



AMERICAN ASSOCIATION OF NEUROLOGICAL SURGEONS BULLETIN

The Socioeconomic and Professional Magazine for AANS Members • Volume 15 Number 3 • 2006

THE PATIENT AT THE CENTER OF CARE

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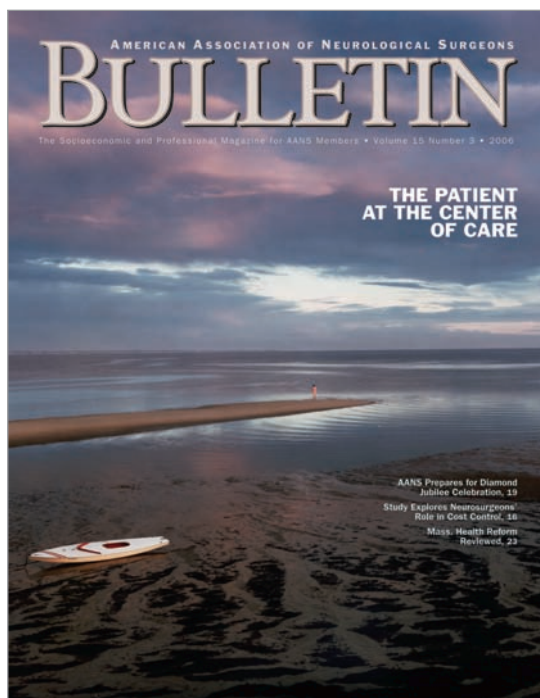
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AANS MISSION

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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Articles or article ideas concerning socioeconomic topics related to neurosurgery can be submitted to the *Bulletin*, bulletin@AANS.org. Objective, nonpromotional articles that are in accordance with the writing guidelines, are original, and have not been published previously may be considered for publication.

The AANS reserves the right to edit articles for compliance with publication standards and available space and to publish them in the vehicle it deems most appropriate. Articles accepted for publication become the property of the AANS unless another written arrangement has been agreed upon between the author(s) and the AANS.

PEER-REVIEWED RESEARCH

The *Bulletin* seeks submissions of rigorously researched, hypothesis-driven articles concerning socioeconomic topics related to neurosurgery. Selected articles are reviewed by peer-review panelists. Papers must comport with the writing guidelines at www.aans.org/bulletin.

Peer-Review Panel led by Deborah L. Benzil, MD

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LETTERS

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. 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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Reason to Celebrate

AANS Vitality Stimulates Amazing Epoch

Along with the growth of neurosurgery as a specialty, the AANS has flourished since its inception 75 years ago and has developed into a body that encompasses the full spectrum of neurological surgery and is involved with every aspect of the field. Thus, the occasion of the AANS 75th anniversary observation at the 2007 AANS Annual Meeting in April offers much to celebrate.

To honor its diamond jubilee, the AANS returns to Washington, D.C., the city where Temple Fay, Eustace Semmes, Glen Spurling and William Van Wagenen founded the Harvey Cushing Society on Oct. 10, 1931. The Cushing Society adopted the name American Association of Neurological Surgeons in 1967, after President Frank Mayfield identified the AANS as the society that represents North American neurosurgeons and speaks for all of neurosurgery.

This "Mayfield proclamation" is echoed in today's AANS Mission Statement, which was reappraised in anticipation of this anniversary year and approved on April 21:

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.

During the past 75 years the AANS has encouraged the development of all the subspecialty groups within the field and maintains them under its aegis, unifying all aspects of the specialty. The AANS continues to foster collegial relationships with the other professional organizations within neurological surgery, with the house of surgery in general, and indeed with all of medicine. Communication and cooperation are essential among these various entities and are the foundation on which the AANS relies in its

advocacy role for neurosurgery to the public, the medical community in general, the government, the media, and third party payers. These principles form the foundation of the current AANS Strategic Plan, which specifies financial, organizational, member service, and advocacy goals.

From the Beginning

The formation of the AANS was driven by the desire for a neurosurgical continuing

*Donald O. Quest, MD,
is the 2006–2007
AANS president.*



education forum that would allow "investigation and advancement in the fields of neurosurgery," in the words of Temple Fay. Neurosurgical education remains an integral function of the AANS, and this dedication is evidenced in the AANS' recent focus on supporting the American Board of Neurological Surgery's Maintenance of Certification program, which began rollout last January. Today the AANS produces courses in neurosurgical education, jointly sponsors such courses and meetings, and provides continuing medical education opportunities through print publications and online opportunities. At www.MyAANS.org the AANS offers members and subscribers an online tracking service that tallies continuing medical education credit for MOC and state certification requirements as well as for AANS membership requirements.

At the apex of AANS educational programs and representative of AANS activities as a whole is the annual meeting. The upcoming meeting April 14–19 in our

nation's capital most certainly will draw neurosurgeons and related professionals the world over to a memorable event. Annual Meeting Chair Mitchel Berger, MD, and Scientific Program Chair Timothy Mapstone, MD, are preparing the unique mix of science, technology, professional and socioeconomic programs and social events that will constitute the "Celebrating AANS' Diamond Jubilee" meeting. Historical exhibits and a commemorative book are among the planned special attractions.

An Amazing Epoch

"We are living in an amazing epoch, too near for us to get other than a blurred picture of its full significance." This observation by Harvey Cushing at the dedication of Yale University's Sterling Hall of Medicine in 1925 remains true for us today. By 1925 Cushing had seen the recognition of neurosurgery as a specialty, had led in the development of many advances that benefited patients, and already himself had become an inspiration.

Cushing sparked the idea for Van Wagenen and colleagues to create our organization, and their foresight would fuel the continual growth of our profession while inspiring generations of neurosurgeons to be of the highest quality and to lead and inspire in their turn. A look at the listing of AANS presidents reminds us of many others on whose shoulders we have stood. I am honored to join their ranks, particularly in such an auspicious year for our organization, and am myself reminded that this is our time to lead and inspire. It is on our shoulders that neurosurgeons of tomorrow will stand, our foresight and determination which will set the course of practice for future colleagues.

This diamond jubilee year is a time to honor the venerable ideals of the AANS founders, ideals which have remained unchanged since the inception of the organization. I invite you to join me in recognizing 75 years of achievement and to step into the future, beginning with the AANS diamond jubilee celebration in April. ■

NEWSLINE

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Neurosurgeon Appointed to NINDS Advisory Council

On Oct. 6 the National Institute of Neurological Disorders and Stroke announced the appointment of Ralph G. Dacey Jr., MD, to the National Advisory Neurological Disorders and Stroke Council. One of six new appointees who will serve on the 18-member council through July 2010, Dr. Dacey joins John Loesser, MD, who had been the council's lone neurosurgeon. www.ninds.nih.gov.

■ **CMS Proposes Significant Physician Payment Cuts for 2007** The Centers for Medicare and Medicaid Services on Aug. 22 issued a notice of proposed rulemaking for the 2007 Medicare physician fee schedule. In the notice, the CMS estimated that physician payments will be cut by 5.1 percent. Congress adjourned in late September without passing legislation to halt the cut, and unless Congress intervenes and makes changes to the sustainable growth rate, or SGR, formula in the final session of the year, the cut will go into effect on Jan. 1, 2007. The AANS and CNS are working closely with other medical specialty groups to ask Congress to change the SGR formula and mitigate the SGR-driven cuts. In addition to the SGR-related cuts, neurosurgeons should anticipate decreases in reimbursement resulting from the five-year review of the Medicare fee schedule and proposed changes to the methodology for calculating practice expenses. As a result of the five-year review, most codes in the fee schedule have been increased, particularly the evaluation and management codes and the E&M component of the surgical global fee. Because of budget neutrality requirements, however, the CMS will need to apply a budget neutrality adjuster, which will result in a cut of about 5 percent. The practice expense changes will decrease payments for neurosurgery by an additional 1 percent. Taken together, neurosurgeons can anticipate decreases in reimbursement of 10 percent or more on Jan. 1, 2007. More information is available at www.cms.hhs.gov/center/physician.asp. Neurosurgeons can contact their members of Congress by e-mail, <http://capwiz.com/noc/issues/alert/?alertid=9067826&type=CO>, or by calling a toll-free telephone number sponsored by the Alliance of Specialty Medicine. The number is (866) 899-4088, and the neurosurgery access code is 9595. After entering the access code and zip code, callers will be connected to their legislators.

■ **MCAC Addresses Spinal Fusion Surgery for Degenerative Disc Disease Nov. 30** A public meeting of the Medicare Coverage Advisory Committee on Nov. 30 will address spinal surgery for degenerative disc disease. Specific topics for review include identifying the most informative measures of clinical outcomes; indications for spinal fusion; clinical outcomes for the different surgical techniques and components; complications; harms and adverse events; persistence of benefits and harms over time; and general applicability to the Medicare population in routine practice. The committee is charged with identifying areas where the current data might be considered to be deficient and where additional research is warranted. The Federal Register notice is available at www.cms.hhs.gov/faca/downloads/id37.pdf.

■ **National Provider Identifiers Accepted Now, Required After May 2007** The Health Insurance Portability and Accountability Act of 1996 mandated the creation of a standard unique health identifier number for healthcare providers. The Centers for Medicare and Medicaid Services is in the process of issuing National Provider Identifier numbers and, after May 23, 2007, the CMS will require an NPI number for all Medicare claims submitted. When applying for the NPI, the CMS recommends including "legacy" identifiers for all payers, not only those for Medicare. When reporting a Medicaid number, the state associated with the number should be included. Beginning Oct. 1, Medicare can accept claims that list only the NPI, but the CMS strongly encourages providers to submit both legacy identifiers and their NPIs on claims. In addition to its use as an identification number for Medicare, some private health plans may begin using the NPI. Information on applying for an NPI is available at www.cms.hhs.gov/NationalProvIdentStand.

