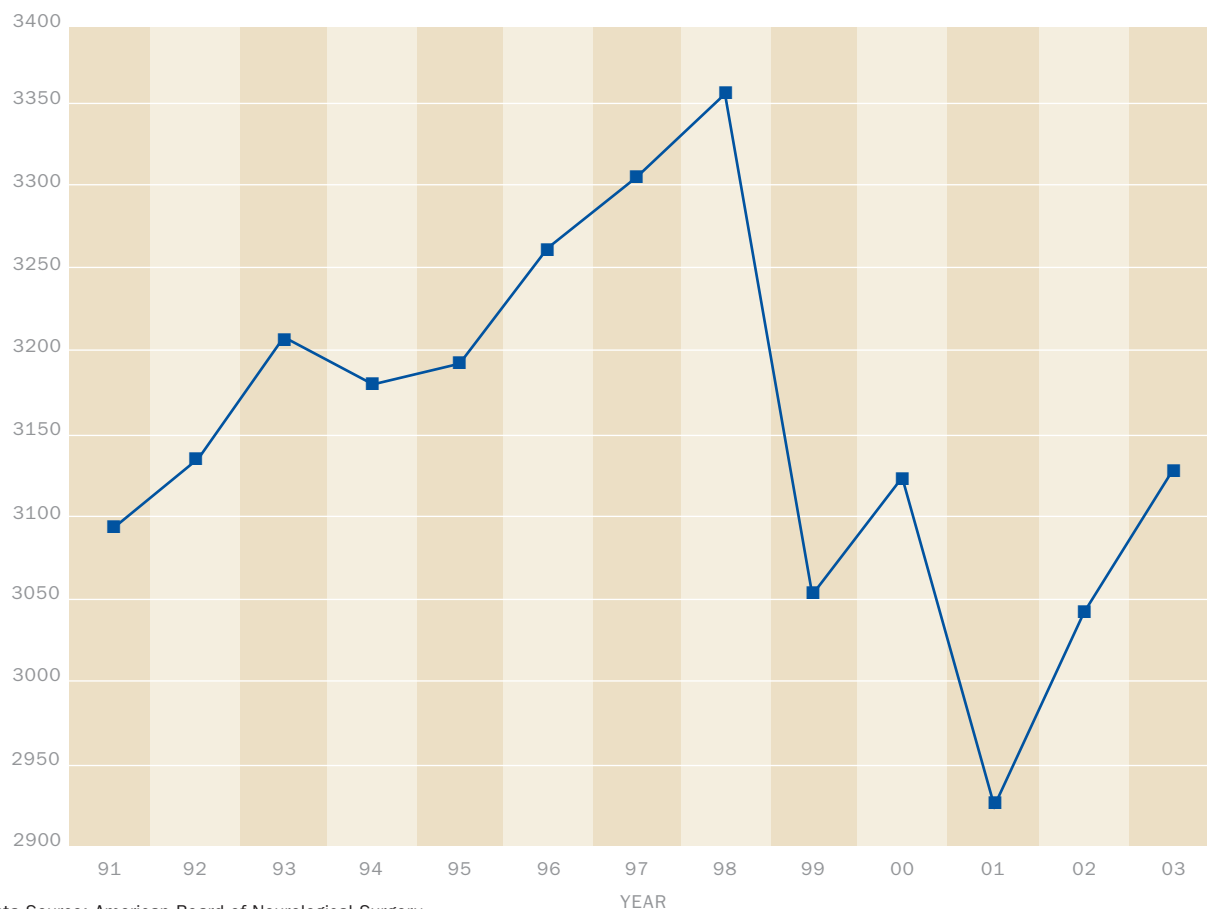
Because reliable numbers of actively practicing neurosurgeons were unavailable, ABNS numbers were used in this study. However, it should be noted that ABNS certification is not a requirement for the active practice of neurosurgery.

**Figure 4: Neurosurgery Applicant Trends, 1996–2005**

### Workforce Adequacy?

Some trends are more difficult to quantify and analyze than others. If one accepts the premise of the Council of Medical

**Figure 5: ABNS Diplomates, 1991–2003**



Data Source: American Board of Neurological Surgery

Specialty Societies Workforce project that the dominant trend is the economy, the overwhelming forces of change within neurosurgery have been declining reimbursement, the growth of managed care, and increasing overhead primarily as a result of high malpractice premiums. What is not known is whether these economic changes definitely have led to changes in neurosurgical practice. For instance, does the average neurosurgeon perform more cases each year to improve revenues? Has there been an increase in the use of ancillary personnel to lower the practice's overhead? Is the impact sufficient to speed throughput of neurosurgeons by practice limitation or early retirement or to impact input of physicians into neurosurgery residencies? Has there been redistribution of neurosurgeons between

academic and nonacademic practices or in the geographic areas where they practice?

In addition to the aging of the U.S. population, there also is the important trend of increasing obesity. It is clear that degenerative spine disease is aggravated by weight, and obesity can increase the complications of all neurosurgery. However, how this obesity epidemic will impact neurosurgical practice remains to be seen.

Many authors also have speculated on the impact of changes in resident training. The length of training has increased gradually over time, and since July 2003 residents have been restricted to an average workweek of 80 or 88 hours. Will the current residents reduce the output of a neurosurgical FTE by working fewer hours? Are future neurosurgeons destined to become ever more specialized? Can

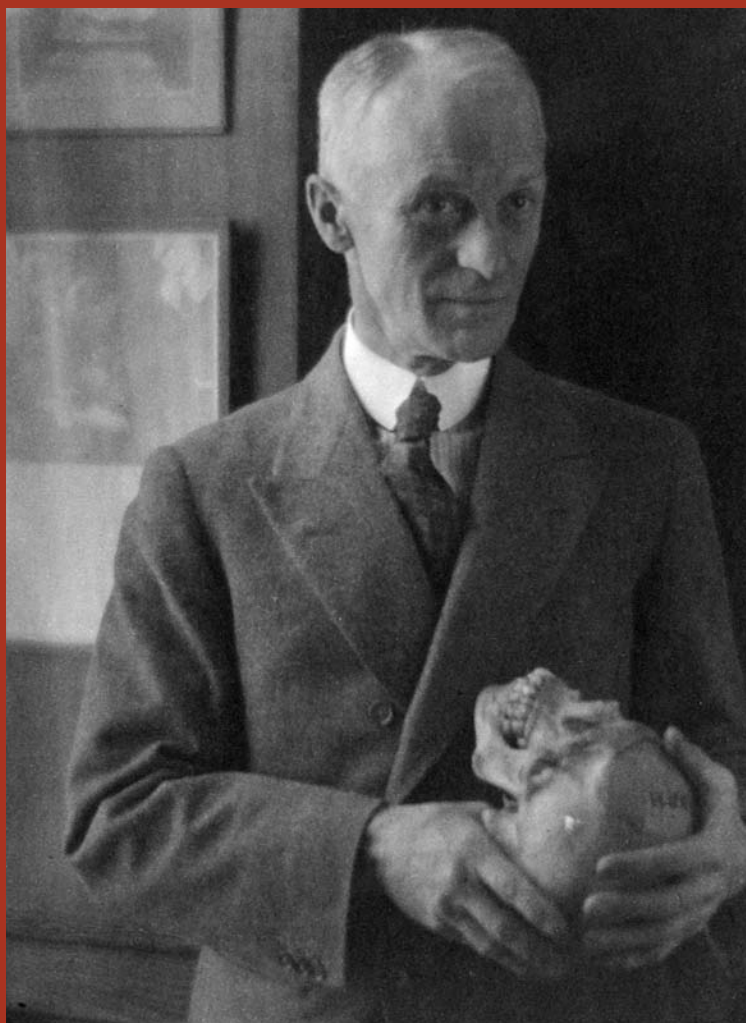
work hour restrictions help attract more medical students to our demanding and long residency training programs?

### Implications for the Workforce

In summary, this study suggests that serious concerns regarding current neurosurgical workforce adequacy are warranted. Further, the trends of growth, aging and changing distribution in the general population will exacerbate the problem unless the specialty can increase proportionally the number of qualified physicians entering neurosurgery residencies. It will remain difficult for organized neurosurgery to respond quickly to needed changes in the neurosurgical workforce because of the specialty's small numbers and the lengthy training period. However,

Continued on page 29





## CUSHING, a Force Who Shaped the Neurosurgical Workforce

In 1926, the year Harvey Cushing delivered the commencement convocation “Consecration Medici” to students at Jefferson Medical College, the population of the United States was 117,397,000. The population of “neurosurgeons” was fewer than 100, given that it was a scant seven years after the American College of Surgeons recognized neurosurgery as a specialty and six years following the initiation of the first neurosurgical organization, the Society of Neurological Surgeons. The Harvey Cushing Society would not hold its first meeting until 1932, the 75th anniversary of which will be recognized during the 2007 AANS Annual Meeting.

**I**n 1926, workforce issues in medicine, particularly those concerned with training, were very much on the minds of many. To provide the army with neurosurgeons during the First World War, 100 general surgeons were trained as neurosurgeons, though none practiced in the specialty after the war’s 1918 conclusion. A few years earlier, the influential report by Abraham Flexner criticizing medical education in the United States and Canada spurred dramatic reforms in the field following its 1910 release. For his part, Cushing ardently supported the early exposure of medical students to clinical experience. He reportedly said to Flexner that “...it would be infinitely better if the students began their first two years with clinical work and supplemented it by such laboratory exercises as their clinical work indicated the necessity of.”

Cushing also opposed the “full-time plan” for clinical instruction supported by Flexner. Under the plan, instructors would be paid by their universities, which in turn would collect any fees from private patients seen. Of this arrangement Cushing later reminisced:

On my own part, a term of service limited to 20 years with an academic salary on which a family of children were to be educated and no pension in sight in case of accident or ill health seemed a dubious proposition. I doubted, moreover, whether such an arrangement would in any way activate me and feared, indeed, that it might encourage indolence. If the purpose of the plan was to prevent the attendants in university hospital from exploiting their position for their personal ends, there was just as much reason to fear, human nature being what it is, that hospital superintendents and trustees might be tempted in a pinch to exploit their salaried professional attendants ... And coming of a race of general practitioners, the intimate and confidential relation between doctor and patient—one of the most precious things in medicine—was in my blood and I could not look upon the cold institutional program with any great enthusiasm, much less with any expectation that it would serve to make something out of me that I was not already.

It is the doctor-patient relationship and the idea of devotion to one’s patients and profession with which Cushing is concerned in these remarks to the Jefferson class of 1926 as the workforce of the future.



