

AMERICAN ASSOCIATION OF NEUROLOGICAL SURGEONS

# BULLETIN

The Socioeconomic and Professional Quarterly for AANS Members • Volume 9 No. 3

The Dawning of

# e-healthcare

The Impact  
of the Internet  
on Medical  
Practice



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American  
Association of  
Neurological  
Surgeons



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## AANS BULLETIN

The quarterly publication of the American Association of Neurological Surgeons

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# Specialization in Our Profession

## *Challenge is to Maintain a Bond with Neurosurgery*

Several years ago the Council of State Neurosurgical Societies requested the AANS and CNS to establish a task force to look into the role of specialization within the field of neurological surgery. That task force, under the leadership of Julian Hoff, MD, determined there was interest in evaluating and maintaining quality within specialty fellowships that were promoted within the field of neurological surgery.

Neurosurgery was confronted with a dual challenge. On one hand, specialization would be driven by the market place. On the other hand, those practicing neurosurgeons who did not have specialty training should not be disenfranchised from the practice of neurological surgery.

The official position of the American Board of Neurological Surgery is that residents who are trained in accredited programs have received adequate training to perform all aspects of neurological surgery. Consequently the AANS and the CNS continue to encourage and endorse certification by the ABNS for all neurosurgeons. Currently the ABNS is the only certifying organization that the AANS and CNS endorses.

While the market place is providing the impetus toward sub-specialization, the history of medicine and surgery itself is one of continued specialization. Practitioners in large groups and departments of neurosurgery want specialists. The AANS supports the focused interest of individual neurosurgeons through specialty sections.

Because of this increased need for specialists, the number of fellowships is increasing. Residents, in increasing numbers, believe they need fellowship training. In the 1996 survey of neurosurgery chief residents by David Jimenez, 50 percent believed they had adequate training, 33

percent believed they needed more training and 25 percent planned to have specialty fellowships. Technical advances within neurosurgery have led to the feeling that sub-specialization is needed.

The enhancement of specialization is healthy and our Sections provide the strength for American neurosurgery. Yet we also know that the Sections are one of our biggest challenges. As each Section moves in its own direction, it may leave the parent field of neurosurgery.

The challenge is to maintain the balance of the development of specialties while we

*Stewart B. Dunsker, MD, is the 2000-2001 AANS President.*



maintain a bond with neurosurgery. We all want sub-specialization to bring improved quality for patients and for it to be inclusive for all neurosurgeons. We do not want to face a group of certificate-wielding practitioners as we practice in our own hospitals.

When the CSNS asked for this evaluation of fellowships, there was a concern about the quality of training. The practitioners wanted to ensure that the individuals trained in these fellowships had adequate training. It is our desire to avoid fellowships without scholarship and avoid fellowships that only provide service without adequate training.

The challenge of developing an accredited fellowship is that we must all be certain that it does not interfere with the training of residents. Indeed, the Resident Review Commission (RRC), part of the Accreditation

Council for Graduate Medical Education (ACGME), requires that fellowship training not interfere with residency training. It also requires that any fellowship be in an area that represents a new body of knowledge.

Furthermore, if fellowships are to be accredited by the ACGME, they must be approved by other members of the ACGME. That presents a hurdle. As we try to train neurosurgeons to perform endovascular surgery there is concern on the part of radiologists and cardiologists who perform this activity that neurosurgeons are indeed qualified to perform the procedure.

There is a compromise position that will allow neurosurgery to have greater flexibility. That would be for the Society of Neurological Surgery (the "Senior Society") to take on the role of accrediting fellowships. Dedicated to resident education, the Society would be certain that fellowship training does not interfere with resident education. This process of accreditation has actually been started under the directorship of Richard Winn, MD.

The goal of this mammoth undertaking is to help all of neurosurgery branch into new fields as highly qualified and highly trained surgeons. This accreditation process will be performed without certification. Any certificate that any individual may receive would be issued from the hospital in which the neurosurgeon performed the training.

As the accreditation process matures it will probably develop into an RRC accredited system. Either way it goes, it will help American Neurosurgery develop high quality sub-specialty training programs. ■

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# NEWSLINE

NewsMembersTrendsLegislation

## FROM THE HILL

### E&M GUIDELINES AIRED

The Health Care Financing Administration (HCFA) held a "Town Hall" meeting to introduce its latest plans for implementing new Evaluation and Management Documentation Guidelines. Troy M. Tippett, MD, attended the meeting on behalf of the AANS and CNS. Although details are still vague, HCFA announced its intention to revert to the original 1995 guidelines, subject to several minor modifications, including the development of specialty-specific vignettes. HCFA anticipates that the new guidelines will be ready for implementation sometime in 2002. In the meantime, physicians may continue to use either the 1995 or 1997 guidelines, whatever are more advantageous. HCFA plans a pilot test of the revised '95 guidelines.

### FPA HEARS COMMENTS

Richard Fessler, MD, and Robert Heary, MD, testified August 3 at an FDA public hearing on "Human Bone Allograft: Manipulation and Homologous Use in Spine and Other Orthopedic Reconstruction and Repair." AANS/CNS have previously submitted comments to the FDA on this topic.

- **HCFA Proposes Medicare Fee Schedule.** The Health Care Financing Administration (HCFA) published in July the proposed 2001 Medicare Physician Fee Schedule. Contained in this proposal are a number of changes to the Medicare practice expense formula that impact neurosurgery. With these changes, overall reimbursement for neurosurgery is expected to decline by 13 percent from 1998 to 2002 (although the code specific impacts vary). The following demonstrates the impact of these changes on several common neurosurgical procedures:

Procedure	1998	1999	2000	2001*	2002*	Percentage %
Endarterectomy	\$1,263	\$1,220	\$1,236	\$1,172	\$1,116	-12%
Brain Tumor Removal	2,129	2,040	2,085	1,952	1,829	-14%
Carotid Aneurysm	3,071	3,059	3,359	3,278	3,215	+5%
Lumbar Discectomy	991	946	950	893	845	-15%
Lumbar Spinal Decompress	1,246	1,177	1,136	1,064	1,001	-20%
Office Consultation	97	103	117	118	122	+26%

\* Based on 2000 conversion factor of \$36.61.

- **AANS/CNS Try to Halt Practice Expense Cuts.** To halt further reductions to neurosurgical income, the AANS and CNS, along with the 40-member Practice Expense Coalition, are seeking legislation that would modify the Medicare practice expense law. The "Halt 2000" proposal would maintain the current practice expense values, except for office visit and office consultation services, which would increase to their projected 2002 values. If successful, neurosurgery's overall reduction from the new system would be -4 percent rather than -13 percent.
- **Campbell Bill Passes House; Senate Action Unlikely.** HR 1304, the Quality Health Care Coalition Act (Campbell bill) passed the House of Representatives in June by a vote of 276 to 136. Neurosurgeons who had a significant role in the bill's passage included Donald Prolo, MD, George Koenig, MD, and Troy Tippett, MD. The bill would allow individual physicians to jointly negotiate with insurance companies all provisions of their contracts (include fees) without facing antitrust liability. The bill would "sunset" after three years, unless Congress intervened to reauthorize the law. Given the strong opposition by the Senate leadership and the short time remaining on the congressional calendar for this year, it is not likely that the Campbell bill will become law this year. For information on how your member of Congress voted on the bill, visit: <http://clerkweb.house.gov/evs/2000/index.asp>.
- **Inaugural Neurosurgical Device Forum Meets.** AANS/CNS convened the inaugural Neurosurgical Device Forum in July in Washington, D.C. The Forum has been established to improve patient care by fostering an environment of open communication among the scientific community, government, public representatives and industry on neurological device issues of mutual interest. Richard G. Fessler, MD, chairman of the AANS/CNS Drugs and Devices Committee, presided over the meeting, which included participants from the Food and Drug Administration (FDA), the Health Care Financing Administration (HCFA) and major neurological device companies. Other neurosurgeons present were Allan Friedman, MD, Phil Gildenberg, MD, Robert Harbaugh, MD, Isabella Germano, MD, and Theodore Jacobs, MD.

# NEWSLINE

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## NEURO NEWS

### GOVERNMENT TO ISSUE

#### PRIVACY RULES

The Department of Health and Human Services (HHS) is expected to publish soon rules standardizing the privacy and security of health care information. The Health Insurance Portability and Accountability Act (HIPAA) will apply to all health care providers, health plans and clearinghouses that transmit health information in electronic form in connection with Medicare or Medicaid. The standards will impact the information systems of health care providers. The regulations will implement a national provider identifier, a national employer identifier, security and electronic signatures and electronic transaction and code sets. HHS first published the standards in 1998. The agency has delayed finalizing the rules until it could respond to the thousands of comments the initial draft drew. The proposed standards can be viewed at [www.aspe.hhs.gov/admn-simp](http://www.aspe.hhs.gov/admn-simp).