■ **New Administrators at HHS** Leslie Norwalk, who has served as Centers for Medicare and Medicaid Services deputy administrator, becomes CMS acting administrator effective Oct. 15. She replaces Mark McClellan, who resigned on Sept. 5. Robert Kolodner, chief health informatics officer at the Veterans Health Administration, was named acting national coordinator for health information technology in the Department of Health and Human Services. He replaces David Brailer, who resigned in May.

Send news briefs for
Newsline to
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Medical Students Hold the Key

New Research Fellowships Will Involve Medical Students in Neurosurgery

In celebration of the Neurosurgery Research and Education Foundation 25th anniversary, the AANS and the NREF announce the new Medical Student Summer Research Fellowship program, beginning summer 2007.

"The AANS is committed to ensuring that neurosurgery flourishes as the future unfolds," said AANS President Donald O. Quest, MD. "This exciting new opportunity is another way to make that happen."

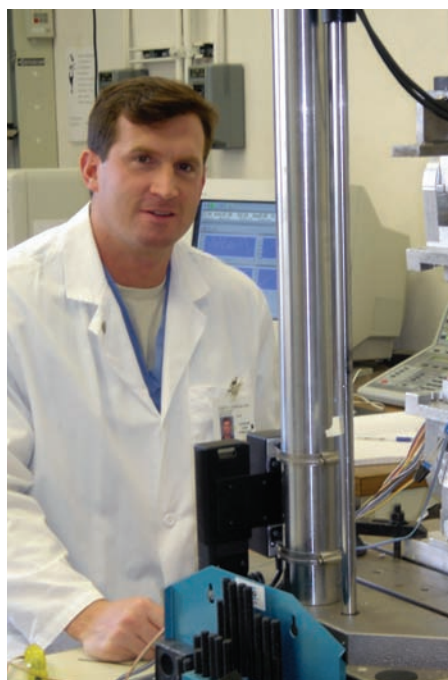
This research fellowship program offers first- and second-year medical students the chance to spend a summer working in a U.S. or Canadian neurosurgery department or research laboratory. Up to 10 fellowships of \$2,500 each will be awarded annually, with the entire process being directed by an NREF subcommittee led by Robert A. Ratcheson, MD.

"This fellowship program is an excellent compliment to NREF's existing grant program," said Dr. Ratcheson. "It exposes young medical students to research activities from the beginning of their medical studies, thus whetting their appetites for and cultivating their interests in scientific investigations."

Applications are available through the AANS Web sites beginning Oct. 1 and will be distributed to neurosurgery department chairs, residency program directors, current National Institutes of Health investigators and the deans of all U.S. and Canadian medical schools.

"Through these new fellowships we invite medical students to sample the exciting prospects of this challenging and dynamic specialty in the hope that the best and brightest of them will pursue neurosurgery as a career," commented Dr. Quest.

The new Medical Student Summer Research Fellowship program is the latest addition to the many research opportunities available through the NREF and



2004 NREF Awardee Robert J. Kowalski, MD, received a fellowship of \$70,000 to conduct a two-year study of artificial discs for the lumbar spine, exploring whether artificial discs can preserve a normal range of motion and withstand stress better than standard therapies such as discectomy and spinal fusion.

funded through generous voluntary donations from the AANS, AANS members, corporate partners and the general public. Annually the NREF awards important research fellowships and young clinician investigator awards. These NREF awardees are the neurosurgeons of tomorrow—bright, young residents and academicians whose research has the potential to improve the lives of those suffering from neurosurgical disorders through innovations in the field of neurosurgery.

One example is Joseph Ong, MD, who was awarded the NREF/DePuy Spine Research Fellowship in 2005. His study, entitled "Design of Human Cortical Neural

Prosthetic," addressed improved processing and interpretation of neural recordings and how they enhance the development of human cortical neuroprosthetic devices.

In 2006, the NREF awarded 13 research grants in the form of four young clinician investigator awards and nine research fellowships. While this is a record number of supported research grants in the NREF's 25-year history, nearly two-thirds of the highly qualified research applications remain unfunded due to lack of financial support. The NREF dedicates 100 percent of every dollar contributed to the NREF to neurosurgical medical research and educational opportunities.

The NREF sincerely appreciates the investment of every contributor into neurosurgical research and education as it enables the foundation to fund research grants which generate progress in the quest to conquer neurological disorders and improve patient care. The foundation will benefit from your support in the form of additional research grant funding. It will not be able to continue supporting important research efforts without donations.

In honor of its 25th Anniversary, the NREF is asking previous supporters to increase their contributions by \$25 or 25 percent and new supporters to contribute a minimum of \$175 to this year's fundraising campaign. NREF Chair Martin H. Weiss, MD, FACS, believes that these increases are necessary and in line with the foundation's ongoing effort to award at least one new grant each year.

"We cannot do it without your support," said Dr. Weiss. "Research and development opens the door to advances in the specialty, and these young researchers, with our support, hold the key." ■

Michele S. Gregory, msg@AANS.org, is AANS director of development.

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Jan. 1 – June 30, 2006

The Executive Council of the AANS Neurosurgery Research and Education Foundation gratefully acknowledges the individuals, groups, corporations and members of the general public who generously supported the NREF between Jan. 1, 2006, and June 30, 2006.

We thank these donors for continuing to recognize the need for and understanding the importance of providing critical funding for some of the specialty's brightest scientists and their promising neurosurgical investigations. These studies have set a high standard in the neuroscientific community, serving as key indicators of our ability to enhance science, technology and improve patient care. These NREF supporters include:

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Patient-Centered Care

Success Depends on Multidisciplinary Collaboration

Patient-centered care represents a paradigm shift from disease-oriented care. It involves the employment of a multidisciplinary team of neurosurgeons, an informed, respected patient (and family), and a coordinated health-delivery system and team. Government agencies, insurance companies and patient advocacy groups champion the shift to patient-centered care, and it currently is a focus of much attention among surgical specialties (2).

In the cover story, Rahimi and colleagues document the implementation of a patient-centered care plan at the Medical College of Georgia. They describe an institution-wide initiative, and for nearly two years following its implementation in 2003 they tracked measurable outcomes based on patient satisfaction and length of stay. Following the studied period they noted an increase in neurosurgical admissions, a statistically significant increase in patient satisfaction, and decreased length of stay.

The maintenance costs for hospital beds increased commensurate with the increase in neurosurgical admissions during the period studied. One would expect the contribution margin to the hospital from neurosurgical admissions also to have increased significantly during this period.

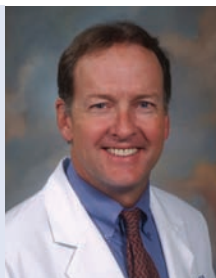
Neurosurgeons should be aware of the importance of neurosurgical admissions to the fiscal health of the hospital. The combination of rising neuroscience volumes and continued strong margins has led some hospital administrators to determine that “the brain is the new heart,” according to one hospital CEO whose facility is among a number expanding its neuroscience service line (5). This expansion is at a time when traditional volume drivers such as orthopedics and cardiology/cardiac surgery are threatened by reimbursement cutbacks and non-hospital competitors.

The most frequent neuroscience proce-

dures such as stroke care and spinal and cranial surgery offer comparable or superior margins to these services. For example, the average per-patient contribution profit in 2002 for neurosurgery, \$9,893, significantly outpaced per-patient profits for

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.



general surgery (\$7,491), thoracic surgery (\$6,341), vascular services (\$4,718) and spinal procedures (\$2,599). Furthermore, the total neurosurgical inpatient and outpatient volumes are expected to increase significantly as the U.S. population ages (4). Between 2004 and 2014 projected increases in national volumes are 10 percent for cerebrovascular services including stroke and aneurysm, 14 percent for spinal surgeries, and 26 percent for neurodegenerative diseases (3).

The Rahimi article clearly demonstrates the benefits of a coordinated effort for patient-centered care in neurosurgery. Neurosurgical outcome studies, generated both within the specialty and externally by governmental, hospital and insurance entities, increasingly will be incorporating measures of patient satisfaction. This will represent something of a shift from the “silo” mentality of traditional departmental structure in most institutions. Neurosurgical practitioners of the future must successfully engage in a patient-centered, collaborative environment. Collaboration in the form of multidisciplinary management and partnering with the hospital and allied services to improve patient care (and the bottom line)

will be the hallmarks of the successful neurosurgical practices of the future (1).

Socioeconomic Research in the AANS Bulletin

The article by Rahimi and colleagues is one of several peer-reviewed articles published in the AANS *Bulletin* in the last two years. Presenting reliable information on socioeconomic topics to readers is a vital interest of the *Bulletin* and the AANS. By introducing a rigorous peer-review process and providing a definitive venue for publication, the *Bulletin* seeks to promote research into socioeconomic topics.

The mission of the *Bulletin* is to provide socioeconomic, professional and association information to AANS members and to serve as the primary socioeconomic and professional publication for the neurosurgical community. The participation of a broad cross section of researchers and authors inside and outside of the specialty therefore is necessary and desired.