# CONSECRATIO MEDICI

## HARVEY CUSHING, MD

**T**here is an old saying that interest does not bind men together: interest separates men; there is only one thing that can effectively bind people, and that is a common devotion. This, a common devotion, more than any other possible influence, serves to overcome the self-depravities and conceits inherent in us which, uncontrolled, represent the chief defect in our natures. Our loyalties, to be sure, —loyalty to a nation, to a cause, to community, to school, to family, to friend, —are somewhat akin, yet there may be something of personal interest, prejudice, or defense in these particular reactions which makes them not wholly unselfish.

So let us believe, for our present purposes at least, that “devotion” not only implies a higher standard of self-effacement, but still carries something of its quondam religious significance. And it is of the doctor’s consecration to his task that I wish to speak, the kind of unselfish relation to suffering humanity that made Saint Luke the beloved physician no more nor less than it makes many another doctor of name unheard and unsung to-day.

It is this common devotion to their life’s work that serves to bind those of the profession into which you are entering with ties more close and enduring than those which hold any other group of people engaged in a common purpose. Nor should it make any difference where or how you may come to be engaged. The lives of countless Weelum MacLures, in the obscurity of their respective Drumtochts, have been no less consecrated, could we but know them, than those of the Parés, the Listers, and the Pasteurs on whom the light of history has been turned.

Devotion is an attribute one cannot estimate and record by ordinary standards. How much the practising doctor cares about his patients as individuals apart from their being the source of his livelihood; how much the medical scientist may be interested in promoting science rather than in securing his own promotion; how much the teacher influences his pupils to their best efforts, unmindful of what the curriculum briefly requires of him; how much the student engages in his work for the work’s sake, regardless of his marks and

rating—all these things depend on a devotion which places spiritual above material rewards.

This may sound, my young friends, like sermonizing. And valedictory addresses to medical students are prone to be commonplace, “platitudinous with the platitudes of a thousand pulpits,” as Sterne said was true of most sermons. But there are certain things which concern the code of the doctor handed down to us from ancient times, which, though commonplace, deserve reiteration on such occasions as this. They are things often lost sight of in these days when the Hippocratic Oath, as supposedly too antiquated for present-day purposes, is rarely read to graduating classes. I rejoice that Jefferson maintains this custom, for there is nothing that expresses so well, as does this justly famous credo, the ideals which from the first have actuated the doctor and have led to the solidarity of the profession you are entering. No guild has a sounder code of ethics; no Masonic group stronger ties of brotherhood.

For no insufficient reason do we as a profession hark back to the fifth century before the Christian Era when the man we venerate as the “Father of Medicine” first cast superstition aside, dissociated his calling from priestcraft, and based it on the principles of inductive philosophy. So, tempering them to our modern period, we may well hold fast to those hallowed rules of professional conduct which he promulgated and which have stood the test of usage as long as the canons of the Old Testament, which likewise in these fallen days are become somewhat unfashionable.

My object in making professional devotion a text on your graduating day is to emphasize the doctor-and-patient relationship. However many of you may come to be diverted into other channels of professional activity, I take it that the school whose diploma you have gained still holds the practice of medicine as the primary object of your four years and more of training, and consequently that the prospective patient has from the first been kept in view even if distantly.

In these days when science is clearly in the saddle and when our knowledge of disease is consequently advancing at a breathless pace, we are apt to forget that not all can ride and that he also serves who waits and who applies what the horseman discovers. In some of our schools so great an emphasis has come to be laid on the science courses, with the patient long hidden from sight, that the better students, under the influence of teachers who have never had clinical experience, naturally come to feel that somehow the practice of medicine among the people

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CONSECRATIO MEDICI, GRADUATION ADDRESS, JEFFERSON MEDICAL COLLEGE, PHILADELPHIA, JUNE 5, 1926. REPRINTED WITH PERMISSION OF YALE UNIVERSITY, HARVEY CUSHING/JOHN HAY WHITNEY MEDICAL LIBRARY.



is an inferior calling compared to the secluded life of an investigator; and that to justify themselves in the eyes of the faculty they must manage to "do a piece of research."

Indeed, when students in some of these schools reach their clinical years their senior teachers are often men whose perspective is largely institutional, and consequently it has become, for lack of time, interest, or experience, no one's business to give instruction in those aspects of medicine which will be so important to the greater number of you in the future: the relation of doctor to doctor, of doctor to patient and patient's family, of doctor to community, and of our profession to the others, particularly to the priesthood from which medicine took its origin.

Dr. Thomas Percival thought these matters of sufficient importance to write a book about them for the benefit of his son on his entry into medicine; but for the most of you who have never heard of Percival and his code<sup>1</sup> they are left to be learned in the bitter school of personal experience; and many a promising career may come a cropper from misunderstandings of professional ethics the chief tenet of which, after all, is proper observance of the Golden Rule, not only in our dealings with our patients and our professional brethren, but with society in general.

In our present day when so great emphasis is being laid on keeping people well by periodic health examinations and preventative medicine, all this about medical practice may sound very old-fashioned. But say what one will, the time inevitably comes to each and every one, now in the best of health, when he must needs cry out for some experienced and sensible doctor who can alleviate if not cure his particular ailments, be they physical or mental; and the kind of sagacity and resourcefulness he will expect and need is less laboratory-born than bred of long and sympathetic familiarity with the anxieties and complaints of ailing, damaged, and worn-out human beings. These things were perhaps best learned in the days of student apprenticeships; and our present efforts under the guise of a tutorial arrangement recall something of the old-time elbow-to-elbow familiarity of teacher and pupil and show a growing appreciation of the advantages of a long-abandoned system.

We have gained much for science but have lost much for practice by the course we are following, and I look forward to a time when the pendulum will swing back, not to a day when

the spirit of research will be any less active, but to a day when suitable representatives of the clinical departments will be delegated to correlate the teaching in the science courses so that their bearing on what is to come may be constantly kept in mind. A course in pure science unrelated to the patient belongs rather in the college than in the medical school.

It is a common complaint that, in their exercises, clinical teachers fail to draw the lessons they should from the laboratory courses. It is doubtless true that they lag in their familiarity with and the adaptation of the newest disclosures of science; and it is perhaps a lame excuse that science as yet has no obvious bearing on the greater portion of the doctor's daily problems. But in rejoinder the clinician might well ask whether it could possibly harm a teacher of the preclinical sciences to have served a house-

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BEEN KEPT IN VIEW EVEN IF DISTANTLY.

officership; or dampen his investigative ardor should he spend even an occasional hour or two in contact with patients in the wards or ambulatory clinic.

Both parties to this mild family disagreement among the faculty must endeavor to see the matter clearly and without prejudice. Through the concentrated application of the scientific method in the fifty years past, medical progress has been nigh incredible. We must therefore make every effort to support and encourage the scientific spirit, for who can foretell what prodigious strides may be taken in another half century? But the capacity for productive research is a rare quality akin to genius, and the future investigator among you will doubtless be found, or find himself, irrespective of this or that curricular arrangement. Whether it is necessary or worthwhile for the majority, who are destined to put to practical purposes the knowledge already gained from the laboratory, to be given such an exclusive preliminary science drill as they are now given in many schools, is a matter of doubt, and a happy solution of this puzzling question will some day perhaps be reached.

You who are graduating here to-day, wherever you land, —in laboratory, in hospital clinic, in practice, —will have occasion to lament the insufficiencies of your preparation. This has been so from the beginning and will be so to the end of time. However

1. The basis of the code of ethics generally adhered to by English-speaking doctors was formulated in 1803 by Percival, who, besides being a practising physician in Manchester, England, was a mathematician and a natural philosopher, one of the first biometricians, one of the first to urge the isolation of contagious disease, one of the first to emphasize public sanitation and the importance of what we now call industrial medicine.



secure the foundation may appear to have been laid, you will come to build on it an individual kind of superstructure which could not possibly have been anticipated. "Could I only have had a better grounding in biophysics instead of wasting my time in a clinic!" groans the young laboratory worker who endeavors to solve some baffling problem. "Could I only have had a little more dissection, I should not have mistaken a median nerve for a tendon when I sewed up that cut wrist!" groans the youthful surgeon. "Had I only learned to puncture a bulging eardrum instead of electing a useless laboratory course, I might have saved this poor child from a meningitis!" groans the young practitioner. "If we could only have foreseen this, that or the other, we would not have spent our time as we did," we groan in unison.

From vain regrets good Lord deliver us. Experience has to teach us many things we have never learned from the schools. You will remember Paré's account of an episode in the little hamlet of Suze sometime in 1537. "See how I learned to treat wounds made by gunshot: not out of books."

Most of you, I take it, will—as Jefferson graduates have done before—come to recruit the ranks of the practising doctor in this great state. Personally I have been too much astride the fence to take sides strongly in regard to the relative satisfactions of a life so devoted or one dedicated to teaching and investigation. With a background of family practitioners, I have, by the fall of dice, come to lead a life different from theirs, not so sequestered as that of some, but sufficiently so to let me estimate the recompenses and weigh the satisfactions which come from an existence of the two kinds. Certainly the self-sacrificing career of the practising physician, respected and beloved of his community, is no less, perhaps even more, character-making and ennobling than the secluded life of a pure laboratory worker, whatever be the importance of his researches and discoveries. In either case, "success dwells in the silences though fame be in the song."

We live in an era of specialization, but specialization can be overdone and there is no inherent reason why the qualities of investigator, teacher, and practitioner should not go hand in hand, be represented in a single individual, and he be none the worse for the mixture. So it was, for example, in the case of the incomparable Hunter; so it was, to come nearer home, in the case of two of the great peripatetic teachers, Nathan R. Smith and Daniel Drake, who were associated with the birth of this school of whose diploma you may be justly proud. And should you in your "waiting time," when patients seem few and your outlook uncertain, wish to gain courage and receive stimulus, read the lives of these men and learn what perseverance may accomplish. Contrast your opportunities

and training with those of Drake, brought up in a log cabin at May's Lick, over the mountains in what was then the wilderness of Transylvania; and who in the midst of teaching, of founding medical schools, of practice, came to be recognized as the leading climatologist and epidemiologist of his day. All this you will find in the volumes of medical biography, which deserve a place on your library shelves alongside your journals and textbooks.

EXCELLENT COURAGE OUR FATHERS BORE—  
EXCELLENT HEART HAD OUR FATHERS OF OLD;  
NONE TOO LEARNED, BUT NOBLY BOLD  
INTO THE FIGHT WENT OUR FATHERS OF OLD.