- **AMA Supports Medical Error Tracking System.** The American Medical Association recently voted to support a system for reporting medical errors. The decision came in the wake of a *Journal of American Medical Association (JAMA)* article claiming over 98,000 Americans die each year as the result of medical errors and an initiative by President Clinton to reduce the number of medical-mistake deaths in the United States. Clinton urged Congress in February to create the Center for Quality Improvement and Patient Safety to reduce medical errors by 50 percent in five years. The AMA resolved to support a “non-punitive, evidence based” error reporting system that provides legal protections for participants in safety programs. The association refused to commit to making the system either mandatory or voluntary. Several states already have mandatory reporting systems, but fear of consequences prevents many doctors and nurses from reporting mistakes. The American Hospital Association, on the other hand, officially opposes any mandatory requirements for reporting fatal or other serious medical errors because of fear of litigation. Some changes, however, appear evident. New reporting requirements for all Defense Department administered hospitals, which treat a reported 8 million people each year, are under way. The Health Care Financing Administration is under executive order to mandate all 6,000 hospitals that participate in Medicare to have error-reduction plans in place by the end of the year or lose funding. The U.S. Food and Drug Administration also has a year to develop new standards to prevent mistakes caused by sound-alike or look-alike drugs. The full Clinton plan calls for mandatory reporting of all preventable deaths and major injuries, but names of individual doctors and other healthcare workers would be withheld from the public. The plan earmarked \$33 million to improve the reporting system for drug-related medical mistakes and \$20 million for new research on reducing medical errors and to create a new patient safety clearinghouse.
- **Neurosurgeon to Lead Nation’s Oldest Medical Society.** Francis X. Rockett, MD, was voted president-elect of the Massachusetts Medical Society at the group’s annual meeting in May. Founded in 1781, the medical society is the nation’s oldest continuously operating medical society with more than 17,000 physician and medical student members. Dr. Rockett practices neurosurgery in Newton and holds appointments at several hospitals, including Newton-Wellesley Hospital, where he is Chief of Neurosurgery Emeritus. He is an associate clinical professor of neurosurgery at Tufts University School of Medicine and a clinical instructor in surgery at Harvard Medical School.
- **AMA, Intel Devise Internet Security Plan.** The American Medical Association is working with Intel Corporation to deploy a new form of electronic identification to protect patient privacy on the Internet. The AMA plans to issue digital certificates soon to ensure the confidentiality of electronic medical activities such as filling prescriptions, verifying patient eligibility and transmitting insurance claims, according to Robert Musacchio, PhD, senior vice president of publishing and business services at the AMA. The certificates function in the online world as drivers’ licenses and passports do in the paper world and provide a more reliable authentication tool for secure transactions than passwords.
- **ACGME Approves Neuroendovascular Training Standards.** The Accreditation Council for Graduate Medical Education approved in June the joint Radiology and Neurosurgery Neuroendovascular Training Standards. The training standards require the management of patients with neurological diseases, the performance of neuroendovascular surgery/interventional radiology procedures and the integration of neuroendovascular surgery/interventional radiology therapy into the clinical management of patients.

# The Dawning of e-healthcare

The Impact of the Internet on Medical Practice by John Oro, MD

*Physicians who understand how the Internet is changing healthcare will thrive.*

**N**eurosurgeons at the University of Missouri treat patients from 23 states who found them through the Internet. Web sites such as CyberDocs.com employ physicians to answer queries about illnesses. Internet-only drug stores are setting up shop in all 50 states.

The Internet is transforming medicine, empowering consumers and offering new opportunities for physicians. Those physicians and health centers that understand how the Web is changing medicine stand the best chance of prospering in the new era. Here are 10 trends in technology that are transforming healthcare and neurosurgery.

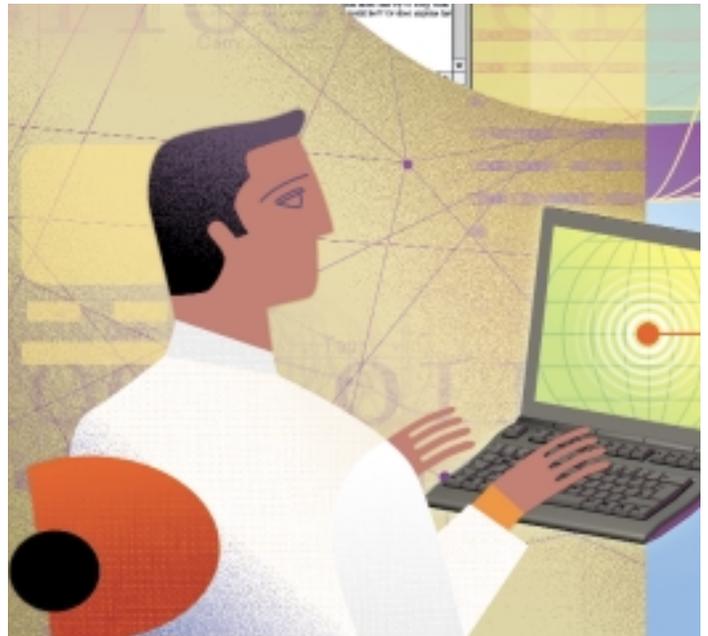
## 1. Healthcare Consumer Empowerment

The most fundamental impact of the Internet on the practice of medicine is the rise of healthcare consumer empowerment. Health-related Web sites have experienced a boom in traffic in the past several years. An estimated 72 million adult Americans have used the Web to seek healthcare information.

Most users are looking for information on conditions affecting themselves or someone in their family. As they become empowered with specific medical knowledge, they seek to become partners in their care.

Although physicians frequently complain about the quality of online health information, consumers have shown a much higher satisfaction with the health information on the Internet than with traditional media; 40 percent are very satisfied with information on the Web, versus 25 percent with magazine/newspapers and 13 percent with television.

The rapid growth of disorder-specific Web sites and chat rooms underscores the empowerment of the healthcare consumer movement. Chat rooms are available for hundreds of disorders and the activity in these chatrooms is buzzing. Healthcare consumers will influence, by their recommendation or disapproval, the flow of healthcare consumers to practitioners. While this has always been true, the Internet will magnify the trend.



Why are healthcare consumers turning to the Internet for healthcare information and interaction? Tom Ferguson, MD, of Austin, Texas, a consultant for online health information companies, believes that healthcare consumers feel there is “something inherent in traditional office-based practice that leaves them ‘wanting more.’” C. Everett Koop, MD, the former U.S. Surgeon General who began his own healthcare Web site (drkoop.com), says that the Internet will “change the whole paradigm we’ve been used to in medicine.” Healthcare consumers want partnership. They are “getting more control of the knowledge they have ... which enables them to make decisions with their doctor about diagnosis, procedures and treatment,” says Dr. Koop.

## 2. Supersites and Supercenters

In September 1999, 13.4 million unique visitors visited the top ten health sites. As traffic to these sites continues to grow, new services will be offered, further building the number of users. This may result in consolidation of a majority of healthcare traffic to a few supersites and supercenters.

The world’s largest distributor of healthcare information has been drkoop.com. In September 1999, 5.5 million users visited

drkoop.com. The site refers users to certain hospitals, lets them check if their medications will interact with one another and, through a partnership with Quintiles Transnational, allows them to sign up for clinical trials for the pharmaceutical industry. The AANS has partnered with Koop's site on several public education initiatives.

Despite its popularity, drkoop.com suffered financial losses and, as of press time, was likely to be sold. But the utility of the medium is undeniable. Healthcare consumers are drawn to sites with multiple services. The popular AmericasDoctor.com (AD) employs physicians to provide virtual consultations. AD is negotiating exclusive agreements with health care providers throughout the country. For a fee, AD refers healthcare consumers to a partner hospital within their area.

In a partnership with CenterWatch, AD also allows healthcare consumers to sign up for clinical trials. In return for a referral fee, AD notifies healthcare consumers when a new trial that fits their profile is available. Healthcare consumers complete an online questionnaire to determine if they qualify.

Some supersites target both consumers and physicians. *Medscape*, whose editor in chief is George D. Lundberg, MD, (former editor of *JAMA*), publishes several online journals. The flagship online journal, *Med GenMed*, recently set new benchmarks for medical publications. Its first original, peer-reviewed study involved reviewers on three continents and was published within 39 days of submission. Following this success, a complex major article with 18 authors was reviewed three times and published in just 19 days. Clearly, online journals are seriously challenging print journals.

Among the physician services offered by Medscape is *Journal Scan*. An editorial board reviews articles and publishes synopsis within a few days after publication. Links to abstracts and full-text articles are available. The Medscape medical image database available on Medscape now contains over 6,000 royalty-free images that are searchable by category or keyword. In neurosurgery, our own *Neurosurgical Focus* has grown rapidly since its 1996 launch. It is one of the most visited parts of the AANS site.

Medical centers are also developing supersites. Among the two most highly trafficked are John Hopkins Intellihealth and Mayo

Clinic Oasis. Intellihealth offers the consumers an "Ask the Doc" feature on topics such as allergy, arthritis, asthma, babies, cancer and caregivers. The Mayo Clinic, responding to less traffic on its Web site, has recently partnered with the Shansby Group to more directly compete with the large for-profit sites such as drkoop.com.



### 3. New Opportunities for Physicians

The Internet is providing new opportunities for physicians. Consumers identify doctors as their most trusted source of information, according to public opinion surveys. Doctors are responding by becoming active participants of the electronic healthcare revolution, currently referred to as e-healthcare.

Certain specialties are ideally suited to providing online consultations. Radiology, an image-based specialty, is increasingly moving to digital imaging, and reading films through telemedicine is becoming increasingly common. As the capability of the Internet increases, radiologists will increasingly use it to read films online, allowing them to provide services worldwide.