I invite you to review the *Bulletin's* writing guidelines, available from the *Bulletin's* home page, www.aans.org/bulletin, and to consider submitting an article that will add to neurosurgery's body of knowledge in socioeconomic areas. ■

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"Bay/Sky,
Provincetown," 1977
©Joel Meyerowitz
Courtesy Edwynn
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THE PATIENT AT THE CENTER OF CARE

The classic theme of man versus nature evoked by this photograph might also be seen as a metaphor for the patient "versus" an increasingly complex and often incomprehensible system of healthcare. In the cover story, Rahimi and colleagues describe how a redesigned healthcare delivery system can engage patients and their families in creation of a healing environment that results in increased patient satisfaction and decreased cost of hospitalization. ■ This image by Joel Meyerowitz was published in his first book, *Cape Light*. A chromogenic color print of the image, printed in 1981, resides in the collection of the Art Institute of Chicago, where the image is described as "a traditional subject [in which] Meyerowitz nonetheless succeeded in extending the possibilities of the photographic medium by allowing color to heighten the emotional and spiritual content of his images." In September 2006 Meyerowitz, who was granted continuous access to the World Trade Center site after Sept. 11, 2001, published *Aftermath*, a book of photographs that chronicle the experience of transformation at Ground Zero.

Patient- and Family-Centered Care Initiative: Implementation at the Medical College of Georgia

PEER-REVIEWED RESEARCH

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Introduction

In 2003, the Department of Neurosurgery at the Medical College of Georgia embraced the institution-wide patient- and family-centered care plan in order to increase productivity, decrease cost, and improve patient satisfaction. Implementation of this plan included the creation of a neuroscience inpatient and intensive care unit with input from patients and their families, nursing staff, and physicians. In addition to regular information gathering rounds conducted by residents and faculty, a bed management board was established. This group of neurosurgery residents, social workers, charge nurses, physical therapists, occupational therapists, speech therapists, and neurosurgery faculty members, who preside over the meeting, assembles once a week to discuss each patient's care.

Methods

The bed management board convenes once every week to discuss all aspects of patient care on an individual basis. Input from all members of this multidisciplinary team is considered and utilized in creating therapeutic and discharge planning for every patient. This information is then discussed with individual patients and their families at regular intervals.

A new multimillion-dollar neuroscience center was created with the needs of physicians and patients in mind. This has included a neurosurgery intensive care unit with universal rooms that can serve as intensive care, stepdown, or floor beds (Figure 1). All rooms are spacious and equipped with couches and foldout beds, an arrangement that allows family members to remain with their loved ones during hospitalization and visiting hours to be eliminated. (Figure 3). In addition, a resource center was created with Internet access and information pamphlets for patients and their families.

Administrative records for the Department of Neurosurgery adult section were reviewed from 2002 to 2005. These records were kept and organized by the department's business administration office. Length of stay for patients on the floor and in the intensive care unit was evaluated. Average cost for an intensive care and floor bed is estimated to be \$1,400 and \$800 per night respectively at our institution. Patient satisfaction scores also were reviewed for this period. Patients were given questionnaires prior to discharge allowing them to rate their overall hospital experience on a scale of 0 to 100. This scale represents the overall satisfaction of the services received by patients during hospitalization each month. The number of participating patients varied monthly from approximately 40 percent to 80 percent.

Results

Patient Satisfaction and Volume

Analysis of patient satisfaction scores and patient volume was performed. The mean patient satisfaction

Abstract

In 2003 the Department of Neurosurgery at the Medical College of Georgia embraced the institution-wide patient- and family-centered care plan in an attempt to improve productivity and patient satisfaction and reduce hospital costs. This initiative included the creation of a neuroscience center with large state-of-the-art rooms that can serve as floor or intensive care unit beds and that can offer unrestricted patient visiting hours and a family resource library. A bed management board composed of neurosurgery faculty and residents, rehabilitation professionals, social workers, and nurses was established to provide a multidisciplinary approach to patient care. Input from all members of the team is considered and utilized in creating therapeutic and discharge planning for every patient. The patient plan then is discussed with individual patients and their families at regular intervals. Following implementation of these new principles in the Department of Neurosurgery, patient satisfaction increased from average scores of 79.2 percent in 2002 to 84.6 percent in 2004. The average length of stay decreased from 6.58 days in 2003 to 4.59 days in 2005. Elective admissions increased from 35.1 patients per month in 2002 to 52.3 patients per month in 2005. With the evolution of medicine into a multidisciplinary business, cost, productivity, and patient satisfaction must be integrated into the healthcare process. The implementation of the patient- and family-centered care plan has increased the number of patients cared for in the department, decreased the cost of hospitalization, and improved the quality of care received by each patient.

FIGURE 1

Universal Rooms



The universal rooms serve patients in intensive care, stepdown or floor status.

score in 2002 was 79.2 percent (low 64.6/high 87.1). For 2003 the score increased to 81.8 percent (low 70.3/high 89.8). During 2004 the mean patient satisfaction score again increased to 84.6 percent (low 76.3/high 88.2). With the exception of a score of 76.3 percent, all other scores were above 80 percent in 2004. It is important to note that movement of these percentage points indicates real process improvements and not statistical aberrations. During this same period our elective admissions increased from 35.1 patients per month in 2002 to 52.3 in 2005. Our elective admissions for 2003 and 2004 were 42.3 and 49.5 patients per month respectively (Figure 2).

Patient Length of Stay and Hospitalization Costs

Patient length of stay was reviewed from January 2002 to September 2005. The average length of stay initially increased from 5.72 days in 2002 to 6.58 days in 2003. Average length of stay continually decreased after 2003, to 5.34 days in 2004 and to 4.59 days in 2005 (Figure 4).

A Kruskal-Wallis test was performed to determine whether any differences exist between the length of stay medians for years 2002 to 2004 (Figure 5). Since there was a significant difference between the three years, three Wilcoxon tests were performed to determine where the differences were located (Figure 6). Statistical significance was determined at $p < 0.05$ for the Kruskal-Wallis test, and a Bonferroni

adjustment was used to obtain a familywise error rate of 0.05 for the three Wilcoxon tests. A Wilcoxon test was considered statistically significant when the $p < 0.05/3 = 0.0167$. Statistical significance was noticed for the data between all three years.

The maintenance cost of hospital beds used for our center was \$2,642,640 in 2002, \$3,647,952 in 2003, \$3,453,912 in 2004, and \$3,150,576 in 2005.

Discussion

Background

Neurosurgery historically has been a specialty of few practitioners. Every year fewer than 160 individuals enter neurosurgery residency programs (2). Recently, economic and legal pressures have led some neurosurgeons to change where and how they practice or to opt for early retirement. As the number of neurosurgeons practicing in community facilities has decreased, the volume of patients at academic centers has increased. In the past, a strategy for handling increasing workload was to have neurosurgery residents spend more hours in the hospital. However, with the introduction and enforcement of the 80-hour resident workweek in 2003, residents are no longer able to compensate for the expanding volume of patient care with longer workdays.

Patients have become much more informed about their healthcare due in part to the widespread availability of the Internet beginning in the 1990s. Information regarding specific illnesses and therapeutic modalities is widely available. Individuals also are able to compare physicians, programs, and hospitals throughout the country. With the availability of all of these resources, patients and their families have come to expect more from their physicians and their hospitals. Today many patients and their families prefer to take an active role in the daily decision-making process of their healthcare. However, many patients are frustrated with the healthcare system. Bruster et al. demonstrated this frustration in a national survey of hospital patients published in 1995. More than 5,000 patients were interviewed at 36 different hospitals. The main complaint was lack of communication by physician to patient. Fifty-six percent reported that they had not been given written or printed information regarding their medical status or discharge summary at time of release from the hospital. Another 70 percent stated that they were

Continued on page 14

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Both average patient satisfaction scores and average patient volume trended upward from 2002 to 2004. The percentage of increase in average patient satisfaction scores was 6.8 percent between 2002 and 2004, and the percentage of increase in average patient volume was 41 percent for the same period.

FIGURE 2

Patient Satisfaction and Patient Volume (2002–2004)

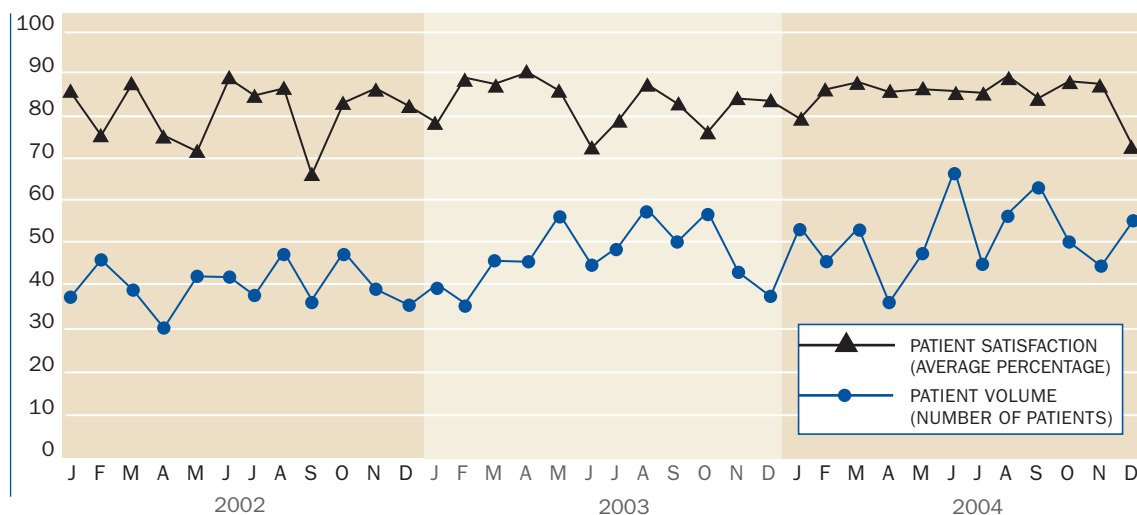


FIGURE 3

Private Patient Rooms



Spacious rooms with seating and foldout beds allow family members to stay with patients, eliminating the traditional visiting hours.