But, even better than this, stouten your hearts by reading of the doctor in fiction; and emulate Lydgate, at least up to the point which will warn you against marrying the wrong woman. Familiarize yourselves with the writings of healthy-minded doctors like Oliver Wendell Holmes and John Brown, of *Rab and His Friends*. If you need an antidote for the cynicism of *Arrowsmith*, buy or borrow Sarah Orne Jewett's nigh-forgotten story depicting her own father as *A Country Doctor*; for there are still John Leslies in the country districts and room for many more—plenty of room, too, for Nan; and if she is really serious about it she's worth to the world a thousand Leoras. Perhaps best of all, if you would learn what unalloyed professional devotion may be and what rewards it may bring, read or reread the last chapters of Ian Maclaren's *Beside the Bonnie Briar Bush* and let the example of Weelum MacLure, to whom I have already alluded, become a part of you.

Still, you need not resort to biography or fiction to learn something of the spirit of devotion that is the mainspring of our profession. You have plenty of examples, living and dead, here in your own school. Being a surgeon, and more familiar with Jefferson's century-long story of surgery than with her story of physic, let us look there for illustrations, the more fittingly since a talented and enterprising surgeon was your founder; and it took no less a person than a fighting McClellan to succeed in such a venture under the very shadow of, and with no little opposition from, the oldest and most celebrated school in the country, his own Alma Mater. She it was who provided his successor in the chair of surgery on the reorganization of your school in 1841; and the name of Thomas Dent Mütter, who, alas, from overwork died all too young, is held in thankful remembrance through the museum he founded and the lectureship he established—a lectureship which has been of help to many young men, as I, who had the privilege of holding it just twenty-five years ago, can testify.

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# Broadsided by the Curbside Consultation

## *What Constitutes a Physician-Patient Relationship?*

**W**hile informal, “curbside” consultations are common occurrences in this era of increasing specialization and subspecialization, they are undertaken with some peril for unwary physicians. Curbside consultations can cloud the issue of when a physician-patient relationship is established at a time when courts have been moving toward a broader definition of such relationships. Careful and explicit communication during physician consultations can serve the goals of excellent patient care as well as decrease the risk of liability for those involved.

This case in which five physicians—the emergency physician, the psychiatrist, the primary care physician, the neurologist, and the neurosurgeon—were involved in a patient’s care demonstrates how a jury might view a not uncommon sequence of events.

A 28-year-old morbidly obese female presented to the ER with severe lower back pain radiating to her legs and leg numbness. An MRI showed a herniated disc at L3–4. The ER physician discussed the case with the on-call neurosurgeon who recommended bed rest for pain control; the neurosurgeon neither saw the patient nor was informed of the MRI.

The neurologist who had been treating the patient for more than a year saw her the next day. Based on his examination of the patient, the neurologist’s impression was chronic back and leg pain and a conversion disorder overlying her preexisting problem of chronic depression. The patient’s symptoms led the neurologist to doubt that the ruptured disc was the sole cause of patient’s problems. The neurologist ordered an expedited psychiatric consultation before considering whether surgery was warranted.

When the neurologist saw the patient again on the morning of the third day, the patient complained of back and buttock pain as well as bladder dysfunction. The neurologist discussed the patient’s condition with the primary care physician, who ordered both a neurosurgical and a psychiatric consultation. Although the PCP’s nurses called the neurosurgeon on the evening of the third day, the neurosurgeon once again was not informed of the MRI and did not see the patient. The neurosurgeon reportedly told the PCP’s nurses that the PCP should contact him directly and identify the reasons for requesting a neurosurgical consultation on a patient with conversion syndrome.

The psychiatric consultation done on the fourth day resulted in the following diagnoses: (a) major depression and probable conversion component; and (b) exogenous obesity, severe lower back problems and chronic pain syndrome. Neither the neurosurgeon nor the neurologist saw the patient that day.

The PCP contacted the neurosurgeon on the morning of the fifth day, and the neurosurgeon agreed to provide a consultation. The neu-

**Physicians who continue to engage in curbside consultations should be aware that the risk of liability is clearly greater than it was just 10 years ago.**

rosurgeon saw the patient later in the day and, after reviewing the MRI, immediately took her to surgery to remove a large herniated disc fragment at L3–4.

Following the surgery, it was determined that the patient was suffering from cauda equina syndrome. The patient is unable to walk without crutches and suffers from permanent neurological deficits with bowel and bladder control.

The patient sued the neurologist, the neurosurgeon and the hospital. She alleged that the neurologist failed to timely diagnose cauda equina syndrome, particularly in light of the MRI. The patient also claimed that the neurosurgeon was negligent in refusing to see her as the ER physician requested on the day she presented to the ER and that the delay in conducting surgery prevented reversal of the neural dysfunction.

The hospital settled for \$2.5 million and the neurologist settled for \$1.5 million. The jury rendered a defense verdict for the neurosurgeon, finding that no physician-patient relationship existed between the neurosurgeon and the patient.



**Legal Perspective:**  
**Michael Chabraja, JD**

A threshold issue for the jury in this case was whether a physician-patient relationship existed in the context of informal consultations between treating physicians and specialty consultants. Medical malpractice liability traditionally has been predicated upon an established physician-patient relationship. This traditional approach focuses

on the physicians’ expectations rather than those of the patients when determining whether a duty of care is owed. In the past, courts have been extremely reluctant to recognize a physician-patient relationship in the context of these informal consultations.

The policy considerations typically advanced in support of this position are as follows:

■ The treating physician has ultimate control over the patient's care.

■ To recognize a physician-patient relationship in this context would have a chilling effect on the free flow of information between medical professionals.

A number of courts recently have deviated from the traditional approach and in so doing have expanded the scope of consultant liability. This shift with respect to the question of duty reflects a movement away from policies that favor physicians' expectations toward policies that favor the expectations of patients. These courts have utilized three principal approaches, each of which is fact specific.

The first approach involves a qualitative analysis of the nature of the consultant's actions toward the patient. The courts that follow this approach seek to determine whether the nature of the consultation was "continuous and substantial" as opposed to "fleeting and informal."

Under the second approach, some courts have considered whether a physician-patient relationship can be established by a preexisting contractual obligation between the consultant and the hospital. Factors that often determine outcome under this approach include the express terms of the contract and whether the consultant was being paid to be on call or was merely a volunteer.

A third approach utilized by courts focuses on the issue of foreseeable reliance. The key factor in determining whether a duty of care exists under this approach is whether by virtue of the consultant's expertise in a particular area it was foreseeable that the patient's treating physician would rely on his advice.

Although the majority of courts still adhere to the traditional approach, physicians who continue to engage in curbside consultations should be aware that the risk of liability is clearly greater than it was just 10 years ago.



#### **Medical Perspective:**

##### **Monica Wehby, MD**

Providing informal, curbside consultations is a common practice for many physicians, particularly specialists. In these situations, a formal consultation seems unnecessary, as the referring doctor merely wants advice or reassurance. If it becomes apparent that a formal consultation is warranted from the discussion of

the case, the neurosurgeon will then proceed with examination and treatment of the patient.

One also must be wary of unknowingly being named in the patient's medical record. Many physicians will document "discussed with Dr. Neurosurgeon" in the chart, without informing the curbsided specialist. It is wise for the specialist to inform the referring doctor that he does not want his name to appear in the chart unless formally consulted on the patient because of the expanded

concept of consultant liability.

In addition, although the issue apparently was not brought to bear in this case, regulations of the Emergency Medical Treatment and Labor Act state that the ER physician decides which specialist and in what time frame the patient is to be seen by an on-call physician. It is not the consultant's prerogative to decide if and when to see a patient if requested to do so. Failure to provide the service is an EMTALA violation that may result in litigation. ■

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**Monica C. Wehby, MD**, is a neurosurgeon with Microneurosurgical Consultants P.C. in Portland, Ore.

**Suggestions?** By exploring closed medical liability cases, Risk Management aims to help neurosurgeons identify and avoid areas of legal peril. If you would like to see a particular topic covered, please send your idea to Monica Wehby, MD, Risk Management editor, [mcwehby@yahoo.com](mailto:mcwehby@yahoo.com).



# New Online Courses at AANS.org

## *Five Courses Initiate New Neurosurgical Education Series*

KATHLEEN T. CRAIG

**F**ive new online courses are now available in the education area of [www.AANS.org](http://www.AANS.org). The AANS and the Society of Neurological Surgeons, known as the Senior Society, are introducing these sessions as convenient, easily accessible courses directly related to the core cognitive curriculum of neurosurgery. Developed principally for residents, the modules are also a valuable learning tool for physician assistants, nurses, or any neurosurgeon looking to review areas they might not see regularly in their practice.

The Senior Society is interested in working with the AANS to enhance the effectiveness of neurosurgical resident education. The modules are designed to reflect the consensus among program directors about the scope of study that should be encompassed in neurosurgical resident education. An added benefit is the potential utility for appropriate modules to be used for aspects of the ABNS Maintenance of Certification program.

The initial five modules were produced as a pilot program to gain appropriate feedback before considering a more extensive series. Charles J. Hodge, MD, of SUNY Upstate Medical University is leading the joint project.

"The idea for a series of online courses originated from a desire to establish a core curriculum with input from program directors, the ABNS and the AANS," said Dr. Hodge. "Online courses were the most logical solution for educating a large audience in a consistent manner."

The AANS took on the endeavor, funding and producing the initial five courses now available:

### **Technique for Ventriculostomy**

Vincent C. Traynelis, MD, University of Iowa Hospitals

### **Communicating with Patients**

Javad Hekmatpanah, MD, University of Chicago

### **Clinical Evaluation of the Comatose Patient**

Charles Joseph Hodge Jr., MD, SUNY Upstate Medical University

### **Imaging Evaluation of Spine Stability**

Philip R. Weinstein, MD, University of California – San Francisco

### **Spinal Cord Anatomy and Spinal Cord Injury Syndromes**

Kim J. Burchiel, MD, FACS, Oregon Health & Science University

"The collaboration between the Senior Society and the AANS has produced an excellent pilot program," stated AANS President Donald O. Quest, MD. "The editorial board is under the aegis of the

**Online sessions provide a portable and easily varied learning experience.**

Senior Society and represents department chairmen, program directors, ABNS and AANS leaders who are best qualified to select course topics and expert faculty."

He noted that the AANS has the infrastructure to support the program and that the Web site offers the capability to customize testing and report features that enable program directors to track the progress of their residents in a secure environment.

Robert E. Harbaugh, MD, FACS, the residency program director at Penn State University and member of the AANS Maintenance of Certification Committee, helped direct the reporting capabilities for the series.

"Program directors will benefit from a central repository for the results of the online examinations," remarked Dr. Harbaugh. "Through this new program, program directors can logon to [MyAANS.org](http://MyAANS.org) and view the examination scores for each module their residents have reviewed, while residents can also print out a report of what they have reviewed, including their scores, and submit it to their program directors for archiving in each resident's dossier."