Online consultations also can impact the direct treatment of healthcare consumers with neurological diseases. At the Atoka Memorial Hospital in Atoka, Okla., the brain CT scans of healthcare consumers with acute stroke are sent through the Internet to neuroradiologists at another Oklahoma facility. The scans are reviewed within 30 minutes and provide information needed by the physicians to determine if t-PA should be administered.

At a recent meeting of the AANS, John Tew, MD, demonstrated an online intraoperative consultation. It is likely that surgical consultation services will be available through the Internet later this decade. Surgeons will register for the service and will be able to obtain intraoperative consultations provided through the Internet by senior surgeons covering an on-call schedule.

Web sites such as CyberDocs.com and AmericasDoctor.com are employing physicians to respond to questions from healthcare consumers. Those consumers needing "immediate medical consultation" are asked to make their payment, through the CyberCash credit card system, prior to the consultation. The company claims 100,000 visits to its health site each month.

### 4. Online Health Record

For the consumer, one of the most significant contributions of the Internet to healthcare will be the development of the online health record. Various models are being developed. AboutMyHealth.com, a service of MedicaLogic, Inc., and Yourhealthchart.com, by Elixix,

**"The rapid growth of disorder-specific Web sites and chat rooms underscores the empowerment of the health-care consumer movement."**

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Inc., will allow patients to maintain their own record.

The most developed patient-based online health record belongs to PersonalMD.com, which has 100,000 registered users. Consumers can post current medications, family medical history, lab reports, living will, immunization record and health insurance data. The patient decides who gets access to the record. The patient also keeps the record current.

Health systems are also planning to offer control of a portion of the health record to patients. At Providence Health System on the West Coast, patients will be able change their own demographics, review post-operative recommendations from their doctor and make appointments, all online.

### 5. Online Disease Management

Several companies are developing tools and Web sites to provide online disease management. The Health Buddy is an example of an Internet-based system that will enhance home care. A wireless unit in the healthcare consumer's home is connected to the Internet through a phone line. The healthcare consumer responds daily to health questions and the answers are relayed electronically to a nurse or physician. The system is currently being evaluated with cardiac patients at the Mercy Heart Institute in Sacramento, Calif.,



### Doctors Warm to the Web

Physicians aren't exactly computer geeks but they are warming up to electronic technology, according to a recent study.

The number of physicians who use e-mail to communicate directly with their patients increased by 200 per-

cent in less than one year. Ten percent of physicians used e-mail on a daily or weekly basis to reach patients, according to a recent study by Medem, the e-health network founded by the nation's leading medical specialty societies and the American Medical Association. The fifth "Physicians' Use of the Internet Study" was released in June.

The study also showed that the number of physicians building Web sites for their practices doubled to more than 50 percent in the last nine months. Half of all physicians use the Internet in their offices daily, up from 37 percent less than a year ago.

Physicians also are more positive about the value of the Web to their patients. More than 75 percent of respondents said a physician's practice Web site was a valuable tool for patient education, up from 25 to 30 percent in other studies.

Younger and older physicians are equally interested in Web sites. Between 50 and 60 percent of physicians, ranging from zero to 30 years in practice, have Web sites.

and with multiple sclerosis patients at the University of Southern California.

LifeChart.com has developed the Airwatch Asthma Monitor, an electronic monitor that measures airflow and sends the results to asthma specialists at LifeChart.com. Reports are sent to the patient's doctor. The service is available for \$9.95 per month. LifeChart.com is also developing disease management programs in diabetes and cardiovascular disease.

HealthScreenAmerica.com, another disease management Web site, is developing services to monitor or manage cholesterol, body fat, osteoporosis, diabetes, cancer, heart disease and other ailments.

### 6. Online Pharmacies and Prescription Services

Internet-based drug stores such as DrugStore.com and PlanetRx.com are obtaining licenses to operate in each state. Other traditional drug stores such as Walgreen's are successfully using the Internet; Walgreen's currently refills 1,400 prescriptions on the Internet each day. The \$44 million in online pharmaceutical sales posted in 1999 are expected to jump to \$2 billion by 2004.

The National Association of Boards of Pharmacy recently began granting a seal of approval to Internet pharmacies that meet the criteria of Verified Internet Pharmacy Practice Sites.

### 7. Further Development of Evidence-Based Medicine

As the number of consumers searching for health information and physicians on the Internet increases, they will increasingly compare the quality of the services provided. At our center, a father recently presented doctors with a notebook full of material obtained on the Internet. Tabs separated the information posted by various neurosurgeons, which included pertinent medical articles published by each practitioner. The father obviously was attempting to compare the quality of care. This interest and demand on the part of the public will enhance the move to evidence-based medicine and outcome measurements.

Many health sites are focusing on evidenced-based medicine. For example, the National Guideline Clearinghouse Web site ([www.guideline.gov](http://www.guideline.gov)) contains 286 guidelines developed by specialty societies. This number is expected to increase to more than 3,000 within three years.

### 8. Online-Facilitated Clinical Trials

Many published clinical research trials involve a small number of healthcare consumers because of the expense of large multicenter studies. The Internet has the potential to change this. Through the AANS/CNS Web site **Neurosurgery On-Call**<sup>®</sup>, neurosurgeons are able to download research trial databases for local use. The data, with the identifiers striped, can be sent to the central database repository for analysis and comparison.

American Oncology Resources, Inc. has developed an innovative system likely to be replicated by other organizations. Its SecureNet

database contains the files of 85,000 healthcare consumers in 18 states. The database automatically reviews healthcare consumer files for potential matches for drug trials and notifies, through e-mail, the healthcare consumer's physician, nurse and clinical research coordinator. For new healthcare consumers, the clinician can enter the disease type, stage and principal therapy into SecureNet and the database shows which trials are available for that consumer.

**"By September 1999, drkoop.com had 5.5 million visitors while the AMA's site remained relatively flat at 404,000."**

### 9. Medical Associations Will be Transformed or Fade Away

The Internet poses a major challenge to traditional medical associations. The usage figures from 1999 were a wake-up call to associations such as the AMA. In February 1999 the number of visitors to the AMA Web site were similar to those of drkoop.com: 324,000 visitors to the AMA site and 369,000 visitors to drkoop.com. By September 1999, drkoop.com had 5.5 million visitors while the AMA's site remained relatively flat at 404,000.

The AMA is responding to the Internet challenge by spending \$2 million on a new site called Medem. The site is being created in participation with several specialty societies: the AANS, American Academy of Pediatrics, American Academy of Ophthalmology, American Society of Plastic Surgery, American College of Allergy, Asthma and Immunology, American College of Obstetricians and Gynecologists, and the American Psychiatric Association.

### 10. Online Health Networks and Business Services

Investment firms, believing that Internet technology can revolutionize healthcare business processes, are focusing on healthcare. The development of online health networks and business services is changing the relationship between consumers and physicians. The following is a survey of some recent ventures.

**Health Plan Intranets.** Kaiser-Permanente (KP) has developed a secure Web server for its healthcare consumers. Through the KP site, healthcare consumers are able to e-mail their physician and, in a breakthrough step for a healthcare provider, can communicate with other KP healthcare consumers having similar disorders. Healthcare consumers can also contact their service representative and schedule clinic appointments online. Physicians estimate the network is already providing a 10 percent timesaving. Efficiency is likely to increase when new services such as eScripts, an online prescription service, is added.

**Online Health Networks.** Healtheon/WebMD is moving aggressively to become the nation's first comprehensive online health network. Like the other large healthcare Web sites, Healtheon/WebMD provides health information for consumers and physicians (AANS is a regular contributor of online content.) But the site also provides a host of continuing education and practice management services:

- *Healtheon/WedMD has taken over the cmeWEB site and now offers 400 CME accredited courses.* Physician members can obtain credit toward the AMA Physicians Recognition Award. The CME Logbook is an innovative feature that allows users to log CME credits and print a status report for submission to licensing or accrediting bodies. Individual state CME requirements are listed on the site.

- *Physicians are able to check healthcare consumer eligibility online.* The site serves as a single point access to multiple payers, which respond to inquiries real-time. The site automatically sends secondary coverage inquiries when appropriate. In addition, the referrals section allows users to submit referrals to payers and verify authorization status online.

- *Insurance claims can be processed online.* The system reviews claims automatically for valid CPT and ICD codes, duplicate records and invalid combination of procedures with age/sex. The system is designed to be consistent with payer-customized rules. In an agreement with Humana Inc., WebMD will allow physicians to file claims electronically, significantly reducing the cost of each claim. Bad claims will be automatically returned for correction and good claims will be paid within a week or two instead of the current average of 45 days.

- *A fee schedule analyzer allows the practitioner to develop fee schedules that fits their community.* The practitioner enters their zip code and specialty and the system provides guidelines for reasonable and customary charges.

- *An online diagnostic laboratory ordering service connects physicians to pathology laboratories.* Results appear on the physician's desktop as soon as they are available.

### Conclusions

The Internet will transform many healthcare processes during the next decade. Those centers with vision, courage and efficient execution will decrease their overhead costs and improve efficiency. More importantly, healthcare consumers will become empowered and seek partnership with their physicians. The drive for evidence-based medicine and outcomes, combined with the capabilities of the Internet, will allow healthcare consumers to be more selective in choosing their providers. Those physicians and centers that provide a new level of service and measurable outcomes will prosper. ■

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**John Oro, MD**, is Professor of Neurosurgery at the University of Missouri. He is past chairman of the editorial board at NEUROSURGERY://ON-CALL® and serves as director-at-large to the AANS Board of Directors.