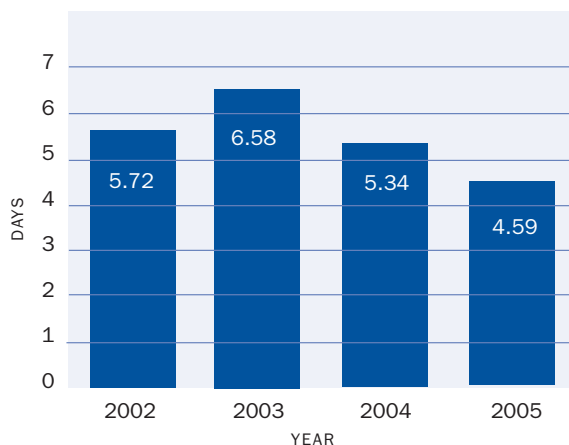
Continued from page 13

not informed of any warning signs or symptoms related to their illness at time of discharge (1).

A New Approach

In order to provide excellent healthcare and increase patient satisfaction in a framework of an 80-hour resident workweek, we created a patient- and family-centered care plan. Utilization of universal beds allows patients to remain in one location throughout their hospital course as they progress from an intensive care unit setting to a floor setting. Creation of a resource center allows patients to actively search for information regarding their ailment, empowering them to participate fully in their healthcare. The incorporation of a multidisciplinary approach to patient care has formalized the process for medical personnel to include the patient and the family in the healthcare process. During bed management meetings, neurosurgery faculty and residents, nursing staff, social services, and rehabilitation services all convene to outline treatment and discharge planning for each individual patient. Simultaneous input from this multidisciplinary team allows fragmented goals from each group to coalesce in a comprehensive treatment plan.

In this manner hospital and discharge planning for each patient is clearly defined and understood by each member of the multidisciplinary team. Each

FIGURE 4**Average Length of Stay for Neurosurgery Patients (2002–2005)**

provider is aware of the ultimate goal and the contributions from each team member to obtain that goal. The team member is then able to tailor his or her objectives in the context of the team plan in order to achieve the set goals. This plan is then communicated to patients and family members by residents and faculty. In addition, because each member of the multidisciplinary team is aware of hospital and discharge planning, this information can be relayed to patients and families by multiple individuals. This allows for greater efficiency in patient management.

Identified Improvements

Review of our administrative records provides objective support for the idea that a multidisciplinary approach to patient care allows for better delivery of healthcare in a neurosurgical setting. Over the past several years there has been a dramatic increase in the number of patients treated at our institution. With the utilization of our new neurosciences system, we have been more efficient in taking care of these patients. This is evident in the decreased length of stay over the past several years. Taking into account the cost for hospital rooms, decreasing the length of hospital stay for even one day correlates to savings of thousands of dollars annually for hospitals, allowing these resources to be utilized elsewhere. We have noted a substantial decrease of \$500,000 in operational costs associated with hospi-

FIGURE 5**Results of Kruskal–Wallis Test**

Kruskal–Wallis Test	Test Statistic	p Value
2002 vs 2003	280258.5	0.0003
2002 vs 2004	359253.5	0.0122
2003 vs 2004	496768.5	< 0.0001

FIGURE 6**Pairwise Comparisons of Three Years With Wilcoxon Tests**

Chi-Square Test Statistics	Differential	p Value
39.7784	2	< 0.0001

tal bed use over the past three years, even though our volume during the same period has increased by more than 15 percent. With implementation of our patient-centered care principles, the quality of care at our institution has continuously improved as is evidenced by the increase in patient satisfaction scores over the past several years. Review of patient comments reveals that our patients were most satisfied with the unrestricted visiting hours and the continuous updates regarding hospital and discharge planning. We are now able to successfully balance an increasing volume of patients within the confines of a shortened resident workweek.

Conclusion

With the evolution of medicine into a multidisciplinary business, cost, productivity, and patient satisfaction must be integrated into the healthcare process. With the creation of our patient- and family-centered care plan, we have increased our patient satisfaction and decreased the length of hospital stay for each patient. This has allowed us to take care of more patients effectively with an associated decrease in the cost of hospitalization. ■

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Neurosurgeons' Role

Study Finds Absence of Economic Analysis in Neurosurgical Outcome Assessment

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KONSTANTINOS N. FOUNTAS, MD, CARLOS H. FELTES, MD,
LEONIDAS G. NIKOLAKAKOS, AND JOE SAM ROBINSON JR., MD

A surprisingly large amount of the world's gross national product—approximately 5 percent—is spent in the U.S. healthcare system. This enormous amount of money, now in excess of the gross national product of France, has progressively increased from approximately \$100 billion in 1960 to approximately \$1.9 trillion in 2005. Engendered by costly new technology, a defensive response to adversarial litigation, unfunded government mandates, demographic pressure, and increasing patient expectations, healthcare cost inflation creates a substantial societal dilemma.

Some form of healthcare rationing often is the primary focus of governmental and market-force strategies to restrain escalating expenses. Such rationing is enforced by expanded managed care, diminished entitlement programs, stringent certificate of need regulations, diminution of end-of-life expenses and a rigorous economic physician credentialing process.

Alternatively, medical healthcare costs may be controlled by improving healthcare efficiency. Improved efficiency may be fostered by malpractice reform, increased outpatient care, the rigorous employment of economic factors of scale, and pursuit of less expensive yet effective healthcare modalities.

Many physicians perceive little incentive to decrease global healthcare costs because they lack appropriate healthcare cost infor-

mation and are overburdened with regulatory requirements and bookkeeping details. Unfortunately, minimal physician involvement in healthcare cost containment strategies exacerbates cost escalation. The absence of the physician, arguably the most knowledgeable participant in the U.S. healthcare system, logically flaws progress toward appropriate cost restraints.

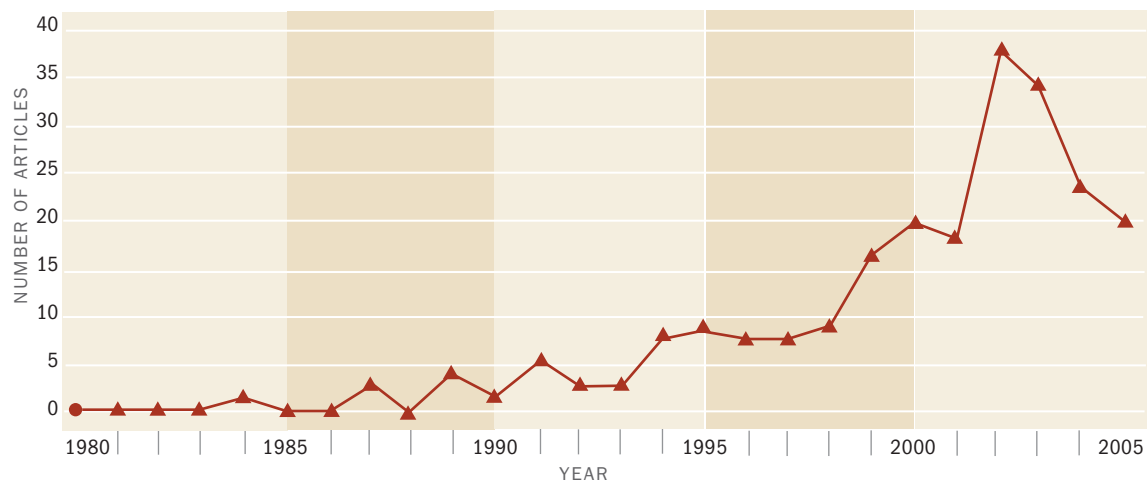
This unwelcome physician disconnection is reflected by the minimal attention that issues related to healthcare cost receive in medical literature. In neurosurgery, outcome analysis has focused upon mortality and morbidity rates and measurable physiological and radiographic parameters, neglecting healthcare cost parameters.

To assess such inattention, a review of English literature addressing standards of care in neurosurgery was done through PubMed for the years 1980–2005 (Figure 1). In the late 1990s there was a moderate increase of published articles focusing on this matter. Since the year 2000 there has been a substantial increase in the amount of activity concerning standards of care in neurosurgical publications. Nonetheless, articles containing such information constitute only a small percentage of the overall body of literature.