The report tallies correct and incorrect answers and identifies the questions answered incorrectly so the participant can return to the online course to find the correct answer. Each participant can take the test as many times as he or she wishes. Only the most recent score will be stored and can be accessed by the participant, the resident's resident program director, and designated senior leadership of the AANS and the Senior Society.

Why did the organizations opt for online sessions rather than publications, CDs or other delivery options? "Residents and young neurosurgeons are becoming progressively more computer literate," said Dr. Hodge. "Online sessions provide a portable and easily varied learning experience. It is also faster to update than a printed publication, which makes it easier to keep material current."

"The online medium is the most cost-effective way for the AANS to make educational modules available to as many people as possible," Dr. Quest added. "This innovative educational program should be of great interest to our international colleagues who may find it difficult to travel to the United States for meetings." ■

Kathleen T. Craig is AANS director of marketing.

# Getting Involved in Professional Societies

*A Veteran Leader in Neurosurgery Shares His Insight*

**W**orking in organized medicine is not every neurosurgeon's cup of tea, but it can add a very rewarding dimension to one's professional life.

Why an individual should devote precious time to involvement in professional organizations is a legitimate question.

First of all, it is an excellent way to better understand the many issues that affect the practice of medicine, surgery, and neurosurgery in our country today. It allows one to broaden the scope of his or her viewpoint and to see a variety of issues in a more global light.

It also is a superb way to become acquainted with people who are at a similar stage of professional development and with whom ideas and goals can be exchanged. It provides an opportunity to travel to other medical centers and to observe others involved in educational activities and neurosurgical practices. This interchange provides exposure to wonderful educational opportunities in anatomy, surgery, and in the socioeconomic aspects and financial management aspects of practice and of life.

Involvement in professional societies allows the individual neurosurgeon to develop executive and administrative skills by gaining experience in organizing time and effort in an effective and productive fashion. Such involvement generally allows enhancement of one's abilities to handle a variety of issues, both interesting and mundane, that affect every part of professional life.

Lastly, organizational activities allow one potentially to become part of the solution rather than to simply gripe about various problems.

## First Steps

How does one become involved in professional organizations?

For medical students, interns, residents, and young surgeons there are a variety of

opportunities to join important professional organizations, most of which offer very low rates and attractive incentives.

These organizations include the American Medical Association, which can be key to involvement in many local activities including neurosurgery, and the American College of Surgeons, which has an active group of neurosurgical members who are deeply involved in the issues facing all of surgery today.

The neurosurgical organizations primarily are the American Association of Neurological Surgeons and the Congress of Neurological Surgeons, both of which

*Edward R. Laws Jr., MD, FACS, is professor of neurosurgery, clinical internal medicine and pediatrics at the University of Virginia in Charlottesville.*



offer numerous opportunities for young neurosurgeons to serve on a variety of committees. Each of the neurosurgical organizations and each of the larger organizations has a young surgeons committee or a candidate and resident group.

The AANS and the CNS also have sections devoted to subspecialty neurosurgery that encourage participation from residents and younger neurosurgeons. The organizations each offer opportunities for individuals to volunteer for committee work, which usually begins with relatively unsophisticated tasks such as marshaling. This initial involvement can lead to expanded opportunities within the organization, and several of these organizations have professional development committees that are designed to assist young neurosurgeons in participating.

To maximize the potential for involve-

**Leadership is very welcoming for young surgeons, and perseverance pays off.**

ment, it is important to read the various communications vehicles of the different organizations. The various publications—e-mail messages, newsletters, and the journals—allow an individual neurosurgeon to get a feel for the leadership and for the issues with which the profession is concerned.

Being part of an annual meeting's scientific program is a wonderful way to join in the most important basic function of these organizations, which is education; I encourage young neurosurgeons to submit a poster or presentation at every possible opportunity. Participating in the scientific program also allows one to announce his or her special skills and special interests. Those who have particular ability with computers, statistics, or various specialty areas are usually welcomed with open arms.

It also is a good idea to try to involve one's spouse in auxiliary activities if he or she is willing. This can make participation in the meetings less of a family problem and more of a joint venture.

Try to remember that for all of these organizations the leadership is very welcoming for young surgeons, and perseverance pays off. Each of the organizations needs the input from its base, and particularly the input from young neurosurgeons, so we wish you well in your efforts to join in and participate. ■

**Edward R. Laws Jr., MD, FACS**, also is a past president of the AANS, the Congress of Neurological Surgeons, the World Federation of Neurological Surgeons, the American College of Surgeons and the Pituitary Society.

# Financial Incentive

## *Operating at the Nexus of Ethics, Law and Policy*

PATRICK W. MCCORMICK, MD

In many business environments, agreements that serve as financial or other incentives to use one product rather than another are commonplace—even desirable—and perfectly legal. In the heavily regulated healthcare environment, such arrangements can be fraught with peril for physicians and for nonphysician participants in the healthcare industry such as device manufacturers, device distributors, pharmaceutical vendors, hospitals and health plans.

A recent lawsuit exemplifies why business transactions between physicians and nonphysician participants need to be assessed for their likely short- and long-term impact on societal goals expressed in the law and in codes of professional ethics.

A neurosurgeon practicing in Searcy, Ark., Patrick Chan, was arrested Sept. 20 by FBI agents for allegations of fraud involving the treatment of Medicare and Medicaid enrollees. Dr. Chan allegedly extracted financial consideration from medical device manufacturers and/or their distributors as a condition for his use of their product(s), according to Robin Young in *Orthopedics This Week*; the payment apparently represented a portion of the sales representatives' customary commission. The agreement, in place for an undisclosed period of time, reportedly resulted in Dr. Chan receiving \$23,000 in payments from industry sales representatives between July and September 2006 in transactions recorded by FBI surveillance equipment. After entering a not guilty plea, Dr. Chan was freed on a \$4 million bond, and the case was scheduled for trial in November.

While the individual's guilt or innocence is to be determined by a jury, the issues raised by this case are worthy of discussion, particularly if the defendant "is not the only surgeon who can be accused of taking money as an inducement for purchasing a particular company's products," as asserted in Young's article.

### **Legal Considerations**

The behavior described in this particular case is in violation of the federal antikickback statute. The statute proscribes the offering of payment or receipt of remuneration in exchange for patient refer-



als or referral of other business for which payment may be made by a federal healthcare program such as Medicare and Medicaid. A reciprocal provision of the antikickback statute also prohibits the solicitation or receipt of any prohibited remuneration under similar circumstances. Thus, there is equal legal risk for both the person offering or paying and the person soliciting or receiving improper remuneration. Violations of this statute are sanctioned with cash penalties of \$25,000 to \$50,000 per violation and possible imprisonment. Those found guilty of violating the antikickback statute receive felony convictions, which also may result in revocation of license to practice medicine.

The law is intended to address situations in which a physician leverages his or her control of utilization decisions involving devices and technology that generate significant commissions for industry sales representatives by committing to use a vendor's product in return for a financial consideration. Such behavior represents fraud because the physician is leveraging public assets (government purchasing power) for personal gain, and any price reduction negotiated outside the boundaries of a safe harbor transaction as delineated by the Office of the Inspector General must be returned to the government. The failure to do so, as alleged in this case, results in diversion of taxpayer money to the physician.

Because physicians are in a position of recommending medical devices to their patients, any value transferred by a manufacturer of such devices to the treating physician, with the expectation of revenue from future sales to the physician's patients, in most circumstances represents an illegal arrangement.

### **Ethical Considerations**

Most device manufacturers are represented by the Advanced Medical Technology Association. AdvaMed has a Code of Ethics that delineates appropriate boundaries for the transfer of value between vendors and physicians.

The AdvaMed Code of Ethics states that "Physicians should not receive anything of value with the expectation of referring or arrang-



# Or Fraud?

ing for the referral of business to suppliers or providing certificates of medical necessity.”

This idea generally aligns with the American Medical Association Code of Medical Ethics, which does not explicitly address the financial arrangements between industry device manufacturers and physicians but does promulgate Council on Ethical and Judicial Affairs’ related opinions, including the following.

- Under no circumstances may physicians place their own financial interests above the welfare of their patients. The primary objective of the medical profession is to render service to humanity; reward or financial gain is a subordinate consideration. (Opinion 8.03, Conflicts of Interests: Guidelines)
- [Entities] that compensate physicians for referral of patients are engaged in fee splitting which is unethical. (Opinion 6.03, Fee Splitting: Referrals to Health Care Facilities)
- A physician should not charge or collect an illegal or excessive fee. (Opinion 6.05)

The AMA Code of Medical Ethics opinions are underpinned by the Principles of Medical Ethics, in this example principles II and III:

- A physician shall uphold the standards of professionalism, be honest in all professional interactions, and strive to report physicians deficient in character or competence, or engaging in fraud or deception, to appropriate entities. (Principle II)
- A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interests of the patient. (Principle III)

It is clear that accepting money or items of value from a manufacturer or distributor of medical devices used in the care of patients enrolled in government programs is both illegal and in violation of professional codes of ethics. What remains unclear is whether surgeons taking money as an inducement for utilizing a particular product is widespread behavior.

## Fraud and Abuse Incidence

The federal government won or negotiated approximately \$1.47 billion in judgments and settlements of healthcare fraud cases in 2005, according to the FBI Web site. Last year U.S. Attorneys opened 935 new criminal healthcare fraud investigations in addition to 1,689 criminal investigations that were pending and convicted 523 people. The Department of Justice also opened 778 new civil healthcare fraud investigations in addition to the 1,334 civil cases that were pending and filed complaints or intervened in 266 cases. Since the Health Care Fraud and Abuse Control Program began in 1997, it has turned over \$8.85 billion to the Medicare trust fund.

Based on a review of recent information, illegal kickback behavior does not seem to be widespread among physicians. Public

reports by the FBI demonstrate that fraud is prevalent in Medicare and Medicaid programs, which account for some 44 percent of all healthcare fraud. Losses total more than \$100 billion annually. A review of FBI press releases reveals that the majority of cases involving trials of doctors for criminal activity are cases of fraudulent claims (typically billing for services not rendered). Very few are related to monetary kickbacks for use of medical devices. Many of the indictments for illegal kickbacks in the healthcare industry actually do not involve physicians, but rather involve business people, hospital administrators and politicians.

However, in medicine there often is a separation of purchase decision-making from payment responsibility that results in little physician accountability for the cost of their choices; sales, therefore, are influenced by attributes other than price, a circumstance that is appropriate to the extent that these attributes emphasize patient care goals over cost savings. But it is shortsighted to ignore the potential for precedence of nonpatient-centric attributes such as working relationships between physicians and manufacturer’s representatives, personal convenience of working with preferred products, and other factors that hinder price competition.