# AANS Leverages the Internet

## Alliances Formed with Web Sites

BY SUSAN A. NOWICKI, APR

The Internet is changing what AANS does on a day-to-day basis and it's happened in just five years. In September 1996, AANS partnered with the Congress of Neurological Surgeons to launch **NEUROSURGERY://ON-CALL**®, the field's first dedicated Web site. This joint effort includes such features as "Find a Neurosurgeon," an online Directory of Neurological Surgery and Guide to the AANS and CNS, a listing of meetings and CME opportunities, library of research abstracts, Cyber Museum of Neurosurgery, and Health Resource's and educational information for patients, referring physicians and the media.

The popular "Find a Neurosurgeon" feature drew 1,715 visitors in July and 1,686 in June. The "Ask a Neurosurgeon" section also attracts large numbers.

### Online Activities

Since the founding of **N://OC**, AANS has become an innovator in the Internet arena. Some highlights of the Association's online activities include:

- **Neurosurgical Focus.** A monthly scientific journal that can be found only on the Internet, in the AANS section of **NEUROSURGERY://ON-CALL**® (**N://OC**). Developed and published as an offshoot of our official scientific journal—the *Journal of Neurosurgery*. It is peer reviewed and with its quick production turnaround, *Neurosurgical Focus* offers the capability to publish innovative new research much faster.
- **The Online Market Place.** This online cyberstore in the AANS area of **N://OC** allows members to order the full line of AANS products and publications, including operative atlases, socioeconomic texts, marketing and educational programs and more.
- **AANS Annual Meeting Online.** Members can view presentations from the AANS 2000 Annual Meeting online. Presentations include plenary sessions, special courses, breakfast seminars and special lectures. Each online presentation was developed from videotaped sessions or by formatting slides from the course into an online video format. Site visitors can view the complete course, including a transcript. The service is supported by MedLeader.com, Inc., in collaboration with Caliber Learning Network, Inc.

### Strategic Alliances

The AANS has formed strategic alliances with major, national health Web sites. Its Internet partners include:

The graphic features a dark background with a blue swoosh at the top right. The title "Strategic Alliances with Other Web sites" is written in a light blue font. Below the title are two bullet points: "• We needed to reach out beyond our own site." and "• To maximize our reach, we formed strategic alliances with several outside web sites." At the bottom, there are four logos: WebMD, Medem, drkoop.com, and SpineUniverse (with the tagline "-everything for your back and neck").

- **WebMD** created a special section on their site called "Baby Boomer's Guide to Back Pain," based on content from the Association's *USA Today* insert. The AANS is currently negotiating an agreement that will include creation of both physician and consumer portals featuring AANS content and the opportunity to partner on CME courses, polls and webcasting.
- **Medem** is an e-health network founded by the AMA and six medical specialty associations. AANS is a contributing partner, providing editorial content for consumers and physicians. AANS members can get free custom-developed practice Web sites and secure e-mail service with patients through Medem's "Your Practice Online."
- **drkoop.com** provided daily online coverage of the Annual Meeting and placed selected content from the *USA Today* insert on their site. AANS is currently exploring other possible relationships with the site.
- **SpineUniverse** is a specialty Web site organized around back and neck health. AANS is in the process of creating an AANS area within both patient and professional areas of the site. The AANS area will promote meetings and CME courses and feature chapters from AANS publications. AANS will also participate in the site's "Find a Spine Specialist" database, which will allow members to register as spine specialists for referral purposes.

### Planning the Future

Going forward into the future, the AANS Board of Directors has appointed an Internet Advisory Task Force to develop a comprehensive strategy to maximize benefits to AANS and its members and to use the Internet as a communication tool. Its goals are to enhance public awareness of neurosurgery and the AANS and to provide members with practice and patient management enhancement services offered by evolving Internet technologies. ■

# A Primer on the Digital Revolution

## More than 50 Years of Innovation

By JOHN ORO'

A few years ago Bill Gates was shown in *National Geographic* in a climber's harness dangling from a cable strung 55 feet high in an Oregon forest. He sat on a stack of paper strung through the cable; next to him was another cable spliced with paper. Together the two cables held 330,000 single-spaced pages. A grinning Gates was holding a CD-ROM. Yes, that's right, all the text in the two towering columns of paper fit on a single CD.

Such is the power of the digital revolution. The paper society is giving way to a computer-driven one. How did we get to this point?

Five technological developments paved the road of progress. Here is a brief primer on the history of a revolution.

### Five Foundation Technologies

**1. The binary code.** The binary code is based on the binary digit or bit (binary digit). A binary digit is either a 0 or 1. Within a computer, a low or high voltage represents this. From this very simple concept, humanity has created a powerful code of bits that is used to represent numbers, words, pictures, sound and movement.

**2. The processor.** While vacuum tubes were the first devices used to process bits, the microprocessor, based on the transistor developed by Shockley, Bardeen and Brattain in 1947, provides the rapid processing of bits performed by modern computers. Processors are small (thus the name microprocessors) and look like "chips." In 1971, processors could perform 60,000 calculations per second. By 1997, an IBM research lab broke the 1 billion calculations per second barrier, a rate previously possible only by supercomputers.

**3. The personal computer.** The MITS Altair 8800, developed in 1975, was the first "personal computer." However its complexity and lack of keyboard and monitor limited its use to computer enthusiasts. In 1976 two young Californians, Steve Wozniak and Steven Jobs, developed the Apple II computer. With its "tour de force circuit design," built-in keyboard and attached monitor and disk drive, the computer was an instant market success. It was quickly adopted in schools, colleges, and people's homes. The success of the Apple II stimulated other companies such as IBM, which released its first "PC" in 1981. The IBM PC used the DOS operating system, developed by Seattle Computer Products and modified by Bill Gates. The rest, as they say, is history.



Using a personal computer, the home user could create documents and pictures, analyze data and even make music. However, the computing activity was self-contained; output from the computer was either seen on a monitor, heard through a speaker or printed. Movement of information from one computer to another usually required the use of a disk.

**4. The network.** The Internet had its origins in the U.S. military. In 1959, Paul Baran, a talented young engineer of the RAND think tank, developed the first distributed digital network for the U.S. military. In 1969 the Advanced Research Projects Agency (ARPA), a government agency, developed the ARPANET computer network. However, it soon became apparent that it could not communicate with other developing networks. What was needed was a common language or protocol. To this end, ARPA began the Internetting Project in 1973 and a year later reported the breakthrough—the Transmission Control Protocol / Internet Protocol (TCP/IP). Using this protocol, any network could "talk" to any other network, thus creating a new internetwork, or Internet.

The modem, a largely unsung device, allowed the home user to connect to the Internet, further fueling the revolution. Without the modem, there would be no Amazon.com or most of the other Internet consumer sites. The modem turned the phone network into a computer network. While the phone system is designed to handle an analog (continuous wave) signal, the computer produces signals in discreet bits. The modem solved this problem by modulating the digital signal of the computer to an analog signal and then sending it across the network where another modem demodulated it back to digital. This modulating-demodulating device was aptly named the modem.

**5. Photonics.** A fifth development, currently under way, is based on the science of photonics. Instead of sending signals through copper phone lines, digital signals are sent as pulses of light through a fiberoptic cable. Recent developments in photonics, including the ability to send multiple simultaneous signals through a fiber with each signal riding on a different color, promise to speed the transmission through the major Internet lines to an incredible 100 billion bits per second. Together with the development of optical routers by such companies as Lucent Technologies and Cisco Systems, Inc., these innovations are the harbingers of a future light-speed network circling the globe.

These five foundation technologies are helping to create a "global nervous system," as foreseen by Marshal McLuhan in 1964 and others before him. While this article deals with the sensory component of that nervous system (the perception of text, images, and sounds) the motor component (the control of distant objects such as telescopes) is also under development. Even remote surgery may be possible and is being investigated by ARPA, the same governmental agency that developed the Internet. ■

# Cushing Orator Announced

## *NBC's Tom Brokaw to Speak at Annual Meeting*

**T**om Brokaw, anchor of *NBC Nightly News*, has been selected as the 2001 Cushing Orator. The oration will be given on April 24 at the AANS Annual Meeting in Toronto, Canada.

The anchor of *NBC Nightly News* since 1982, Brokaw has been on the scene of the events that shook the world during the last two decades. He covered the release of Mandela in South Africa, the fall of Marcos in the Philippines and the NATO airstrikes in Yugoslavia. He was the only correspondent reporting live from Berlin the night the wall toppled. He was the first journalist to gain an exclusive one-on-one interview with Mikhail Gorbachev and the first anchor in Tianamen Square following the crackdown.

In 1998, Brokaw wrote his first book, *The Greatest Generation*, which was a No. 1 bestseller. The exquisitely written book profiles the generation of Americans who came of age during the Great Depression, fought in the Second World War and went on to build modern America.

The book grew out of his trip to France to make a documentary marking the 40th anniversary of D-day in 1984. Though

thoroughly briefed on the historical background of the invasion, Brokaw says he was totally unprepared for how it affected him emotionally. Flooded with childhood memories of World War II, Brokaw began asking veterans at the ceremony to revisit their past and talk about what happened, triggering a chain reaction of war-torn recollections. Brokaw resolved to capture their experiences in what he terms "the permanence a book would represent."