Further, a PubMed search using “costs in neurosurgery” as the keyword was performed upon worldwide neurosurgical literature between 1985 and 2005 (Figure 2). Among the 64,418 cited neurosurgical articles, neurosurgical costs were referenced in only 750 articles (0.85 percent). Between Jan. 1 and Nov. 1, 2005, only 35 of 2,676 neurosurgery papers discussed economic issues (1.3 percent). Other surgical subspecialties, while showing corresponding publication

FIGURE 1

Number of Articles on Neurosurgery Standard of Care (1980–2005)

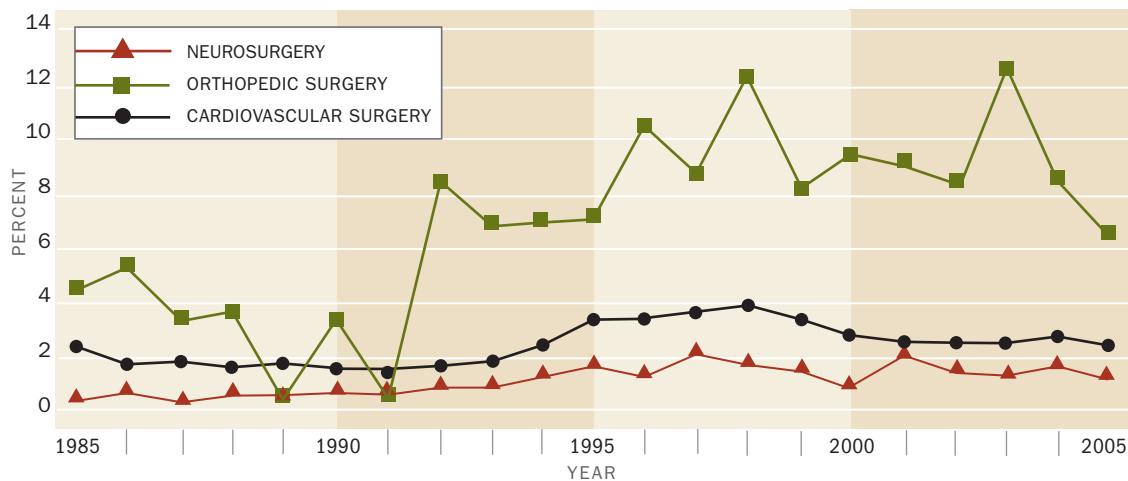


A review of English literature addressing standards of care in neurosurgery was done through PubMed for the years 1980–2005. Since the year 2000 there has been a substantial increase in the amount of activity concerning standards of care in neurosurgical publications, but articles containing such information constitute only a small percentage of the overall body of literature.

in Cost Control

FIGURE 2

Cost-Related Articles by Percentage (1985–2005)



A PubMed search using “costs in neurosurgery” as the keyword was performed upon worldwide neurosurgical literature between 1985 and 2005. During that period costs were referenced in only 0.85 percent of neurosurgical articles compared with 7 percent of orthopedic articles and 3 percent of cardiovascular articles.

dynamics, were somewhat more sensitive to economic issues. For the same 20-year period, costs were mentioned 691 times in the 8,911 orthopedic articles (7 percent), and 3,325 times in the 126,379 cardiovascular articles (3 percent).

Using a more specific methodology, the 946 articles which appeared in the journal *Neurosurgery* between 1995 and 2003 were individually reviewed. Approximately 4 percent of these articles contained evidence of economic assessment in their outcome analysis. Twenty-five articles made some reference to work status and eight articles made diffuse qualitative remarks about economic issues, while seven articles mentioned outcome in dollar terms. Only one article compared different treatment modalities in terms of direct dollar costs and benefits.

As a relatively static number of neurosurgeons attempt to secure their place in an evolving and increasingly expensive American healthcare system, an improved knowledge of treatment costs is imperative. The paucity of economic assessment in published neurosurgical outcome data implies a disinterest in the custodianship of the nation’s healthcare dollar. A proactive, physician-led treatment assessment that routinely considers cost issues offers the best mechanism to protect patient welfare against ill-conceived, bureaucratically directed cost restraints. ■

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Joe Sam Robinson III, Cemre Sevin, Konstantinos N. Fountas, MD, Carlos H. Feltes, MD, Leonidas G. Nikolakakos and Joe Sam Robinson Jr., MD, are in the Department of Neurosurgery, Medical Center of Central Georgia, School of Medicine, Mercer University, Macon, Ga.

Professional Liability Primer

Learning the Anatomy of a Medical Malpractice Lawsuit

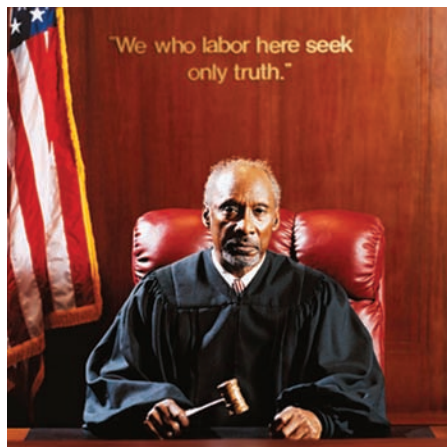
While neurosurgeons can expect to enjoy a challenging and rewarding career, they also can expect to be sued. Most residents have little experience in legal matters, which can make the process of a lawsuit confusing and time-consuming. Knowledge of the anatomy of a medical malpractice suit as well as how to prepare for depositions and testimony can help relieve the stress surrounding a lawsuit and help you defend yourself.

There are four elements that a medical malpractice lawsuit must address: (1) duty, (2) breach, (3) causation, and (4) damages. A lawsuit can only proceed if all elements are satisfied. The only exception to this is the legal doctrine of *res ipsa loquitur* (the thing speaks for itself), which applies to errors in which the negligence is obvious.

The first element is duty, which is the existence of a doctor-patient relationship. Usually not a matter of dispute, it has been an issue in cases that involve an informal consultation on the street or over the phone.

The second element is that of a breach in the standard of care, which has a very different meaning to lawyers than you might think. Doctors like to think of the standard of care as some sort of treatment ideal, a "standard" that when met provides an irreproachable bulwark against accusations of malpractice. In contrast, for a lawyer a Platonic "standard of care" does not exist. The standard of care is established in each case by the use of paid "experts," which both sides will employ to assert that the standard of care has or has not been met.

The third and fourth elements are causation and damages, which of all the elements are usually the most hotly contested. The plaintiff must show that the alleged breach in care actually caused damage, which can often be difficult to prove. Damages are classified into economic and noneconomic. Economic damages repre-



sent lost wages and expenses of care. Among noneconomic damages are pain and suffering and loss of consortium.

Once the decision to file a lawsuit has been made, the plaintiff's lawyer sends a notice letter to the physician announcing the intent to file suit. At this point, the hospital's risk management department will contact you at and arrange for legal representation.

The next step is the discovery phase, during which information is exchanged between the two parties such as expert witness reports, list of potential witnesses, reports of other treating physicians, and other relevant documents pertaining to the case. Your involvement at this stage will be in the answering of interrogatories, which are written questions from the opposing lawyer, and depositions, which are oral question and answer sessions with the opposing lawyer.

You may be deposed either as a named defendant or as a witness of fact. Either way, the opposing lawyer will often try to lead you into criticizing someone else's actions. Unfortunately, residents, by nature of their job, often feel a pressure to have all the answers, which can lead to needlessly answering questions that, in a lawsuit, need not and should not be answered.

Keep in mind you are not being deposed as an expert witness, and avoid these types of questions by saying something like, "It would not be appropriate to comment since I am not an expert."

During a deposition, do not answer a question about a particular document without having a copy of the document in front of you. Make sure questions are phrased correctly in medical terminology, and answer only the specific question you were asked. Do not guess or presume anything you don't know from first-hand knowledge, and do not speculate about what someone else may have been thinking. Your only obligation is to answer the exact question asked of you truthfully, based on your own personal knowledge, not what you think you know, should know, or what might have happened. "I don't know" and "I do not remember" are perfectly acceptable answers. Above all, keep your answers as short as possible; "yes" or "no" is best.

Most malpractice suits are settled, but if the case goes to trial it may not start until many years after the lawsuit is filed. When giving testimony at trial, be polite, sincere, and likeable.

Being named in a lawsuit is now nearly unavoidable. To protect yourself emotionally, it is helpful to appreciate that a malpractice suit rarely has anything to do with medical error, and that multiple studies have shown no correlation between negligence and litigation. Ultimately what is best for the patient—appropriate medical care accurately documented and a healthy, trusting doctor-patient relationship—is also your best defense against a malpractice lawsuit. ■

K. Michael Webb, MD, is a neurosurgeon with Neurosurgical Associates PSC in Lexington, Ky.

Gregory P. Lekovic, MD, JD, contributed to this article.

Education and Inspiration

2007 AANS Annual Meeting Celebrates AANS' Diamond Jubilee, April 14-19, 2007

The 2007 AANS Annual Meeting returns members to the city where the organization began for celebration of 75 years of education and inspiration. It was in Washington, D.C., that Temple Fay, Eustace Semmes, Glen Spurling and William Van Wagenen met on Oct. 10, 1931, and founded the Harvey Cushing Society, now the AANS.

Seventy-five years of contributions by many participants in the neurosurgical community will be honored at the AANS' Diamond Jubilee meeting, April 14-19, 2007, in Washington, D.C.

"This diamond jubilee year is a time to honor the venerable ideals of the AANS founders, ideals which have remained unchanged since the inception of the organization," said AANS President Donald O. Quest, MD. "I invite you to join me in recognizing 75 years of achievement and to step into the future, beginning with the AANS diamond jubilee celebration in April."

The festive event is taking shape under the direction of Annual Meeting Chair Mitchel Berger, MD. The event's focus, however, will be on contemporary science in a stimulating scientific program chaired by Timothy Mapstone, MD.

The scientific program features many new practical clinics, breakfast seminars, and scientific sessions. New socioeconomic presentations will focus on practice management and legal issues as well as topics of current interest such as pay for performance and the Medicare physician payment system.

Thomas L. Friedman, foreign affairs columnist for The New York Times and a three-time Pulitzer-Prize awardee, will share his global perspective in delivery of the Cushing oration.

General meeting registration and housing reservations open Oct. 13 exclusively to AANS members. On Oct. 27, general meeting registration and housing reservations open for everyone. The advance registration and housing deadline is Friday, March 9, 2007.

Additional information regarding the 2007 AANS Annual Meeting, including registration and housing reservations, is available at www.aans.org/annual/2007.



Thomas L. Friedman
2007 Cushing Orator

Cushing Orator Thomas L. Friedman

Thomas L. Friedman, a three-time Pulitzer Prize-winner, is one of the world's preeminent commentators on international affairs.