Although physician professional fees are highly regulated to facilitate societal goals of access to and affordability of healthcare, medical device costs are established by free market factors. Spinal implants, for example, generate profit margins large enough to create incentives for fraudulent activity. The elevation of physician clout in such a market is offset by personal accountability and sanctions, which appear to be an effective deterrent to illegal or unethical behavior.

Moreover, a market typically is regulated in response to failure of free market forces to support societal goals. The extent to which fraud interferes with price competition and thus containment of device expenditures, the more likely government regulation becomes.

Financial relationships between physicians and nonphysician participants in the healthcare industry must be undertaken with consideration of prevailing legal, ethical and regulatory constraints designed to balance the personal gain of participating physicians with the aspirations of the profession and the goals of social policy. The law establishes the minimally acceptable behavior, professional ethics represent the best practices of behavior, and regulation is an attempt to increase the likelihood of meeting social policy goals. The critical considerations are whether such financial relationships result in fair market exchange of services for reimbursement, and whether the services at issue are consistent with professional ethics, prevailing laws and free market competition. ■

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# The Making of a Health Policy Leader

## *2006 ACS/AANS Fellow Reviews Brandeis Experience*

FREDERICK A. BOOP, MD

**A**lthough old hands at the provision of excellent patient care, surgeons are relatively new participants in the development of U.S. health policy and in the legislative advocacy that accompanies it. A health policy scholarship program, established three years ago by the American College of Surgeons in concert with several specialty societies, prepares surgeons to be knowledgeable and dynamic leaders in health policy, an area which today so profoundly affects provision of quality patient care.

The scholarship program was developed by faculty at Brandeis University's Heller School for Social Policy and Management and the ACS and was tailored to surgeons interested in leadership and national health policy. Recipients of the scholarship, which pays for a week-long course at Brandeis, also are asked to serve on the ACS Health Policy Committee for the year. In the case of neurosurgery, the fellow also has a guest seat on the AANS/CNS Washington Committee.

As the 2006 AANS/ACS Health Policy Fellow, I participated in the Leadership Program in Health Policy and Management held May 29–June 3 at Brandeis University. Although fairly intense, the Brandeis Course was very well thought out and given. The facilities at the Heller School are state of the art and include wireless Internet capabilities, computer simulation labs and veteran faculty.

Each day didactic sessions were given by various faculty members and guests. Typically these sessions were followed by interactive sessions often based on case studies from the Harvard Business School. One case involved a healthcare system that recruited a well-known transplant team with the promise that the team would have open access to operating room time and intensive care beds as the need arose. This was not a problem early on, but as the team became busier and busier, it often dominated the operating room schedule at the expense of the trauma surgeons and other surgeons with urgent and emergent cases. The team's transplant patients also monopolized a large number of intensive care beds, causing other surgeons to cancel elective surgeries. Case analysis involved calculating volumes and growth expectations which allowed one to anticipate and avoid system bottlenecks when a crisis occurred.

In another case study, a mid-level administrator was charged with gaining support for and introducing a "Six Sigma" program to his hospital system. In this instance, computer simulation programs were utilized to determine where roadblocks might occur and to determine which leadership techniques might be most successful in getting the various managers to adopt the system.

The faculty lectures were outstanding. A series of PowerPoint presentations by Stuart Altman, dean of the school with 30 years of experience in governmental healthcare reform, were without doubt the most educational lectures of the week. He was able to give an overview of the history of the rise of governmental healthcare in America and point out how the system is influenced and how major changes in healthcare policy occur.

Another interesting lecture was given by Jeffrey Levin-Scherz, MD. He was a family practitioner before he returned to school to obtain a master's degree in business administration, and he now serves as the chief medical officer of Partners Community Healthcare. Having viewed healthcare from both the medical and business sides of the fence, he offered useful insights into the problems facing the healthcare insurance industry today.

Other lectures offered the managerial perspective. Jody Hoffer Gittel, PhD, author of the book *Southwest Airlines Way: Using the Power of Relationships to Achieve High Performance*, lectured on human resources management and team building. Sarita Balotra, MD, PhD, gave a series of lectures on performance measurement and management. Jon Chilingerean, PhD, lectured on managing change in complex systems, managing clinics and the healthcare process. He also gave an excellent overview of different leadership styles and diagnosed which leadership technique each course participant tended to use. More importantly, he pointed out which leadership techniques were doomed to fail under certain circumstances and how to recognize which leadership technique would be most effective in a given circumstance.

Overall, the course was excellent. The didactic sessions were informal and the instructors took daily assessment of the 16 participants and added lectures or changed the course as necessary. The ancillary reading was voluminous but carefully chosen. During the fellowship year, Internet access to course reading materials remains available and a series of follow-up telephone conference calls will allow the group to convene several times.

The AANS/ACS Health Policy Scholarship is awarded annually in the spring. Applications will be available from the ACS, [www.facs.org/memberservices/research.html](http://www.facs.org/memberservices/research.html), and the AANS, [www.AANS.org](http://www.AANS.org). For information on how to apply for the scholarship, contact Kate Early, [KEarly@facs.org](mailto:KEarly@facs.org). ■

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## TIMELINE: *Neurosurgery Through History* ■ MICHAEL SCHULDER, MD

### AANS Archives Tell Neurosurgery's Tale

#### Among the 14,000 Items: Cushing's Top Hat

History lives in words and memory, but it also lives in objects. That is why people collect original art and books, even when there are reproductions that appear and feel identical to the original. It is why the U.S. National Archives displays the Declaration of Independence and the Constitution, even though these documents can be read online, in books, or framed in perfect facsimile. This is no less true for the history of neurological surgery, and it explains why many readers of the AANS *Bulletin* enjoy holding a first edition by Dandy or Frazier in their hands.

The AANS Executive Office near Chicago is home to an extensive collection of objects that breathe life into the history of our profession. Among the more than 14,000 items are printed materials—manuscripts, reprints, books and letters—as well as surgical instruments, photographs, and other precious objects including (yes) Harvey Cushing's top hat.

The contents of the archives were amassed over the years from donations by individual neurosurgeons and their families. Some of the material can be viewed online in the Cyber Museum of Neurological Surgery, [www.neurosurgery.org/cybermuseum](http://www.neurosurgery.org/cybermuseum). For instance, the exhibit on the history of aneurysm surgery includes original contributions from pioneers in the field. Photos from an exhibit in 1992 showcase an amazing array of early stereotactic instruments from the collection.

A permanent display of items from the archives graces the Executive Office lobby. Among these items are Cushing memorabilia, such as his lab coat and first editions of works he authored; a complete set of surgical instruments circa 1875; Incan Tumi knives for trephining the skull; and photographs of Louise Eisenhardt delivering the first Cushing lecture. The complete collection of busts by neurosurgeon and artist Emil Seletz—Cushing, Horsley and Dandy among them—also are exhibited in the building.

For anyone in need of evidence that history begins a minute ago, consider the four-volume *Video Journal of Neurosurgery*. This extensive series of instructional videotapes was created in the early 1990s, when many of today's AANS members had just begun their neurosurgical residencies. Narrated by Bennett Stein and Donlin Long, the series features intraoperative footage and instruction by giants of 20th century neurosurgery, some of whom have since died. A sampling of the presenters and topics includes: Joseph



These photos of Harvey Cushing, operating before the Harvey Cushing Society at Peter Bent Brigham Hospital in 1932 and with books, are among the more than 14,000 items archived at the AANS Executive Office. Archival photographs are being selected for exhibit during the 75th AANS Annual Meeting, April 14–19, 2007, in Washington, D.C.

Ransohoff, Management Problems of Gliomas in Adults; John Tew Jr., AVMs of the Thalamus; David Kline, Peripheral Nerve Tumors; Albert Rhoton Jr., Acoustic Tumors; Sidney Goldring, Surgical Management of Epilepsy; Fred Epstein, Intermedullary Spinal Cord Tumors; John Jane Sr., Neurosurgery of the Orbit; and Donald Quest, Surgery for Carotid Disease in the 1990s. The entire series is housed in the archives.

Donations of personal documents, photos, instruments, or objects that will teach present and future neurosurgeons about the development of the field can be made by contacting the AANS. Volunteers interested in organizing this invaluable resource and making it available for researchers and interested neurosurgeons are also welcome. The archives represent our history and will tell our story—the story of neurosurgery—for generations to come. ■

**Michael Scholder, MD**, is professor and vice chair in the Department of Neurological Surgery at New Jersey Medical School in Newark.



# The “I’m Sorry” Potential

## Error Disclosure Policies and Proposed Legislation Reviewed

While medical organizations and ethicists long have advocated full disclosure of complications or errors to patients and their families, the concept of offering apologies and compensation is relatively recent.

A survey by Gallagher and colleagues published in the Archives of Internal Medicine demonstrated wide variations in doctors’ willingness to disclose errors. Of the more than 2,600 surgeons and medical specialists surveyed, surgeons were more likely than other physicians to believe that an error would result in a lawsuit, yet they also were more likely to report that they definitely would disclose an error. A number of surgical specialties have included in their annual meetings formal debates on the topic, with one side arguing for taking the “high road” while the other argues that disclosure is a “road to self-destruction.” The controversy has been chronicled in the lay press. The legal ramifications of error disclosure are, as yet, uncertain.

In order to predict how a full disclosure and compensation policy might impact neurosurgical patient care and medical liability, it is necessary to analyze the experience of institutions that have adopted such a policy. Two such institutions are the University of Michigan Health System and the Veterans Affairs Medical Center of Lexington, Ky.

Rich Boothman, JD, chief safety officer at UMHS, implemented his institution’s policy in 2001. He thinks that knowing the difference between appropriate and inappropriate care is key. If a mistake is made, the institution discloses it promptly and offers compensation. If the institution determines that no mistake was made, they defend. “Do this, and medical malpractice litigation goes away or is reduced to background noise,” he said.

In June Boothman testified to the U.S.

Senate Committee on Health, Education, Labor and Pensions on the success of the UMHS program. The number of claims (pretrial notices through active litigation) was 262 in 2001, dropping to less than 100 since August 2005. The average time for claim processing dropped from 20.3 months to 9.5 months, cutting litigation costs in half. A portion of the savings has been used for patient safety programs.

Gail L. Rosseau, MD, is director of cranial base surgery at the Chicago Institute of Neurosurgery and Neuroresearch, Chicago, Ill.