"This generation helped saved the world from fascism, returned home to marry and go to college in record numbers, rebuild their former enemies, stand fast against communism, give us great art, science, the interstate highway system, Medicare—and the greatest economy the world has ever known," he told *At Random* magazine. "They never whined or whimpered. I am in awe of them."

Brokaw made his national reputation as the NBC White House correspondent at the height of Watergate and stayed in that post through the resignation of Richard Nixon and the ascension of Gerald Ford. He left Washington in 1976 to host the *Today* show, where he also worked as a cor-



*NBC Nightly News* anchor Tom Brokaw will speak at the AANS Annual Meeting April 24.

respondent. His assignments included Anwar Sadat's assassination, the attempted assassination of Pope John Paul II and the marriage of Prince Charles and Diana.

A working reporter for more than 35 years, Brokaw began his career in the Midwest and then the South during the civil rights era. He joined NBC at the age of 26 just in time to cover Ronald Reagan's first run for the governor of California. His other assignments from that period included the unrest in Watts, the assassination of Robert Kennedy and the tumultuous '68 Democratic Convention.

He has won every prestigious award in broadcast journalism, including Emmys, two Du Ponts, a George Foster Peabody award, the Overseas Press Club Award, the Lowell Thomas Award and the Fred Friendly Award.

Brokaw and his wife, Meredith, live in Manhattan and spend much of their spare time pursuing their interests in Third World adventures, global environmental issues, fly fishing and horseback riding.

### About the Cushing Orator

The AANS has sponsored the Annual Cushing Orator since 1964. The talk is named for Harvey Cushing, MD, the father of modern neurosurgery. Previous Cushing Orators include Wernher von Braun, Jimmy Carter, H. Ross Perot, General Colin L. Powell and George Bush. ■

### 2001 ANNUAL MEETING FAST FACTS

**DATES:** April 21-26, 2001

**LOCATION:** The Metro Toronto Convention Center in Toronto

**REGISTRATION:** Registration materials will be mailed in December

**DETAILS:** In the next issue of the *Bulletin* and at [www.neurosurgery.org](http://www.neurosurgery.org).



# New Era for Strokes

## Coalition Urges Need for Primary Stroke Centers

BY HEATHER MONROE

**T**he AANS announced in June its support of a plan to establish Primary Care Stroke Centers. The need for such centers was detailed in a research paper written by members of the Brain Attack Coalition for the *Journal of the American Medical Association (JAMA)* on June 21. The AANS is a member of the coalition.

In the *JAMA* article the Brain Attack Coalition presented the first clearly defined set of recommendations for hospitals to implement stroke centers, teams and other programs to improve stroke treatment in the United States. Strokes require immediate treatment to help prevent death and disability, but many hospitals do not yet have the infrastructure and organization necessary to triage and treat stroke patients in the rapid manner required to get maximum benefit.

Despite significant advances in the diagnoses, treatment and prevention of stroke, it remains a common disorder. Recent studies suggest there may be as many as 750,000 new and recurrent strokes each year in the United States. Stroke is the third leading cause of death and a leading cause of adult disability in the United States. Direct costs for medical care and therapy for stroke are estimated at \$30 billion a year.

Mark J. Alberts, MD, lead author of the *JAMA* paper, said, "Our recommendations are similar to those guiding trauma centers—getting patients to facilities where the specialists and infrastructure are in place to evaluate and treat them quickly. If facilities can put together the resources to treat trauma patients, why can't they do the same for stroke patients?" Dr. Alberts is also chairman of the Stroke Belt Consortium and director of the stroke acute care unit at Duke University Medical Center.

The paper emphasized the important role of Acute Stroke Teams, emergency departments, stroke units and the short window of opportunity that stroke victims have for receiving crucial medical attention.

The recommendations were announced at a press conference June 20 in Washington, D.C. The AANS Communications staff worked with the National Institutes of Health (NIH) to draft press releases and fact sheets and provided on-site assistance during the press conference.

The press event received extraordinary media attention. Covering the event were CNN, ABC, NBC, Reuters Health, CBS Radio, Hearst Television, HealthScout, CBS Healthwatch and WebMD.

Marc Mayberg, MD, a co-author of the study, served as a spokesperson representing the field of neurosurgery at the press conference. Dr. Mayberg emphasized the importance of a patient

receiving treatment from a medical professional who has stroke expertise. Doctors have five minutes to evaluate the reason for the stroke and a few hours to treat it before the patient dies or suffers permanent damage.

### Improving the Level of Care

The two major goals of the stroke center recommendations are the improvement in the level of care for stroke patients and the standardization of some aspects of acute care for the patients.

**"If facilities can put together the resources to treat trauma patients, why can't they do the same for stroke patients?"**

"These recommendations are a perfect example of what the Brain Attack Coalition came together to do—develop ways to reduce the death and disability caused by stroke," said Michael D. Walker, MD, the Coalition's chair and former director of stroke, trauma and neurodegenerative disorders at the National Institute of Neurological Disorders and Stroke at the National Institutes of Health. "Our paper offers a way for hospitals to significantly improve outcomes for stroke patients by dedicating the resources necessary to

diagnose and treat stroke patients within the critical three-hour time period."

The Brain Attack Coalition is a group of professional, voluntary and government organizations whose mission is to reduce the occurrence, disabilities and death associated with stroke. Its goal is to strengthen and promote the relationship among the member organizations: the AANS, the American Academy of Neurology, the American Association of Neuroscience Nurses, the American Stroke Association (a division of the American Heart Association), the American Society of Neuroradiology, the Congress of Neurological Surgeons, the National Institute of Neurological Disorders and Stroke, the National Stroke Association and the Stroke Belt Consortium.

See sidebar (opposite) for the Brain Coalition's complete recommendations for establishing primary stroke centers. ■

## Establishing a Primary Stroke Center

**T**he Brain Attack Coalition, a group of professional, voluntary and government organizations whose mission is to reduce the occurrence, disabilities and death associated with stroke, has published the following recommendations for establishing primary stroke centers:

### Acute Stroke Teams

The Acute Stroke team should include a physician with experience in diagnosing and treating cerebrovascular disease and one other healthcare provider as a minimum. Hospital-based stroke teams should be available at all times in order to evaluate within 15 minutes any patient who may have suffered a stroke.

### Written Care Protocols

Hospitals should have written procedures to streamline and accelerate the diagnosis and treatment of stroke patients.

### Emergency Medical Services

EMS have a vital role in the rapid transportation and survival of stroke patients. Effective communication between hospitals and EMS is a cornerstone of a Primary Stroke Center.

### Emergency Department

The emergency department staff should have training in diagnosing and treating stroke and have good lines of communication with both EMS and the acute stroke team.

### Stroke Unit

A Primary Stroke Center wishing to provide care beyond the initial life-threatening period should have access to a Stroke Unit where patients can receive specialized monitoring and care.

### Neurosurgical Services

Primary Stroke Centers should be able to provide neurological services to stroke patients within two hours of when the services are deemed necessary.

### Support of Medical Organization

The facility and its staff, including administration, should be committed to the Primary Stroke Center.



Physicians should treat stroke patients within a few hours to prevent permanent damage to the patient.

### Neuroimaging

The ability to perform brain imaging studies, including CT scans, on stroke patients is vital for physicians to make a fast, accurate diagnosis. The imaging study should be done within 25 minutes of the physician's order and the image should be evaluated by a physician within 20 minutes of completion.

### Laboratory Services

Standard laboratory services should be available at all times. These services include rapidly performing and reporting blood counts, blood chemistries and coagulation studies and obtaining ECG and chest x-rays.

### Educational Programs

The professional staff of a Primary Stroke Center should receive at least eight hours per year of continuing medical education credit. They also should present at least two annual programs to educate the public about stroke.

#### GET ALL THE GUIDELINES

To receive a copy of the recommendations and/or the JAMA article, email your request to [mlm@aans.org](mailto:mlm@aans.org). The press materials have also been posted on our Web site at: [www.neurosurgery.org/aans/media](http://www.neurosurgery.org/aans/media).

# High Tech, High Costs

## Part Four: Technology Assessment

BY ROBERT E. HARBAUGH, MD, FACS

In the first article of this series (“High Tech, High Cost: Examining the Increasing Costs of Neurosurgical Cares,” Vol. 8, No. 4) I argued the case that new technology is the primary driver of increasing health care costs in the developed world. The second article (“High Tech, High Costs: Examining Technology and Health Care Reform,” Vol. 9, No. 1) reviewed various proposals for health care reform and discussed the impact such proposals would have on developing and deploying new technology. The third article (“High Tech, High Costs: Fostering Neurosurgical Innovation,” Vol. 9, No. 2) stressed the importance of fostering neurosurgical innovation in a health care environment that may become increasingly hostile to technological development. The final article in this series suggests ways in which technology assessment can be used to assure cost-effective neurosurgical care.

**H**ealth technology assessment has been defined as “the careful evaluation of a medical technology for evidence of its safety, efficacy, cost and cost-effectiveness and its ethical and legal implications, both in absolute terms and in comparison with other competing technologies.” In practice, investigators in technology assessment have most often employed the methodologies of decision analysis and cost-effectiveness analysis while broadening the scope to include ethical and societal implications.

I believe that this approach will be used more extensively in the future to evaluate medical care. These and two alternate approaches to technology assessment will be briefly reviewed.