In the months following Sept. 11, 2001, his Op-Ed page column for The New York Times provided the clarifying, evenhanded assessments that were so urgently sought. In awarding him his third Pulitzer Prize (the 2002 award for Distinguished Commentary), the Pulitzer

Board cited his "clarity of vision, based on extensive reporting, in commenting on the worldwide impact of the terrorist threat."

Friedman has covered many of the monumental stories of recent decades, from the return of Hong Kong to China and the assassination of Yitzhak Rabin to the wars in Afghanistan and Iraq.

His tireless reporting skills and innate knack for obtaining the right information from the right people earned him Pulitzer Prizes in 1983 and 1988 for International Reporting (for his coverage of Israel and Lebanon).

Friedman's New York Times bestseller, *Longitudes and Attitudes: The World in the Age of Terrorism*, traces his post-9/11 journey from Afghanistan to Israel, Europe, Indonesia and Saudi Arabia to meet with the regions' leaders, thinkers and citizens. Filled with emotional reactions and reasoned analysis, the book also includes a collection of his Pulitzer Prize-winning columns.

His bestseller, *From Beirut to Jerusalem*, serves as a basic text on the Middle East in many colleges and universities nationwide. It won both the National Book Award and Overseas Press Club Award in 1989. *The Lexus and the Olive Tree*, which was also a bestseller and was translated into 20 languages, explains globalization's effect on the politics, culture and economics of an increasingly interwoven global community. *Kirkus Reviews* called it "simply the best book written on globalization."

In 1981 Friedman joined The New York Times as a business reporter, specializing in OPEC and oil-related news. He was quickly named Beirut bureau chief (just six weeks before the Israeli invasion). He also has served as Israel bureau chief, Washington chief diplomatic correspondent, chief White House correspondent and chief economics correspondent.

Friedman appears in his own segment, "Tom's Journal," on The NewsHour with Jim Lehrer, talking about his most recent trips abroad. He is also a frequent guest on programs such as *Face the Nation* and *Charlie Rose*. His TV documentaries, "Searching for the Roots of 9/11," "The Other Side of Outsourcing" and "Straddling the Fence" (on the impact of the wall separating Palestinians and Israelis), have aired on the Discovery Channel.

Friedman's new book on globalization and geopolitics is *The World is Flat: A Brief History of the Twenty-First Century*. ■



NEWS.ORG

AANS/CNS Sections Committees Associations Societies

Upcoming AANS/CNS Section Meetings

www.neurosurgery.org

**Section on Pediatric
Neurological Surgery
35th Annual Meeting,**
Nov. 28–Dec. 1, 2006

**2007 International
Stroke Conference With
AANS/CNS
Cerebrovascular
Section and The
American Society of
Interventional &
Therapeutic
Neuroradiology,**
Feb. 7–9, 2007

**Section on Tumors
Seventh Biennial
Satellite Symposium,**
April 13–14, 2007

New Web Pages Designed to Draw Medical Students' Attention

In October the AANS launched the new medical students section of www.AANS.org to encourage as many students as possible to learn about the specialty of neurosurgery. Designed to be a first stop in learning about neurosurgery and a portal to some of the best Web resources, the site links to the "So You Want To Be a Neurosurgeon?" brochure produced by Women in Neurosurgery and provides questions for medical students to explore if they are considering a career in neurosurgery. The site also provides links to North American neurosurgical training programs, information about the new AANS Medical Student Summer Research Fellowship, and a collection of best resources for medical students about neurosurgery on the Web. Through the site medical students also can register for online access to neurosurgical case studies.

The medical students section is accessed at www.AANS.org by selecting Medical Students in the tool bar, and the direct link is www.aans.org/medical%5Fstudents.

New ACS, AANS Two-Year Faculty Career Development Award: Applications Due Dec. 1

The American College of Surgeons and the Neurosurgery Research and Education Foundation of the AANS are offering the new two-year Faculty Career Development Award to neurological surgeons. The award is to support the establishment of a new and independent research program in an area of neurological surgery. The award is \$40,000 per year for the period July 1, 2007–June 30, 2009, to support neurosurgical research.

The award is open to junior faculty surgeons who (1) are members or candidate members of both the ACS and the AANS; and (2) have completed specialty training within the preceding five years and have received a full-time faculty appointment at a U.S. or Canadian accredited medical school. Applicants should provide evidence of productive initial efforts in laboratory research (by publication or otherwise). The award is to be used to support the research of the recipient. The application sub-

mission deadline is Dec. 1. Additional information and an application are available at www.aans.org/otherresearch and www.facs.org or contact Michele S. Gregory, AANS director of development at msg@AANS.org or (847) 378-0500.

AANS Offers Long-Term Care Insurance Through John Hancock

The AANS now is offering long-term care insurance to all eligible AANS members and their family members through a partnership with John Hancock, an insurer with more than 140 years of service to its policyholders. For those who are self-employed, a partner in a partnership, or who have a C-Corporation, premiums may be tax deductible. More information about long-term care insurance as an employee or executive benefit is available from Chris Thomas, (877) 582-4582; callers should reference their AANS membership.

Information about this and other programs offered through AANS partners is available at www.aans.org/membership/aans_partner_programs.pdf.

2006 AANS Annual Meeting Sessions on DVD Now Available

The AANS' newest educational and scientific DVDs—*Minimally Invasive Microendoscopic Discectomy*; *Head Trauma: Current Treatments and Controversies*; and *Cerebral Trauma: State-of-the-Art Treatment*—now are available for purchase. These DVDs explore the latest surgical breakthroughs and feature discussions of current neurosurgical treatment options as well as hands-on lab instruction using cadaver materials. These instructional recordings are appropriate for neurosurgeons at all levels of clinical practice. Taught by renowned faculty, each product offers the opportunity to earn CME credit and is designed to maintain and advance the physician's knowledge and skills to ensure the highest quality patient care.

Orders can be placed through AANS Member Services at (888) 566-2267, ext. 539, or through AANS Online Marketplace, www.AANS.org. Sample video clips also are available in the Online Marketplace. ■

CMS Reverses Lumbar Coding Decision

Resubmit Claims for 22630-22612 Pair

Coding for lumbar posterior or posterolateral arthrodesis (code 22612) and posterior lumbar interbody arthrodesis (code 22630) was the subject of intense interest and activity in 2006. In April the Centers for Medicare and Medicaid Services precluded concurrent use of these codes and then reversed its decision in July. This Coding Corner reviews the circumstances and implications of this pair of CMS decisions as well as the process underlying them.

Although Current Procedural Terminology describes physician services that are bundled together, the CMS has used an additional system, the Correct Coding Initiative or CCI, to identify bundled services. Through a contract with one of its regional carriers, the CMS publishes a quarterly update of code pairings which are considered inclusive of one another. Although this process formerly occurred in the absence of medical specialty society input, for several years the CMS has requested physicians' advice on proposed edits to improve the accuracy of these edits.

At the end of 2005, a proposed edit was sent to specialty societies concerning codes 22612 and 22630. Although the CMS did not submit a rationale for the proposed edit, societies were asked to consider the edit and offer medical reasons for modification, if appropriate. However, the proposed edits were developed shortly after the publication of the lumbar fusion guidelines. Although the guidelines described the evidence against performing a concurrent anterior lumbar interbody fusion with a posterior arthrodesis, the scientific evidence reviewed did not address a posterior lumbar interbody fusion and a concurrent posterior or posterolateral arthrodesis. Despite comments submitted by several societies describing the separately identifiable physician services between 22612 and

22630, on April 1 the CMS implemented an edit that precluded concurrent coding of these procedures.

After implementation of the edit, the CMS received numerous correspondences concerning the edit. The CMS agreed to reconsider the implemented edit if additional documentation were submitted to justify medical necessity for performing both procedures at the same level. Multiple specialty societies participated in this effort, among them the AANS, the Congress of Neurological Surgeons and the North American Spine Society. The AANS, CNS and NASS produced a document requesting

Gregory J. Przybylski, MD, is professor and director of neurosurgery at JFK Medical Center in Edison, N.J.



reconsideration of the edit and provided the medical rationale for the necessity of performing both procedures under certain circumstances.

In July, the CMS responded favorably to the request and agreed to remove the CCI edit beginning Oct. 1. In addition, the CMS agreed to retroactively allow concurrent use of codes 22612 and 22630 and recommended that after Oct. 1 surgeons resubmit claims for which the code pairing had been denied.

In comparison to the former CCI process in which the predominant rationale for developing edits focused on overlapping physician work, there seems to be a trend toward examining the medical necessity and medical evidence for performing concurrent procedures. Previously, specialty

The CMS has been very receptive to review and analysis of evidence by medical specialty societies and to their recommendations concerning proposed edits.

society responses to the CMS concerning proposed edits predominantly addressed the degree of overlapping physician work when two procedures were compared. However, in this circumstance, the distinction between the physician work of a posterolateral arthrodesis and a posterior lumbar interbody fusion was insufficient to prevent the implementation of the proposed edit. This suggests that the governmental and private insurer efforts in developing performance measures and standards are likely to include payment policies and coverage decisions that take into account the published scientific evidence regarding surgical procedures.

While the CMS appears to be moving beyond the issue of overlapping physician work in the development of CCI edits and toward evidence-based examination of the medical necessity of surgical procedures, it also has been very receptive to review and analysis of evidence by medical specialty societies and to their recommendations concerning proposed edits. Although this particular example resulted in denial of payment for six months, the correction was made retroactive, allowing for resubmission of claims beginning in Oct. 1. ■

Gregory J. Przybylski, MD, is chair of the AANS/CNS Coding and Reimbursement Committee and a member of the CMS Practicing Physicians Advisory Council. He chairs and instructs coding courses for the AANS and the North American Spine Society.