A full disclosure policy was implemented in 1987 at the Veterans Affairs Medical Center in Lexington. If it was determined that an error had been made, full details were to be given to the next of kin by the medical leadership of the hospital, along with an expression of “regrets of the institutions and personnel involved.” Families were invited to bring their lawyers to discuss an offer of compensation. As a result of the program, the hospital became among the lowest in claims paid in the VA system according to Steve Kraman, MD, former chief of staff at the VA in Lexington.

Similar disclosure and compensation programs have been instituted at Minneapolis Children’s Hospitals and Clinics, Dana Farber Cancer Institute in Boston, and Johns Hopkins University in Baltimore.

### Proposed Legislation: MEDIC

In its May 25 issue, the New England Journal of Medicine published “Making Patient Safety the Centerpiece of Medical Liability Reform,” an article coauthored by U.S.

Sens. Hillary Rodham Clinton, D-N.Y., and Barack Obama, D-Ill. The senators acknowledge the escalating insurance premium costs experienced by specialties such as neurosurgery and express concern over the resultant deterioration in patients’ access to care. They also cite the well-known 1999 Institute of Medicine report that attributes from 44,000 to 98,000 deaths in the United States each year to medical errors. Their conclusion: There is a need to improve patient safety.

The senators coauthored MEDIC, the National Medical Error Disclosure and Compensation Bill, S. 1784, introduced in September 2005. The main provisions of this bill are to:

- create an Office of Patient Safety and Health Care within the Department of Health and Human Services;
- establish the National Patient Safety Data Base, analyzing data to inform policy and practice recommendations;
- establish the MEDIC program; and
- support studies related to MEDIC and the medical liability system.

The MEDIC legislation would provide federal grant support and technical assistance to physicians and institutions that implement programs of full disclosure and negotiated compensation for medical errors. The proposed bill calls for protected confidentiality for medical personal and protects any apology, preserves the patient’s right to sue, and allows for third party mediation. The anticipated reductions in lowered legal and administrative costs would be earmarked to lower insurance premiums and fund systems changes to improve patient safety.

Under the provisions of this bill, three key outcome studies would be conducted:

- Patient safety analysis to determine

standards and develop “best practice” tools.

- Medical liability insurance market analysis to determine sources of increased legal costs and compare efficacy of the various state liability insurance programs.

- Analysis of cases not resolved successfully under this program.

Given the dramatic change in the composition of Congress following the mid-term elections, the legislation could gain momentum rapidly. The bill was referred in September 2005 to the Senate Health, Education, Labor and Pensions Committee, which Sen. Edward Kennedy, D-Mass., is slated to chair in 2007.

Another bill, the Fair and Reliable Medical Justice Act, S. 1337, introduced by Sens. Mike Enzi, R-Wyo., and Max Baucus, D-Mont., would provide grants to organizations that develop pilot projects to research the feasibility of establishing medical courts.

### Related Developments

The Colorado Physicians Insurance Company, COPIC, has developed a program called the 3R's: Recognize, Respond, Resolve. Under this no-fault program, there were 930 qualifying incidents from 2000 to 2004. The average patient reimbursement per incident was \$5,326. To date, none of the cases has gone to litigation. Despite good faith efforts, patients occasionally do pursue attorney involvement after an initial 3R's overture to the patient. In COPIC's experience, this occurred in less than 2 percent of cases. However, the vast majority of medical malpractice liability insurers have not yet weighed in on the issue.

The Joint Commission on Accreditation of Healthcare Organizations discussed the policy of requiring apologies in 2001. It shelved the idea due to concerns that apologies could be used against physicians and hospitals under current tort law.

“Sorry Works,” a grass-roots project developed by the brother of a young patient who suffered a fatal myocardial infarction,

has been actively lobbying state legislatures for full disclosure requirements. Two states, Illinois and Vermont, recently have passed legislation that establishes pilot programs to test the efficacy of full disclosure and compensation policies. The Tennessee, Texas and New Jersey legislatures are considering similar legislation.

Other Western nations also are grappling with this issue as they also begin to experience American-style increases in medical malpractice litigation and its costs. In the United Kingdom, the National Health Service Redress Bill, HL Bill 22, is under consideration by Parliament. It provides limited compensation for those injured by medical mistakes. In Australia, a full disclosure policy has been adapted nationally, but it is voluntary and lacks guidelines or rules for disclosure or compensation.

### The Scope of the Debate

Some have advocated that the time has come to broaden the scope of the debate. Future efforts may include not only tort reform, but a more comprehensive approach to the malpractice crisis. Within the current tort system, programs to limit frivolous lawsuits, set standards for expert testimony and enforce accountability from experts are being advocated, in addition to caps on noneconomic damages. Medical courts to rule on errors and poor outcomes have been proposed.

The introduction of legislation such as MEDIC may signify a change in the climate of discussions on tort reform. All sides now agree that a problem exists, and all agree that a more trusting physician-patient relationship is desirable. ■

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# Goodman Oral Boards Course

*Course Owes Success, and Now Its Name, to Dr. Goodman*

That the AANS oral boards course soon will mark 10 years of preparing attendees for success in the American Board of Neurological Surgery exam is a notable milestone. The occasion for celebration now, however, is recognition of the neurosurgeon who created one of the most sought after courses in postgraduate neurosurgical education.

In honor of Julius M. Goodman, MD, the AANS officially renamed the oral boards course *Goodman Oral Board Preparation: Neurosurgery Review by Case Management*. The presentation announcing the new name and paying tribute to Dr. Goodman took place in Houston during the Nov. 5–7 course.

"I'm speechless," said an astonished Dr. Goodman, following announcement of the new course name to an audience of more than 100 course attendees, faculty and guests. Dr. Goodman also was presented with a plaque commemorating the occasion.

Achievement of ABNS certification—a key milestone on the path to a career in neurosurgery and a requirement for membership in the AANS—is no easy feat, as those of us who already have been through the process well know. It represents the culmination of years of education and training in mastery of a knowledge base that is the foundation neurosurgeons rely upon as they provide the best care for patients throughout their careers. Helping neurosurgeons attain this milestone is near and dear to the heart of Dr. Goodman.

"I work very closely with experienced, board-certified faculty members to produce an interactive, hands-on curriculum that provides participants with insights on what to expect during the rigorous oral board exam," stated Dr. Goodman. "I feel it is very important to offer a curriculum that is ever-evolving to parallel the advances in the field and the clinical challenges being



In tribute to a decade of dedication by Julius M. Goodman, MD (center), the AANS announced in November that its oral boards course would be renamed in Dr. Goodman's honor: *Goodman Oral Board Preparation: Neurosurgery Review by Case Management*. Dr. Goodman, who founded the course, is pictured with course faculty members Konstantin V. Slavin, MD (left) and Joel C. Boaz, MD. Dr. Boaz has been a faculty member throughout the nearly 10 years Dr. Goodman has directed the course.

faced by neurosurgeons in practice."

Dr. Goodman proposed the idea of the *Neurosurgery Review by Case Management Oral Board Preparation Course* nearly a decade ago. The first course was held May 3–5, 1997, in San Diego with 32 registrants and 11 faculty members. The popularity of this course has led to two course offerings per year, and the course has expanded to 100 registrants per course taught by 30 faculty members. The courses are offered in Houston just before the ABNS oral exam.

The course features plenary sessions wherein an examiner interviews a participant in the "hot seat" as the larger group observes. While this format initially is somewhat intimidating to participants, the opportunity for colleagues to "listen in" during the plenary sessions constitutes an invaluable learning experience. In addition, smaller break-out sessions allow one-on-one interaction between participant and examiner. Participants are able to develop techniques for answering questions pertaining to the clinical scenarios in a structured fashion, and they also are able to practice rapidly responses to multiple clinical scenarios across numerous subspecialties.

What is the measure of a successful course? Soaring numbers of course participants such that a waiting list is necessary is one obvious measure. The most dramatic testaments to course success, however, are the accolades voiced by the neurosurgeons who have participated. Their comments include:

- "This course is by far the most important thing you can do ... to pass the exam."
- "Your course was an invaluable part of my success on the exam."

Dates for the *Neurosurgery Review by Case Management Oral Board Preparation Course* in 2007 are May 20–22 and Nov. 4–6. Additional information is available at [www.aans.org/education](http://www.aans.org/education).

With the AANS Goodman oral board preparation course now well established, Dr. Goodman and the AANS now are developing courses to prepare neurosurgeons for ABNS Maintenance of Certification. ■

**Allan Levi, MD, PhD**, is an associate professor in the Department of Neurosurgery at the University of Miami in Florida. He is a member of the faculty for the *Goodman Oral Board Preparation: Neurosurgery Review by Case Management* course.



Continued from page 15

On Mütter's enforced retirement in 1856, the school for the first time reached out for an example of its own product, and chose a man who had graduated with its second class and who, meanwhile, had gathered as a teacher experience almost as rich and varied as that of Daniel Drake himself, under whose influence he had come in Cincinnati. Young men in those days were less fearful of transplantation than we, and the twenty-eight years during which Samuel David Gross subsequently served here in his fourth chair of surgery saw him rise to the top of his profession. We may well believe that the increasing flood of students, who during those years went out into the world as Jefferson graduates, were deeply influenced by his scholarly example and teaching.

But if the elder Gross and his contemporaries may seem somewhat shadowy figures to you, the mantle he wore as doyen of American surgery has now for long rested on the shoulders of his successor, a man endowed with perennial youth, who seems likely to hold that emeritus position among us for time untold. And as Dr. Keen's spirit dominates time, so the unquenchable spirit of your beloved teacher, "Jack" Da Costa, dominates a disability which would long since have driven a lesser man to retirement and inactivity. It is, furthermore, this same spirit of "never give in" that keeps the star of a frail gentleman shining brilliantly in a galaxy of Philadelphia surgeons, a man whose personal dexterity enables him to save more lives, and those the precious lives of children, each day, week, and month, than may be given to others to save in a year or in a lifetime. If the Recording Angel keeps score of the numbers any one of us as individuals may possibly have snatched from the very jaws of death, certainly Chevalier Jackson's name tops the list.

Favored is the school that may carry the tradition of men who have shown such professional devotion as these, and whose spirit has conquered time, age, ill health, and circumstance. A wise doctor who knew his patients well once said that in his experience the best work in the world was often done by people suffering from some bodily affliction; and this is a heartening idea you may well pass on in your turn to some of those who may in future years consult you and for whom you may have little to give but encouragement and comfort. You indeed will have to mix many of your prescriptions with a basis of hope, and too little stress is laid, in most courses in therapeutics, on the beneficial effect of optimism and cheer in combating disease.