### Decision Analysis

Decision analysis methodology is used for evaluating the effectiveness of treatment using data generated in clinical trials. In decision analysis, therapeutic strategies are specified and clinically relevant outcomes for each strategy are analyzed in a decision tree model. Probabilities of reaching various clinical outcomes are determined from data collected in clinical trials. Each clinical outcome is then assigned a utility, such as quality adjusted life years (QALYs). Utilities are based on patient or potential patient perceptions.

The value of treatment strategies can then be calculated by multiplying the probability of reaching a clinical outcome by its utility. Stability of the results can be analyzed using sensitivity analysis, whereby the probabilities of reported outcomes are varied over a wide range. Decision analysis can be used to determine the most beneficial treatment approach for an individual patient faced with a difficult treatment decision or for analyzing the value of various treatment modalities for large populations of patients.

### Cost-effectiveness Analysis

Cost-effectiveness analysis, a subset of decision analysis, includes the costs of various interventions. Investigators using this methodology attempt to determine the relative value of treatments by dividing the cost of a given intervention by the benefit obtained. Cost-effectiveness can then be expressed as dollars invested per QALY.

To use a neurosurgical example, we can postulate that chemotherapeutic agent X in glioblastoma patients costs \$10,000 to achieve, on average, an additional six weeks of life with a utility of 0.06 QALYs. The cost-benefit of this intervention would be

greater than \$165,000 per QALY. This kind of analysis can be used to compare the relative values of various interventions. Medical technology assessment uses the data generated from such analysis and then tries to address the thornier issues of whether or not this expenditure of resources is warranted.

“Changes in the health care environment must eventually result in a change in the pace of technological innovation.”

### Limitations of Cost-effectiveness Analysis

Cost-effectiveness analysis is only as reliable as the data on which the analysis is done. Reliable clinical outcomes data, utilities that accurately assess patient desires and realistic cost data are necessary for cost-effectiveness analysis to be meaningful. All of these may be difficult to obtain for a given group of patients.

### Alternate Methods for Technology Assessment

Alternate approaches for technology assessment have been advocated, including appropriateness evaluation and strength of evidence evaluation. The two approaches are summarized here.

**Appropriateness Evaluation.** This approach employs a panel of experts and formal procedures for judging the appropriateness of a medical intervention in an attempt to reach a consensus on indications for care. This approach is, in my opinion, fraught with difficulties. Consensus criteria are subjective and highly dependent on the composition of the expert panel. The conclusions of any expert panel are suspect unless reliable clinical data are available.

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**Strength of Evidence Evaluation.** This brings us to the second alternative, strength of evidence evaluation or evidence-based practice. Extreme advocates of strength of evidence evaluation recommend that only those interventions with clinical benefit documented by controlled clinical trials be performed and paid for. They point out that if we employed only those interventions whose effectiveness has been documented by controlled trials there would be no need to worry about costs, as many medical and surgical procedures would no longer be done. This approach is also rife with hazards.

Many interventions whose effectiveness has been documented by observational studies would be excluded because the strength of the evidence is limited. However, evidence from observational studies may be so compelling that a randomized trial is inappropriate. Do we need a clinical trial to document the effectiveness of antibiotics in postoperative infections? In addition, prospective, controlled trials are expensive and time consuming and it is unlikely that such trials will ever be done for many interventions.

There are also real constraints to the applicability of data from many prospective, randomized, clinical trials. The NASCET and ACAS carotid endarterectomy trials are an excellent example of this. These trials have documented the benefit of carotid endarterectomy for patients with symptomatic and asymptomatic carotid stenosis. However, the trial results may not reflect how carotid endarterectomy is done in the "real world." For example, NASCET and ACAS involved only carefully selected hospitals where many carotid endarterectomies were being done. They also involved carefully selected patients and surgeons with documented low morbidity and mortality rates for this procedure. It is unlikely that the results of these trials can be generalized. In fact, outcomes studies using data from the HCFA database demonstrate complication rates for carotid endarterectomy in general practice far exceeding those in NASCET and ACAS.

### **Ethical Concerns with Technology Assessment**

The use of cost-effectiveness analysis for medical technology assessment raises considerable ethical concerns. Using cost as a criterion for determining medical intervention raises difficult questions about rationing of health care.

This is not a new issue for neurosurgeons. We do not employ all of our technological resources for every patient. Do we take a demented 80-year-old patient with a Glasgow coma score of 3 to the operating room to clip his aneurysm? We believe we make such decisions based solely on perceived benefit to the patient without concerns about resource expenditure.

This feels right when we are dealing with acute life and death issues but it is difficult to justify in more nebulous circumstances. Should the adult population be screened with MR or CT angiography looking for unruptured aneurysms? Should everyone over age 65 have a carotid duplex study? These issues become more acute as

technology makes new diagnostic and therapeutic interventions available. Unless there are limitless resources for medical care there will sometimes be a fundamental tension between decisions that are best for the group and the desires of an individual patient or physician. We will need to address these issues.

### **The Goal of Technology Assessment**

John Eisenberg, MD, director of the Agency for Healthcare Research and Quality, said, "Technology is rarely inherently good or bad, always or never useful. The challenge is to evaluate when in the course of an illness it will enhance outcomes, and how it should be implemented." We all have a stake in creating "a health care system that recognizes value, rewards better outcomes and encourages efficient use of limited resources."

### **The Role of the Neurosurgeon**

As neurosurgeons we must recognize that our overriding commitment is to do the best for our patients, but we must also be prudent with the resources available to obtain the greatest benefit at the lowest cost. As users of medical technology we must participate in technology assessment by becoming involved in clinical trials, by developing and expanding outcomes assessment databases and by constantly asking ourselves, "What is the evidence that the use of this technology is benefiting my patients?"

It is important to involve the entire community of practicing neurosurgeons in this endeavor, to erase the boundaries between the authors and the readers of clinical data. For the first time advances in information technology make this an achievable goal. Employing online, secure clinical data collection, every neurosurgeon can be involved in generating data for analysis.

Real time analysis and feedback of the data will allow each neurosurgeon to determine the effectiveness of his or her care. With an adequate database, the most cost-effective practices can be determined and these results can be disseminated to the neurosurgical community. This is not a pipe dream. The Outcomes Committee of the AANS and CNS has taken the first halting steps to make these goals a reality. We have a long way to go but the obstacles are not insurmountable.

Technology assessment is a reality we must deal with. I encourage all of you to become involved in the outcomes studies in lumbar discectomy, acute subdural hematoma and treatment of carotid artery disease that are now available online. We can play an active role in technology assessment or we can wait for others to tell us which of our procedures are of benefit. ■

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Robert E. Harbaugh, MD, FACS, is Professor of Neurosurgery and Director of Cerebrovascular Surgery at Dartmouth-Hitchcock Medical Center and Chair of the AANS/CNS Committee for the Assessment of Quality and the AANS/CNS Outcomes Subcommittee. This is the last in a series of four articles that highlight how technology is driving the cost of medical practice. To view the first three articles in this series, visit [www.neurosurgery.org/library/bulletin/summary.html](http://www.neurosurgery.org/library/bulletin/summary.html).

# Truth or Consequences

*Neurosurgeons need to correct their image or lose potential patients.*

By SUSAN A. NOWICKI, APR

**A** the cliché goes ... image is everything. If true, how exactly does the American public perceive neurosurgeons? According to the news media, they are perceived primarily as doctors who remove brain tumors, of course. We know that neurosurgery is not "just brain surgery." But how can the profession change that perception?

Before embarking on the *Neurosurgery Today* project (a neurosurgical insert published April 7 in *USA Today*), the American Association of Neurological Surgeons performed a media analysis to determine exactly what consumers were hearing about neurosurgery. Media analysis is one way to measure public perception. How the media portrays a certain issue or group often sets the mold for the public's stereotypes, perceptions and opinions. That explains the millions of dollars poured into advertising and public relations campaigns each year.

The AANS media analysis searched through more than 3,000 newspaper and magazine articles, and radio and television reports and transcripts published in the United States during 1998. The search looked for the terms and concepts related to neurosurgery. The image that emerged paints an unrepresentative, yet not surprising, picture of neurosurgery:

- References containing "neurosurgeon and brain" outnumbered references with "neurosurgeon and spine" almost five to one.
- A quarter of all the articles that reference "neurosurgeon and brain or spine" also include the word tumor.
- The words "pediatrics" and "head injury" appeared with "neurosurgeon" more often than "spine."

## What Do These Numbers Mean?

The logical conclusion from the media analysis is that neurosurgeons are primarily brain surgeons because it appears that almost 80 percent of what they do is brain related. Further, the numbers imply that the most common disorder neurosurgeons treat is brain tumors. The reality is that according to the last Comprehensive Practice Survey conducted by the AANS in 1995, almost 70 percent of all neurosurgical procedures are performed on the spine, while brain tumors make up less than 10 percent of neurosurgical cases.

In addition, the analysis seems to indicate that pediatric patients and head injuries make up a larger portion of neurosurgical patients than spine disorders. The reality is neurosurgical



The public is not aware that neurosurgeons operate on more than just the brain.

spine procedures far outnumber pediatric and head injury-related procedures.

"This is the same problem we identified before we started development of the first Getting SMART About Neurosurgery project. America thinks we are strictly brain surgeons," says Bruce Kaufman, MD, former chairman of the AANS Public Relations Committee. "It's clear we have to do more marketing and public relations to change this perception if neurosurgeons are going to expand their practices in the future."