Healthcare Reform Comes to Massachusetts

How Will Fewer Uninsured Patients Affect Reimbursement?

LAWRENCE S. CHIN, MD, AND AKSHAL PATEL

Is healthcare coverage a commodity or a right? In April, Massachusetts came closer to bridging the gap between these opposing viewpoints. By an overwhelming majority the Massachusetts legislature passed a bill which aims to cover 95 percent of the state's uninsured residents within the next three years.

The legislation will cover the state's approximately 550,000 uninsured people, which represents 11 percent of the population. Most of these people fall into one of four categories: low income individuals, part-time employees, single adults without children, and youngsters just starting out in the labor force. The impact of these patients is felt disproportionately in urban medical centers such as Boston Medical Center, which now will face the challenge of transitioning from free care plans to subsidized insurance premiums.

The legislation can be considered an evolution of the current system. Much of the old structure, including federal Medicaid funding, remains as a backbone.

The ideology of the proposed system is summed up by the phrase "everyone plays their part." Ideally, individuals, the government, healthcare providers and employers will all work together to promote cost-effective, quality care.

A number of strategies will be employed to improve coverage. The foremost of these is the introduction of the Commonwealth Health Insurance Connector, which is a mechanism to make it easier for employees find affordable health insurance. Employees can combine employer contributions and even keep policies through job changes. To add more incentive, the Connector allows people to buy insurance with pretax dollars.

For those without adequate funds to take advantage of the Connector, a number of subsidies will buttress coverage. The Commonwealth Care Health Insurance Program supplies subsidies on a sliding-scale basis for individuals with incomes below 300 percent of the federal poverty guidelines, roughly \$48,000 for a family of three. There will be no premiums for persons with incomes below 100 percent of the guidelines and no deductibles.

As of July 1, 2007, all state residents 18 years of age and older must have some minimum level of health insurance. The Connector will determine who can or cannot afford insurance. Those who fail to obtain coverage will be penalized. A notable penalty is the loss of personal exemption for the 2007 tax year and in subsequent tax years a fine equaling 50 percent of the monthly cost of health insur-

The Massachusetts bill aims to cover 95 percent of the state's uninsured residents within the next three years.

ance for each month without insurance. These measures enforce what is being touted as the Individual Mandate, of which the central hypothesis is that healthy people in the same risk pool as sick people will stabilize the cost for everyone.

Hospitals and community health centers will receive new grants to target support for certain populations. Coupled with this are

reforms for uncompensated care. The current pool will be terminated as of Oct. 1, 2007. In its stead, the Medicaid-administered Safety Net Care fund will reimburse uncompensated care based on standard fee schedules. The fund represents the redeployment of money spent on institutions to that spent on coverage of individuals.

The last piece of the legislation is the contribution of employers. The reform's Fair Share Contribution provision necessitates that as of Jan. 1, 2007, all employers with 11 or more workers must adopt a "cafeteria plan" as defined by federal law, which allows workers' purchase of healthcare with pretax dollars. These plans must be filed with the Connector. Employers must endeavor to provide a "fair and reasonable" contribution, or they are required to funnel into the "fair share" program, which commits employers to pay up to \$295 per full-time-equivalent employee, per year.

There are penalties for employers that do not participate. A "free-rider" surcharge will be assessed on employers whose employees use free care more than five times per year in aggregate or if one employee uses free care more than three times in one year. The Division of Health Care Finance and Policy will enforce the surcharges as "greater than 10 percent, but no greater than 100 percent of the cost to the state" of the free care.

It is difficult to anticipate how this health system will look three to five years from now or what impact the legislation will have on neurosurgeons. The reform is pro-consumer and blends existing plans with newer products and services. Private health insurance and medical care delivery and reimbursement will remain untouched as will sustainable growth rare measures.

Massachusetts with its reputation of progressive legislation and medical excellence serves as a worthy petri dish for a health plan that tries to provide health insurance for all. ■

Lawrence S. Chin, MD, is chair of the Department of Neurosurgery at Boston University School of Medicine and chair of the AANS Young Neurosurgeons Committee. **Akshal Patel** is a medical student at Boston University.

Teaching the Business of Medicine

HC 101 Offers Young Neurosurgeons Online Business Training

A few years ago, I was sitting in my office at the Medical College of Georgia when the telephone rang. The caller was a neurosurgeon who had recently finished training at MCG and was now in private practice. He felt overwhelmed in his new practice and had a thousand questions about the business aspects of his new career. Of particular concern to him was the interpretation of his employment contract that he had signed a couple of years before. I heard his concerns and offered some sage advice (such as never to sign anything without reading or understanding the document).

Upon later reflection, I felt that as a department we were failing our residents. While we provided our residents the requisite training to complete a complex spine case or craniotomy, we failed to provide them with any tools to analyze an employment contract or understand a practice's balance sheet.

This experience and others like it inspired a course designed to introduce young doctors to business concepts and practices. Aptly titled Health Care Management 101, the course became a required core competency for successful completion of MCG neurosurgery and neurology residency training.

The objectives of HC 101 are simple and threefold. They are to provide:

- core competencies in non-clinical healthcare management;
- baseline knowledge for business decision making; and
- tools to keep MDs from getting MBA blindsided.

Initially, the course was given on monthly basis during a luncheon lecture. Because it was next to impossible to gain

residents' attention and attendance for an hour-long session given their busy clinical loads, after the first year the course was delivered in an online, interactive format. The Web-based application is familiar to students because it is used for other medical courses at MCG. Students must have access to high-speed Internet and a password for the Web site. Students merely direct their browsers to a secure Web site, enter a password, and begin the course.

The Web-based course consists of seven consecutive audiovisual lectures, each synchronized with a PowerPoint lecture. Each lecture is a separate module, enabling the students to work at their own pace. The students must take a pretest before viewing the lectures to determine their knowledge level of the subject. The subsequent sessions fill in the knowledge gaps, and learning is assessed by a short quiz following each lecture.

Residents are able to complete the course during the year, at their leisure. Additionally, program administrators and I can track their progress and provide residents who are not working on the course with the necessary motivation.

The content of the course was designed to expose the residents to some basic healthcare business topics that they will be faced with when they enter the "real world." The course content was developed to apply to academic as well as private practice environments.

The seven sessions range from about 10 to 45 minutes in length and begin with current issues in the U.S. healthcare delivery system before moving on to intensive study of coding, reimbursement, and healthcare regulations and laws. The course concludes with an MBA "in 30 minutes."

The response to the course has been very positive, and other MCG residency

programs including general surgery, internal medicine, psychiatry, and pediatrics now are requiring it for their residency programs.

Measuring Success

The experience over the past two years shows that the course objectives are being met, based on the post-quiz score improvements. However, the true value of the course is its ability to expose young doctors to the business side of medicine during their training. The real test of the course's success is whether young doctors are prepared to make proper business decisions, ask knowledgeable questions and succeed in the business of healthcare.

I know the course is really sinking in when the residents start to come by my office in the last six months of their training and bombard me with questions, concerns, and requests to help them review contracts, salary offers, and a practice's finances. In the past, residents didn't even know which questions to ask.

While HC 101 has been successful and similar business courses are being done very well across the country through various organizations, the courses often are fragmented or not well administered. Medical schools and training programs at academic medical centers have an obligation to establish business training curricula for residents that help them prepare for the rigors of the business side of medicine. ■

William B. Hamilton, MBA, is the administrative director of the Department of Neurosurgery and Neurology and the Neuroscience Center at the Medical College of Georgia in Augusta.

Editor's Note: An outline of Health Care Management 101 will be available in the *Bulletin* online, www.aans.org/bulletin.

TIMELINE: Neurosurgery Through History

Putting the Patient First

MICHAEL SCHULDER, MD

Sir Victor Was Devoted to His Patients

Patient-centered care. Emphasizing the needs and wishes of patients as opposed to our interest in “doing cases,” completing a clinical trial, or using our latest whiz-bang technology cannot but be a good thing. The idea sounds very up-to-date. Looking to the earliest years of modern neurosurgery, however, we find an outstanding practitioner of patient-centered care.

Victor Horsley (1857–1916) was the first consultant surgeon at the National Hospital at Queen Square in London. Certain of Horsley’s neurosurgical accomplishments are well known, including the introduction of the stereotactic frame (for animal experimentation) and the first reported and successful removal of an intraspinal, intradural tumor. What may be less well known is Sir Victor’s compassion and devotion to his patients.

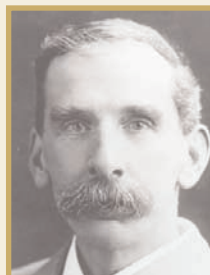
Ernest Jones, a pioneering British psychoanalyst, served for a time as a “house surgeon” under Horsley. Noting the frenetic pace with which Sir Victor conducted his patient rounds (and everything else), Jones added “but the concentrated attention [Horsley] devoted to each patient gave him the impression that he was his sole care in life, and he would arrange their pillows with a tender deftness that was the envy of the nurses.”

On one particular occasion, Horsley operated on a Canadian patient with torticollis. The surgery was done in a “nursing-home,” a place for care and convalescence at a time when few if any private patients were admitted to hospitals. None of the staff nurses had a good idea of how to position the patient after her surgery. Sir Victor had a particular cushion in mind, went by carriage to purchase it, brought it back to the nursing-home, and arranged the patient on it. In this and in many other cases, Horsley returned the payment offered by the patient. He was not averse to making money (he stated, “I always wish people had my work, on account of its interest...and I wish they had my wages too”) but was keenly aware of who could afford what.