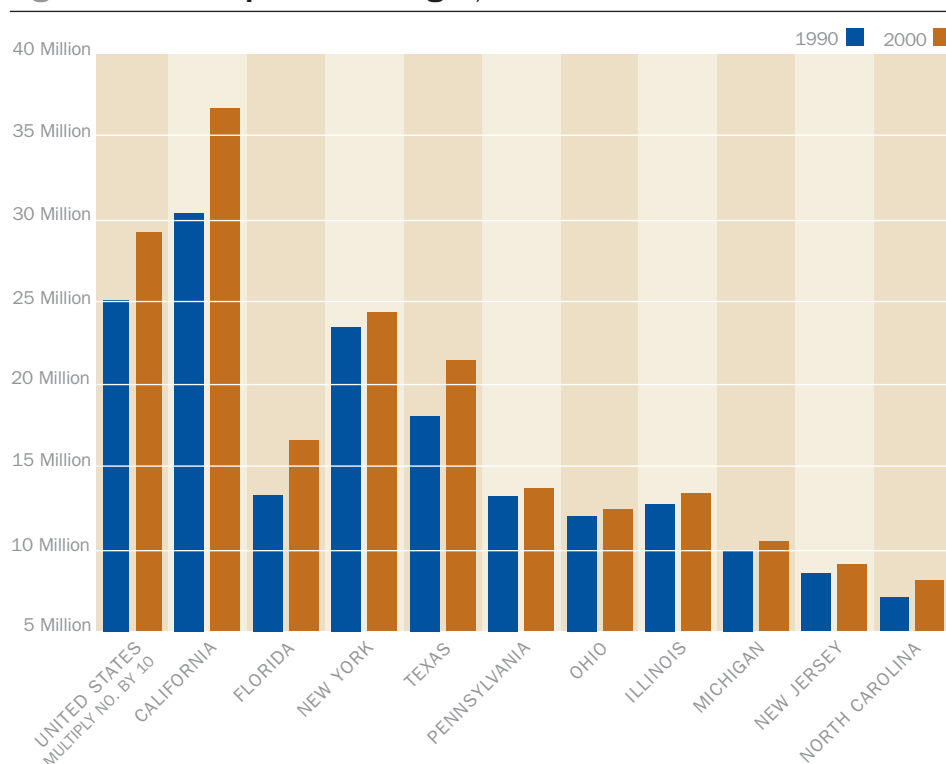
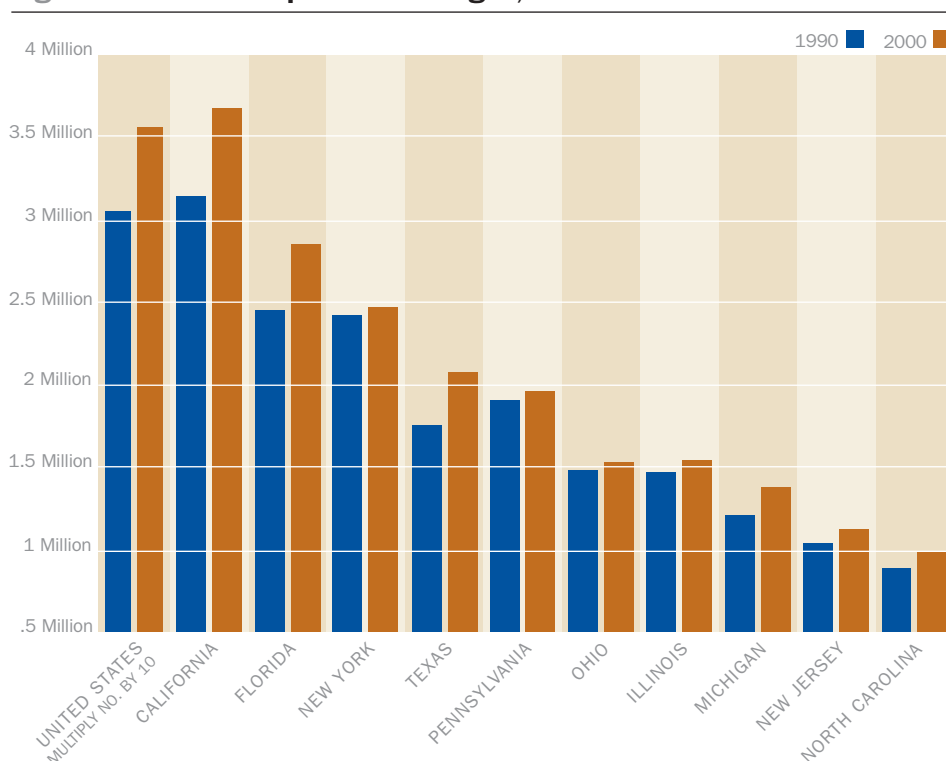
We are tending to become a standardized country, and it is perhaps on standardization that industrial progress is founded. But standardization of our educational systems is apt to stamp out individualism and defeat the very ends of education by leveling the product down rather than up. The qualities that

really count in this world are quite beyond pigeonholing, quite beyond measurement by scales, tape, or mental tests, quite beyond rating by any known system of examination, all of which fail in giving us an estimate of that most precious of all qualities, personality.

The capacity of the man himself is only revealed when, under stress and responsibility, he breaks through his educational shell, and he may then be a splendid surprise to himself no less than to his teachers. There is no profession in which such surprises are more likely to happen than in that you are entering, no profession which offers greater opportunities for the development of character, provided you will consecrate your lives unselfishly to your tasks as others you would wish to emulate have done before you. In so doing you will meet responsibilities as they come, with intelligence and courage; you will play fair with your fellow men, remembering that the practical religion of the physician is not the promising of bliss in the future but the giving of health and happiness on earth; and, above all, you will hold fast to that noble phrase of Hippocrates: "Where there is love of humanity there will be love of the profession."

I am going to read to you, in closing, a paragraph from a book which I can warmly recommend for its philosophy and humor. You will observe from its title that I may have had it in mind in choosing the text of this, in comparison, most feeble address. It is Stephen Paget's *Confessio Medici*. He says therein: —

Every year, young men enter the medical profession who neither are born doctors, nor have any great love of science, nor are helped by name or influence. Without a welcome, without money, without prospects, they fight their way into practice, and in practice they find it hard work, ill-thanked, ill paid; there are times when they say, "What call had I to be a doctor? I should have done better for myself and my wife and the children in some other calling." But they stick to it, and that not only from necessity, but from pride, honor, conviction; and Heaven, sooner or later, lets them know what it thinks of them. The information comes quite as a surprise to them, being the first received from any source, that they were indeed called to be doctors; and they hesitate to give the name of divine vocation to work paid by the job, and shamefully underpaid at that. Calls, they imagine, should master men, beating down on them: surely a diploma, obtained by hard examination and hard cash, and signed and sealed by earthly examiners, cannot be a summons from Heaven. But it may be. For, if a doctor's life may not be a divine vocation, then no life is a vocation, and nothing is divine. ■

**Figure 6: Total Population Changes, 1990–2000****Figure 7: Over 65 Population Changes, 1990–2000**

Data Source for Figure 6 and Figure 7: U.S. Census Bureau

Continued from page 11

this study demonstrates the importance to organized neurosurgery of knowing how many neurosurgeons are actively practicing, where they are, and what they are doing. The specialty must attend to the important trends that will influence workforce adequacy such as the changing demographics of medical students, critical population shifts, changes in demand related to an aging population and widespread obesity, and the potential for economic trends to influence many aspects of practice.

As many before have stated, no model exists that can accurately predict the future workforce issues for medicine, medical subspecialties, or neurosurgery. Attention to workforce adequacy will remain critical for many years to come, and educating students, residents and practicing neurosurgeons about workforce and socioeconomic issues is critical. Clearly, analysis of workforce adequacy must be a continual effort rather than the subject of sporadic refocusing. ■

**Deborah L. Benzil, MD,** and **Edward von der Schmidt III, MD,** are respective chair and vice chair of the Workforce Committee of the Council of State Neurosurgical Societies.

The authors acknowledge the contributions of the entire Workforce Committee of the Council of State Neurosurgical Societies, [www.csnsonline.org](http://www.csnsonline.org)

#### Related Articles in the *AANS Bulletin* [www.aans.org/bulletin](http://www.aans.org/bulletin)

- Comprehensive practice survey shows impact of change in health care environment. 5(2): 9–13, 1996. Article ID 10220
- Couldwell WT, Gottfried ON, Weiss MH, Popp AJ. Too many? Too few: New study reveals current trends in U.S. neurosurgical workforce. 12(4):7–9, 2003. Article ID 21462
- Esposito A: The physician workforce and its impact on the health care system. 5(2):3–4, 1996. Article ID 10225
- Popp AJ: Neurosurgical workforce: Examining the physician supply controversy. 9(1):7–9, 2000. Article ID 10130
- Seaver MJ: Behind every successful practice: Sound data—neurosurgical practice survey results. 14(3):9–15, 2005. Article ID 37096
- Seaver MJ: Completing the picture: AANS 2006 workforce survey assesses neurosurgical ER coverage. 15(2):8–11, 2006. Article ID 40546
- Time Tells: Residents get less operative experience after workweek restrictions. 14(4):12–25 (cover section), 2005. Article ID 37383



# NEWS.ORG

AANS/CNS Sections Committees Associations Societies

## AANS Releases

### 2006 Annual Report

The 2006 Annual Report and all AANS annual reports since 1999 are available online at [www.aans.org/about/annual.asp](http://www.aans.org/about/annual.asp)

### New Enhancements for AANS Online Case Studies

The AANS Online Case Studies now feature a publication date so the most recently posted cases can be located quickly as well as a new text editor that simplifies formatting of new case submissions. Case studies are available to members at [www.MyAANS.org](http://www.MyAANS.org).

### AANS Announces the 2007 International Visiting Surgeons Fellowship

This fellowship provides funding for a neurosurgeon or neurosurgeon-in-training from a developing country (as defined by the World Bank) to study for up to three months at a North American institution. Program details, a list of eligible countries and a copy of the application are available at [www.aans.org/international/surgeons\\_fellowships.asp](http://www.aans.org/international/surgeons_fellowships.asp). Applications are due Dec. 31, and recipients will be announced March 1, 2007.

### Neurosurgical Focus Releases Upcoming Topics and Deadlines

*Neurosurgical Focus*, the online, indexed, rapid-publication journal of the AANS, announces new topics, submission deadlines and topic editors for upcoming issues: April 2007, Hydrocephalus, Jan. 15 submission, Harold L. Rekate, MD, topic editor; May 2007, Brain Edema, Feb. 15 submission, Julian T. Hoff, MD, and Richard Keep, PhD, topic editors. Manuscripts published in *Neurosurgical Focus* also are found on Medscape at [www.medscape.com/viewpublication/65\\_index](http://www.medscape.com/viewpublication/65_index). Continuing medical education credit is available for all current *Neurosurgical Focus* issues. Additional information is available at [www.aans.org/education/journal/neurosurgical](http://www.aans.org/education/journal/neurosurgical).