While the media analysis presents a very unrepresentative profile of the profession, side-by-side comparisons with other specialties in competitive treatment areas are even more revealing:

- The term “back pain” was analyzed separately with the words “neurosurgeon,” “orthopedic surgeon” and “chiropractor.” “Back pain and orthopedic surgeon” outnumber “back pain and neurosurgeon” more than five to one and “back pain and chiropractor” outnumber “back pain and neurosurgery” four to one.
- When the terms “back pain and surgery” appear, the word “neurosurgeon” is only mentioned 6 percent of the time.
- Articles mentioning “carotid endarterectomy” also mention “vascular surgeon” (22 percent) or “cardiologist” (18 percent) more than twice as much as “neurosurgeon” (8 percent).
- The term “herniated disc” is 40 percent more likely to appear with “orthopedic surgeon” versus “neurosurgeon.”

- In articles focusing on stroke, 43 percent of the time cardiology is mentioned, 38 percent neurology and 19 percent neurosurgery.
- Fewer than two percent of the articles mentioning Parkinson’s Disease include a reference to “neurosurgeon.”

### Polishing Neurosurgery’s Image

Ronald Warnick, MD, current chairman of the AANS Public Relations Committee, says, “If the public, which includes patients, the media, general public and primary care physicians, doesn’t know we treat these disorders, we are going to lose referrals to other specialties. With the Internet, patients are getting smarter and more sophisticated everyday and know what they want when they walk in to a doctor’s office.

“We must continue to work on expanding the perceptions of neurosurgeons across the country and throughout our target audiences. The image of neurosurgery needs to be polished.” ■

## PUBLIC RELATIONS STATISTICS

### WHAT DO NEUROSURGEONS DO?

#### Neurosurgery in the Media

Nearly 3,000 newspaper and magazine articles, as well as radio and television reports and transcripts published in the United States, were searched for the terms and concepts related to neurosurgery during 1998.

TERM	TOTAL MENTIONS
Neurosurgery	3,778
Add – “brain”	1,617
Add – “spine”	327
Neurosurgery and “brain” or “spine”	1,944
Add – “tumor”	462
Add – “Parkinson’s”	167
Add – “head injury or concussion”	381
Add – “pediatrics”	388
Add – “stroke”	291
Add – “aneurysm”	107
Add – “carpal”	8

#### The Story of “Back Pain”

Nearly 4,000 newspaper and magazine articles, as well as radio and television reports and transcripts published in the United States, were searched for the term “back pain” during 1998.

TERM	TOTAL MENTIONS
Back pain	6,284
Add – “treatment”	2,019
Add – “surgery”	1,506
Add – “neurosurgery”	91
Add – “orthopaedic”	484
Add – “chiropractor”	351

#### What Do These Numbers Mean?

- Neurosurgery is mentioned in less than one percent of the hits for “back pain.”
- Even though surgery is mentioned 1,506 times, neurosurgery is only mentioned in 6 percent of those hits.
- “Surgery” is 75 percent as likely to be mentioned as “treatment.”
- “Back pain and orthopaedic” hits outnumber “back pain and neurosurgery” more than five to one.
- “Back pain and chiropractor” hits outnumber “back pain and neurosurgery” almost four to one.

# PR Committee Gets Word Out

## Neurosurgery Polishes Its Image

The practice of medicine has changed significantly over the past decade—culturally, technologically and strategically. Neurosurgery faces significant challenges to the professional status of the specialty and livelihood of its practitioners. Managed care has limited neurosurgeons' ability to charge appropriate fees, while competing specialties have expanded the scope of their practices to include many procedures and services once "owned" by the neurosurgeon.

This can be seen very clearly, for example, in the areas of spine, cerebrovascular and peripheral nerve disorders. These trends have been accelerated, to some degree, by advances in technology and a growing tendency toward subspecialization. Most significantly, referral patterns have undergone a dramatic change. This is largely due to the fact that a large portion of referring physicians, third party payers and the general public are unclear as to the role neurosurgery plays in treating common medical conditions. Consequently, growing numbers of patients who would ordinarily have seen a neurosurgeon have been directed to other specialists, such as orthopedic surgeons, for treatment.

Given this environment, it is more important than ever that Neurosurgery communicate with and educate referring physicians, third-party payers, potential patients and government decision-makers about the quality and scope of neurosurgical care. Traditionally, neurosurgeons have not had to be aggressive in the market place, but competition dictates that Neurosurgery take a more proactive approach (see previous article on media coverage).

### A Brief History

The AANS Public Relations Committee

was first organized approximately seven years ago with relatively modest goals, focusing initially on publicizing the Annual Meeting. However, as the health care environment began to change, the committee became more aggressive in its outreach efforts to the media. Under the leadership of then-chairman Bruce Kaufman, MD, the committee tripled media coverage of the Annual Meeting and began to build a reputation for AANS as a source of credible information about neurosurgery.

The committee also began to serve as a primary resource for several new communications initiatives developed in partnership with the Congress of Neurological Surgeons, including the neurosurgical marketing exhibit project that targets family physicians and internists and the two Getting SMART About Surgery marketing communications programs. It also assisted in development of public education content for **NEUROSURGERY://ON-CALL**®.

In 1999, in his role as chair of the PR Committee, Dr. Kaufman was asked to serve on the editorial board for a new AANS public outreach project, a neurosurgical insert to *USA Today*. "When we first developed the concept for the Getting SMART programs," noted Dr. Kaufman, "we identified a communications gap with the public and media about neurosurgery: America thinks we are strictly brain surgeons. It was readily apparent that we were going to have to do more marketing and public relations to change this perception if neurosurgeons were going to expand their practices in the future."

### Changing Role of PR Committee

*Neurosurgery Today: It's Not Just Brain Surgery*, the *USA Today* insert, was a major national effort by the AANS to change the

erroneous perceptions many hold about neurosurgery. The AANS published the insert not as a one-time effort, but rather as the first step in an ongoing process to raise public awareness of neurosurgery. To accomplish this mission, the membership of the Public Relations Committee was expanded and its charges broadened.

The committee, led by its new chairman Ronald Warnick, MD, of Cincinnati, Ohio, has as its main charge to educate the public, media, legislators, managed care organizations, referring physicians, related medical specialties and other groups about neurosurgery. Its membership has been expanded to 12 AANS members representing each of the six neurosurgical subspecialties. In addition to Dr. Warnick, committee members include Robert Heary, MD, vice chair; Bruce Kaufman, MD, past chair; Ghassan Bejjani, MD; Kim Burchiel, MD; Robert Harbaugh, MD; Peter David Le Roux, MD; Karin Muraszko, MD; Sherry Taylor, MD; Alex Valadka, MD; Howard Weiner, MD, and Edie Zusman, MD.

"Unfortunately, the media has presented a very skewed image of what neurosurgeons do," said Dr. Warnick. "In addition, competition is growing among various board-certified physicians within the medical community to stake out their piece of the 'treatment' pie. The number of professional medical societies promoting their specialties is on the rise. While it is beneficial for the public to better understand how specific medical disorders should be treated, in many cases they are receiving confusing messages about who should be treating them. The job of the Public Relations Committee is to cut through that confusion and tell our target audiences exactly what neurosurgeons can and should do."

### New Projects

To accomplish its goals, the PR Committee has developed a series of strategies to address the key constituencies with which neurosurgeons need to communicate. During the next several years, AANS members will begin to see an array of public relations

projects unfold that are aimed at raising the visibility of neurosurgery. Some of the projects to be implemented in the new few months are:

**National Spokespersons Network.** The network is comprised of a specially trained group of neurosurgeons who are experts in various aspects of neurosurgery including stroke, Parkinson's disease, epilepsy, spinal cord injuries, back pain, sports-related injuries, lumbar spinal stenosis, brain tumors, neurotrauma, pain management and pediatric neurosurgery. These experts will serve as spokespersons for AANS and will be available to assist media representatives with their stories, provide additional background materials and offer knowledge about the everyday practice of neurosurgery. The PR Committee will provide information to spokespersons that will work proactively with the media to maintain and enhance the image of neurosurgery and the AANS. Each member of the PR Committee and the Board of Directors will serve on the Spokespersons Network.

**Procedural Statistics Survey.** For the first time the AANS is compiling data on neurosurgical procedures, which will then be published in a special report. This invaluable

data will be used to inform the media, third-party payers, vendor companies and various committees developing public and physician education programs about the scope of neurosurgery and to bring better focus to AANS public outreach, education, research activities and fund-raising activities. Approximately 1,500 active members have received a questionnaire asking for their annual operative figures including the number of patients being treated in each procedural category. The report will be published in late September.

**Scientific Press Releases.** Press releases highlighting selected articles in the *Journal of Neurosurgery*, *Journal of Neurosurgery: Spine* and *Neurosurgical Focus* will be distributed to science reporters nationwide beginning with the September 2000 issue.

**Public Education Brochures.** A new line of patient education brochures for members' use in their practices is planned. The first, to be available in late fall, will be "A Patient's Guide to Neurosurgery."

**Collaborative Projects.** The AANS continues to work on collaborative communications efforts with other medical organizations including the Brain Attack Coalition, the National Institutes of Health

and the National Stroke Association.

**Internet Initiatives.** AANS is reaching out to health-related sites such as WebMD and drkoop.com to develop collaborative public outreach projects.