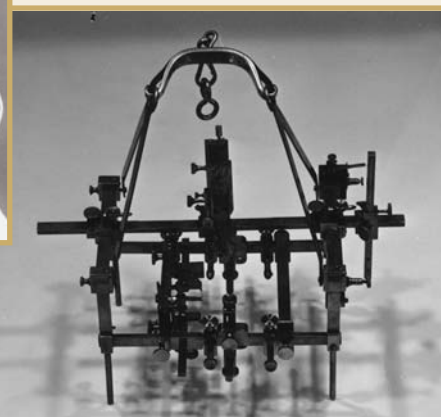
Wilfred Trotter, a British neurosurgeon who trained with Horsley, described his being “free from the slightest affectation of superiority [and having] an assumption of complete equality.” When a poor Irish farm girl with an intracranial tumor came to see him in consultation, she reported that Sir Victor spoke to her “not in the least like a great doctor with an unimportant patient.”

No one used the term 100 years ago, but without question Sir Victor Horsley, a great innovator who blazed a trail in neurological surgery, was a leading exemplar of patient-centered care. ■

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



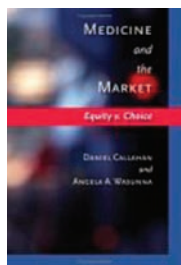
Sir Victor Horsley was an outstanding practitioner of patient-centered care.



The Horsley-Clark stereotactic frame was first reported in the article “The Structure and Functions of the Cerebellum Examined by a New Method,” published in 1908. The unit displayed is the second Horsley-Clarke device, which was constructed the same year for neurosurgeon Ernest Sachs.

Liberty or Equality?

New Book Explores the Market's Place in Medicine



Medicine and the Market: Equity v. Choice, Daniel Callahan and Angela A. Wasunna, 2006, The Johns Hopkins University Press, 334 pp., \$35.

That the market has a place in medicine few would dispute. What that place is or should be is the question explored by *Medicine and the Market* authors Callahan and Wasunna.

The dictionary definition of market is that it is “an exchange mechanism that brings together sellers and buyers of a product.” Market mechanisms include patient choice, competition, negotiated contracts and open bidding. In healthcare the market is seen in contrast to government as a control mechanism. Market proponents place liberty as the highest value. The authors of this book evaluate the appropriate role of the market in healthcare and present a historical review of market theory and look at healthcare systems around the globe. The Canadian and United States healthcare systems are contrasted, European systems are described in detail and then healthcare in developing countries is examined.

At the outset the authors acknowledge that they are proponents of universal, equitable-access, government-run or supervised healthcare systems. They present a solid case against the market in healthcare but do admit that the market may have some useful contributions to make if carefully managed and regulated.

They present a very convincing case that the U.S. system of healthcare does not stack up well against other countries according to the Organization for Economic Cooperation and Development, an organization of 30 industrialized, market-economy coun-

tries. OECD rates the United States poorly in quality indicators of survival rates for various diseases and in life expectancy. It was shocking to discover how poorly the United States compares to other countries in statistics of patient satisfaction. Other nations in the OECD have citizens who are much more satisfied with their system of healthcare than U.S. citizens are with theirs.

Every American and every person from a developing country should envy the Europeans for their commitment to solidarity, a value that grasps the need for human interdependence and mutual support in the struggle against disease, illness and death. It was Adam Smith's genius to acknowledge that the market lacked a moral core. Some-

Physicians in America struggle with the distinction between medical practice and commerce.

how society has to compensate. That 47 percent of the uninsured in the United States postpone medical care because of cost, 37 percent fail to fill a prescription for the same reason, and 35 percent skip recommended treatment, gives evidence of America's lack of commitment to solidarity and provides an example of how the market has failed healthcare in the United States.

Pharmaceuticals are another example of market failure. The pharmaceutical industry has been the most lucrative of all industries. Annual profits are 15 percent to 20 percent and the cost of drugs is the most rapidly increasing factor in escalating healthcare costs. The United States basically pays for research and development of new drugs for the whole world because the Europeans will not and the developing countries cannot. In addition, the National Institutes of Health accounts for most of the basic

research of importance to the industry.

Physicians in America struggle with the distinction between medical practice and commerce. Doctors increasingly are using advertising, marketing and public relations techniques to attract patients. Professional societies have viewed competition among physicians as a necessary feature of the new medical marketplace. The influence of market on medicine seems to have produced a new culture of affluence and prosperity among a significant percentage of practitioners.

The weakest chapter in this book is on the market in developing countries. The authors conclude that “increasing disparities in healthcare access and utilization can be attributed almost directly to the introduction of market practices in healthcare systems.” Poor countries will have to decide how much inequality in the healthcare system can be tolerated by the population for the sake of economic growth.

In the United States most of our energy, money, publicity, and political clout is focused on providing goods, technology and services for sickness care and cure. Yet improvement in health comes not from sickness care but from social and economic conditions under which people live.

In summary, Callahan and Wasunna do not see the market as the answer to our healthcare problems even if it works well in other sectors of society. The principal danger of market practices is that they will increase healthcare inequities, giving those with economic resources an advantage over those without.

This is an interesting book that the conservatives among us may not enjoy but which will give all readers food for thought. ■

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

4th Neurocritical Care Society Annual Meeting

Nov. 2–5, 2006
Baltimore, Md.
www.neurocriticalcare.org

Minimally Invasive Surgery of the Spine

Nov. 3–4, 2006
San Diego, Calif.
<http://cme.ucsd.edu/>

3rd International Symposium on Microneurosurgical Anatomy

Nov. 5–8, 2006
Antalya, Turkey
www.isma2006.org

Medical Innovation Summit

Nov. 6–8, 2006
Cleveland, Ohio
[www.clevelandclinic.org/
innovations](http://www.clevelandclinic.org/innovations)

American Board of Neurological Surgeons Oral Board Exam

Nov. 7–10, 2006
Houston, Texas
www.abns.org

2006 American Academy of Physical Medicine & Rehabilitation Annual Assembly

Nov. 9–12, 2006
Honolulu, Hawaii
www.aapmr.org

2006 Conference of Asian Academic Neurosurgeons

Nov. 10–12, 2006
Shanghai, People's Republic of
China
www.aan2006.org

13th Workshop on Endoscopic Neurosurgery

Nov. 12–15, 2006
Ghent, Belgium
www.neuroendoscopy.org

Carotid Interventional: Interactive Seminar and Live Demonstration Simulation⁺

Nov. 13–14, 2006
Buffalo, N.Y.
(716) 887-5200, ext. 2135

Principles and Practice of Gamma Knife Radiosurgery

Nov. 13–17, 2006
Pittsburgh, Pa.
[www.neurosurgery.pitt.edu/image
guided/gammaknife/training.html](http://www.neurosurgery.pitt.edu/imageguided/gammaknife/training.html)

AANS/CNS Section on Pediatric Neurological Surgery⁺

Nov. 28–Dec. 1, 2006
Denver, Colo.
www.neurosurgery.org/pediatric

Cervical Spine Research Society Instructional Course

Nov. 29, 2006
Palm Beach, Fla.
[www.csrs.org/meetings/
instructional.htm](http://www.csrs.org/meetings/instructional.htm)

Cervical Spine Research Society Annual Meeting

Nov. 30–Dec. 2, 2006
Palm Beach, Fla.
www.csrs.org/meetings/annual.htm

Craniofacial Surgery and Transfacial Approaches to the Skull Base

Dec. 2–3, 2006
St. Louis, Mo.
<http://pa.slu.edu>

Gamma Knife Radiosurgery Training Program

Dec. 4–8, 2006
Cleveland, Ohio
[www.clevelandclinicmeded.com/
ASPCLO1B/gammaknife06/
Dec4-8.asp](http://www.clevelandclinicmeded.com/ASPCLO1B/gammaknife06/Dec4-8.asp)

Advanced Techniques and Technology in Brain and Spine Surgery

Dec. 8–10, 2006
New York, N.Y.
<http://fusion.mssm.edu/cme/>

19th Annual Disorders of the Spine

Jan. 13–19, 2007
Whistler, BC, Canada
www.cme.hsc.usf.edu/dots

Chicago Review Course in Neurosurgery

Jan. 25–Feb. 4, 2007
Chicago, Ill.
www.chicagoreviewcourse.com

+These meetings are jointly sponsored or cosponsored by the American Association of Neurological Surgeons. The frequently updated Meetings Calendar and continuing medical education information are available at www.aans.org/education.

AANS Courses

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

■ Managing Coding & Reimbursement Challenges in Neurosurgery

Nov. 3–4, 2006* Los Angeles, Calif.
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, SC
Sept. 7–8, 2007 Las Vegas, Nev.

*Coding for Pros prerequisite: Coding course taken within the past three years.

■ Neurosurgical Practice Management: “Practice Check-Up! Is Your Practice Running Optimally?”

July 1, 2007 Chicago, Ill.

■ Neurosurgery Review by Case Management: Oral Board Preparation

Nov. 5–7, 2006 Houston, Texas
May 20–22, 2007 Houston, Texas
Nov. 4–6, 2007 Houston, Texas

■ The Moving Spine—Hands-On Primer

April 28–29, 2007 St. Louis, Mo.

■ Neurosurgeon as CEO

June 9, 2007 Chicago, Ill.

■ Weekend Update: Interactive Review of Clinical Neurosurgery by Case Management

Feb. 24–25, 2007 Atlanta, Ga.