### Spine Section Announces Executive Committee Nominations

(contributed by Michael W. Groff, MD) The AANS/CNS Section on Disorders of the Spine and Peripheral Nerves announces two nominations to its executive committee. They are Daniel K. Resnick, MD, president elect, and Christopher I. Shaffrey, MD, member at large. The election will be held during the section's 23rd annual meeting March 7–10 in Phoenix, Ariz.

### New Tumor Section International Fellowship Announced

In October the AANS/CNS Section on Tumors announced the new international research fellowship, the AANS/CNS Section on Tumors/BrainLAB International Research Fellowship. The name recognizes the partnering of the Tumor Section with BrainLAB AG, which provided an educational grant in support of this fellowship program. This fellowship is open to international neurosurgeons or to graduating residents from outside the United States or Canada to perform clinical, translational or basic research in the field of neurosurgical oncology in a clinical or laboratory setting. The fellowship amount of \$50,000 (U.S.) is to be used for travel expenses and salary support for a one-year period. Applications for the first-ever award were due Nov. 15 and the awardee will be announced in January 2007. More information is available at [www.tumorsection.org](http://www.tumorsection.org).

### Spine Section Supports Evidence-Based Medicine

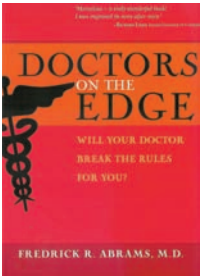
(excerpted from the Spine Section Newsletter and contributed by Michael W. Groff, MD) Evidence-based medicine, or EBM, is becoming steadily more important in the current neurosurgical environment. The AANS/CNS Section on Disorders of the Spine and Peripheral Nerves has responded enthusiastically to the call for EBM studies and guidelines development. The Spine Section has had a subcommittee on outcomes that dates back more than five years, and guidelines covering lumbar fusion were published in the June 2005 issue of the *Journal of Neurosurgery: Spine*. Complete text of the article is available at [www.spinesection.org/PDFs/spinenews1106.pdf](http://www.spinesection.org/PDFs/spinenews1106.pdf).

### NASS Announces 2007 Research Grants and Fellowship Programs

The North American Spine Society is accepting applications for research grants and fellowship programs. Any spine-related proposal will be considered for funding, and applicants do not need to be members of NASS to submit a proposal. General guidelines and details are available from [www.spine.org/research/researchprogram.cfm](http://www.spine.org/research/researchprogram.cfm), or Karen James at (815) 675-002, [james@spine.org](mailto:james@spine.org). The application deadline is May 4, 2007.

# Real Patients, Real Dilemmas

## *A Contemporary Look at the Physician-Patient Relationship*



**Doctors on the Edge:  
Will Your Doctor Break  
the Rules for You?**

Fredrick R. Abrams,  
MD, 2006, First  
Sentient Publications,  
202 pp., \$23.95.

**F**red Abrams is the father of modern medical ethics in the Rocky Mountain region. He has devoted much of his professional career to teaching ethics to healthcare professionals. It was therefore logical that he would put his stories together in the form of a book and entirely expected that everyone would benefit from the effort. What I didn't expect was that he would put together such wonderful prose in doing it.

Abrams, an obstetrician in Colorado, heavily weights the patient stories he tells toward his specialty, but these real stories about real patients facing real dilemmas are universal in nature. The stories involve truth-telling, confidentiality, deception in medical records, obligations of doctors to report a crime, full disclosure, informed consent, beneficence, and sanctity of life versus quality of life. They are about reproduction, abortion, racism, euthanasia and the "right to die."

Neurosurgeons will particularly enjoy the stories entitled "They Shoot Horses," "Palliative Terminal Sedation," and "Choosing"; the latter is about a man with paralytic disease who has lived for a year on a ventilator and then decides that he doesn't want to live that way.

The best part of this book is the physician affirmation, which is reproduced here with the author's permission. It has evolved from a lifetime of experience in dealing with ethical issues. It represents a dramatic improvement in the outdated

### A PHYSICIAN'S AFFIRMATION

In order to be worthy of self-respect, I pledge to give the respect due to others who place their trust in me as a professional in the healing arts. Therefore:

*I will practice my art and my science to benefit my patients.*

*I will disclose to my patients that which I know of their disease, and any hazards of the remedies I might suggest, so that I may guide them to choose the course that suits them best.*

*I will offer care and comfort when they are ill, and when death becomes inevitable, I will ease their way as best I can in keeping with their expressed plan.*

*I will recognize their right to self-determination, and if a conflict should arise with my own ethical constraints, I will make them aware without judging wherein we differ so that they may consider seeking help elsewhere for their complaints.*

*I will intercede in their behalf within the scope of my authority if I perceive they are being treated without regard for their humanity.*

*I will hold in confidence that which is seen or heard in my role as physician.*

*I will ever be a student, sharpening my skills and knowledge to make me a better clinician.*

*If I act in this way, I may aspire to join the men and women who through the ages have approached the loftiest ideals of the healing mission, for I will have earned the faith and trust that is the strongest tie in the bond between patient and physician.*

—Fredrick Ralph Abrams, MD

Hippocratic oath, which most of us have been sworn to uphold. It is a thoughtful, readable, meaningful contemporary affirmation that all neurosurgeons would be wise to follow. ■

**Gary Vander Ark, MD**, is clinical professor of neurosurgery at the University of Colorado Health Sciences Center. He is the 2001 recipient of the AANS Humanitarian Award.



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# EVENTS

## Calendar of Neurosurgical Events

### 7th Annual International Congress on Cerebral Revascularization

Jan. 11–14, 2007  
St. Louis, Mo.  
[http://pa.slu.edu/files/pa\\_files/cerebralrevasc.pdf](http://pa.slu.edu/files/pa_files/cerebralrevasc.pdf)

### 19th Annual Disorders of the Spine

Jan. 13–19, 2007  
Whistler, British Columbia, Canada  
[www.cme.hsc.usf.edu/dots](http://www.cme.hsc.usf.edu/dots)

### Adding, Updating and Expanding Operating Rooms of the Future

Jan. 18–19, 2007  
Orlando, Fla.  
[www.acius.net](http://www.acius.net)

### Neuroscience Centers of Excellence

Jan. 24–26, 2007  
Miami, Fla.  
[www.acius.net](http://www.acius.net)

### 5th International Congress on the Improvement of the Quality of Life on Dementia, Parkinson's Disease, Epilepsy, MS and Muscular Disorders

Jan. 25–30, 2007  
Sicily, Italy  
[www.forumcongress.com/qol](http://www.forumcongress.com/qol)

### Chicago Review Course in Neurosurgery

Jan. 25–Feb. 4, 2007  
Chicago, Ill.  
[www.chicagoreviewcourse.com](http://www.chicagoreviewcourse.com)

### Richard Lende Winter Neurosurgery Conference<sup>+</sup>

Feb. 2–7, 2007  
Snowbird, Utah  
[www.lendemeeting.com](http://www.lendemeeting.com)

### 2007 International Stroke Conference

With a Track Planned by the AANS/CNS Cerebrovascular Section and the American Society of Interventional & Therapeutic Neuroradiology<sup>+</sup>  
Feb. 7–9, 2007  
San Francisco, Calif.  
[www.neurosurgery.org/cv](http://www.neurosurgery.org/cv)

### Adding, Updating and Expanding Comprehensive Cancer Services

Feb. 8–9, 2007  
San Diego, Calif.  
[www.acius.net](http://www.acius.net)

### 22nd Annual Washington Neuroradiology Course

Feb. 17–18, 2007  
Bethesda, Md.  
[www.afip.org/Departments/edu/upcoming.htm](http://www.afip.org/Departments/edu/upcoming.htm)

### 3rd Annual Update Symposium on Clinical Neurology and Neurophysiology

Feb. 19–21, 2007  
Tel Aviv, Israel  
[www.neurophysiology-symposium.com](http://www.neurophysiology-symposium.com)

### 45th Annual Kenneth M. Earle Memorial Neuropathology Review Course

Feb. 19–23, 2007  
Bethesda, Md.  
[www.afip.org/Departments/edu/upcoming.htm](http://www.afip.org/Departments/edu/upcoming.htm)

### The Winter Clinics for Cranial and Spinal Surgery

Feb. 25–March 2, 2007  
Snowmass Village, Colo.  
(513) 569-5354

### Interurban Neurosurgical Society<sup>+</sup>

March 2, 2007  
Chicago, Ill.  
[mrakows@nnex.net](mailto:mrakows@nnex.net)

### Microsurgery of Aneurysms: Recent Advances

March 5–9, 2007  
St. Louis, Mo.  
<http://pawslab.slu.edu>

### 7th South Cone Society of Neurological Surgeons Meeting

March 9–11, 2007  
Gramado, Brazil  
[www.plenariumcongressos.com.br/congressos/neurocirurgia-doconesul/](http://www.plenariumcongressos.com.br/congressos/neurocirurgia-doconesul/)

### Southern Neurosurgical Society Annual Meeting<sup>+</sup>

March 14–17, 2007  
Sea Island, Ga.  
[www.southernneurosurgery.org](http://www.southernneurosurgery.org)

### 75th AANS Annual Meeting

April 14–19, 2007  
Washington, D.C.  
[www.AANS.org](http://www.AANS.org)

## AANS Courses

For information or to register call (888) 566-AANS or visit [www.aans.org/education](http://www.aans.org/education).

- **Weekend Update: Interactive Review of Clinical Neurosurgery by Case Management**  
Feb. 24–25, 2007 ..... Atlanta, Ga.
- **Managing Coding & Reimbursement Challenges in Neurosurgery**  
Jan. 26–27, 2007 ..... New Orleans, La.  
Feb. 16–17, 2007\* ..... Scottsdale, Ariz.  
March 16–17, 2007 ..... Boston, Mass.  
June 29–30, 2007\* ..... Chicago, Ill.  
August 24–25, 2007\* ..... Charleston, S.C.  
Sept. 7–8, 2007 ..... Las Vegas, Nev.  
\*Coding for Pros requires a coding course to have been taken within the past three years.
- **Practice Checkup: Is Your Practice Running Optimally?**  
July 1, 2007 ..... Chicago, Ill.
- **Goodman Oral Board Preparation: Neurosurgery Review by Case Management**  
May 20–22, 2007 ..... Houston, Texas  
Nov. 4–6, 2007 ..... Houston, Texas
- **Neurosurgeon as CEO**  
June 9, 2007 ..... Chicago, Ill.