### Getting Involved

"We are continually working to expand the public's perception of neurosurgeons across the country, but this is something that can also be done effectively on the local level," noted Dr. Warnick. Neurosurgeons need to actively engage in marketing and public relations within their communities.

"I urge all of you to build upon what the PR Committee is doing at the national level," Dr. Warnick said. "Volunteer to speak before civic groups, make yourself available to local media as an informational resource, use the Getting SMART materials to promote awareness of neurosurgical practice with referring physicians and the public, distribute *Neurosurgery Today* within your community . . . just spread the word. Neurosurgery is not just brain surgery."

With continued focus on public outreach efforts for the AANS, look for new initiatives from the AANS Public Relations Committee in the months to come. ■

### AANS PUBLIC RELATIONS COMMITTEE CHARGES

- Create and implement proactive neurosurgical public education programs for national media coverage including consumer and trade publications, newspapers and radio stations and make recommendations for special projects such as implementation of a national neurosurgical education campaign
- Serve as the primary neurosurgical scientific resource for all AANS media, public education and referring-physician communications programs and evaluate new practice/technology developments in the field for possible communications/PR opportunities
- Oversee coordination of all public relations activities in support of the Association's Annual Meeting
- Develop concepts and materials for the neurosurgery/marketing booth for the American Academy of Family Physicians and American College of Physicians Annual Scientific meetings
- Oversee development and production of AANS public education brochures, videotapes, slides and any additional support materials as required
- Help to organize and implement the grassroots AANS Spokespersons' Network dedicated to promoting the neurological surgery specialty and viewpoints/programs and members of the AANS
- Assist in collection and publication of procedural statistics for the specialty of neurological surgery for use with nationwide media relations efforts
- Coordinate communication outreach efforts with other medical specialties including neurology, stroke medicine, rheumatology, internal medicine, pediatrics, emergency medicine, radiology, etc.
- Help develop and implement public awareness programs that build upon nationally recognized campaigns and programs relating to neurosurgery
- Serve as communications liaison to both the AANS Washington office and the Coding & Reimbursement Committee for development of socioeconomic programs and projects and participate in identification and dissemination of leading-edge neurosurgical research.

# Neurosurgery Today

USA Today Supplement Reaches 5 Million Readers

The AANS took the story of neurosurgery to more than 5 million readers with the April 7 publication of its first-ever insert in *USA Today*, the national daily newspaper. The goal of the supplement, *Neurosurgery Today*, was to educate various target publics about the broad scope of neurosurgery.

The eight-page, full-color, tabloid-size piece addressed the broad spectrum of neurosurgical practice, in particular, the role of the neurosurgeon and the surgical and non-surgical care he or she provides. The supplement covered spine and peripheral nerves, pediatric neurosurgery, pain, stroke and related cerebrovascular disorders, epilepsy, neurotrauma, tumors and Parkinson's disease. It also addressed the importance of patient access to specialty care.

## Member Support Made the Difference

Production and distribution costs of the insert were supported through a combination of advertising sales, corporate sponsorships and an assessment of individual members. More than 1,800 members each made \$100 assessments payments. "That broad-based member support really brought this project into reality," said Stan Pelofsky, MD, Chairman of the Editorial Board for the supplement.

Other sources of support included educational grants from the AANS/CNS Sections on Cerebrovascular Surgery, Neurotrauma, Pain, Pediatric Neurosurgery, Spine and Peripheral Nerves, and Tumors and Ethicon, Inc., a Johnson & Johnson Company. Companies providing advertising support were Zeiss, Bayer, Medtronic Sofamor Danek, GE Medical Systems and DePuy AcroMed Codman.

## Supplement Impact

*Neurosurgery Today* had an impact on its intended target audiences. Some of the highlights:

■ The AANS National Office received approximately 670 public online inquiries and 275 public written requests for information within three weeks of publication of the supplement. These inquiries can be typified by a letter received from a Nevada City, Calif., man. "Low back pain and neck pain have long been persistent problems for me," he wrote. "I could identify with every word in those articles. Access to medical specialists in our small town is severely limited, so I feel compelled to become my own healer. Every article on the front page of your supplement seemed addressed to me."

■ Several stories from the supplement were posted on two of the most visited health Web sites on the Internet—WebMD and drKoop.com. No other medical association has been able to accomplish this. Representatives of both sites reported that the AANS special sections each received thousands of hits.

■ The supplement was put on the Association's Web site and 13,341 hits were recorded to the *Neurosurgery Today* site within weeks. The five most-read articles, in order of popularity, were: "Low Back Pain: Getting to the Root of the Problem," "The Shape of Your Baby's Head," "Neurosurgeons Treat Backs, Necks, Nerves and More," "Neck Pain Is Nothing to Shrug About" and "A Day in the Life of a Neurosurgeon."

■ A special mailing of the supplement was sent to policy makers in Washington, including all 535 members of Congress and key Executive Branch officials. Along with copies of *Neurosurgery Today*, recipients got a rolodex card containing information about the Washington Office and a special attachment highlighting the different clinical areas of neurosurgery. A cover letter informed them their constituents have seen this publication and that the health issues covered were of significant concern to them.

## Members Use Supplement to Educate

*Neurosurgery Today* is the perfect public education tool and many members have been using them as giveaways to patients, referring physicians, insurance companies, hospital groups and others. One member ordered 1,000 copies for distribution at a community health fair. Another put copies of the supplement with practice stickers attached in his waiting rooms and saw patients snap up 700 in less than a month.

In addition to the free copies distributed to members who paid the assessment, more than 13,000 extra copies of the supplement have been purchased by members for distribution in their communities. They are available through the AANS National Office in quantities of 100 and are priced on a sliding scale, depending on quantity. Prices range downward from \$50 per 100 on orders up to 500 copies. Call 1-888-556-AANS to order. ■

**Neurosurgery today**

**It's Not Just Brain Surgery**

Special Advertising Supplement to USA TODAY published by the American Association of Neurological Surgeons

### Low Back Pain: Getting to the Root of the Problem

**A** persistent ache in the lower back. Shooting pains down the leg. Muscles so tight you can't even stand up straight. For the more than 60 million Americans who suffer from low back pain every year, the symptoms come in different forms, but the problem is frequently the same: a nerve root near the spine is irritated.

"It's usually spine surgery," said Robert E. Hays, MD, neurosurgeon at the University of Iowa. "In about 50 percent of all low back pain cases, a nerve that travels from the spinal cord through the bones of the spine gets irritated."

**The majority of back pain is caused by nerves, not muscles, ligaments or bones.**

Function of the body is controlled by the spinal cord. Motor nerves lead out of the spinal cord to control movement in the body, while sensory nerves carry back to the spinal cord communicating messages from the back to the brain. Together, the motor and sensory nerves form more than 50 nerve roots, which run through holes, called foramina, in the bones of the spinal column. Each one of these nerve roots has the potential to become irritated and cause back pain.

A soft flexible disc that acts as a shock absorber and further protects the spinal cord supports each of the bones, or vertebrae, in the spine. These discs have a soft middle core, but are soft and gel-like outside.

"Activity stress or a mechanical problem in the spine can cause one of the discs to bulge and become misaligned just as a rubber tire might bulge on the left and another on the right."

back pain occurs with a force or can be related to a specific trauma injury like car accident, fall or sports injury patients should call their primary care physician (PCP) immediately or visit the emergency room. If any, patients can begin conservative treatment at home for one or two days.

"In the five weeks of data the goal is to stop the irritation of the nerve," Dr. Chutkan said. "Patients should take pain-inflammatory medications like ibuprofen, naproxen or acetaminophen, and muscle relaxants for a few days."

**When a disc ruptures, it can pinch a nerve root.**

Because the nerve root is being irritated, patients can either get relief or feel worse aggression to various positions like sitting or standing. If the back pain gets worse or does not improve after one or three

# Legal Update

## *Pedicle Screw Litigation Continues to Twist and Turn*

BY BARBARA PECK

**T**he legal action over pedicle screws has become the case that just won't die. The pedicle screw litigation has dragged on for nearly five years with enough recent sensational twists and turns to leave neurosurgeons and medical equipment companies alike dazed and confused. A trip to the United States Supreme Court, overturned jury verdicts, disqualified expert witnesses and, yes, even surgeons joining the proceedings as plaintiffs, have thrown this ever-complex litigation into a spin.

### **A Trip to the Land's Highest Court**

The United States Supreme Court granted certiorari to *Buckman Company vs. Plaintiff's Legal Committee* in June. Less than one percent of all lawsuits in the United States make it to the Supreme Court. The Supreme Court will hopefully define what weight Federal Drug Administration (FDA) approval has and the possibilities of legal action against medical equipment companies and physicians for devices used with FDA approval.

The *Buckman* case is one of the original class action suits. The plaintiffs allege *Buckman*, on behalf of *Acromed*, fraudulently obtained FDA approval of the Variable Screw Placement Spinal Plate Fixation System in 1986. The FDA had rejected *Buckman's* two previous applications to market the device to surgeons. A third application, which separated the device into its component parts and indicated the screw would be used in the arm and leg bones rather than the spine, received approval.

The lawsuit alleges *Buckman* committed fraud because it intended, and did, market the screws for use in the spine all along. The FDA did not approve pedicle screws for use in spinal surgery until 1995, years after they were routinely applied in spine surgery. The federal district court dismissed the case, stating federal regulation of medical devices barred any private lawsuits and reasoning any penalty for wrongdoing would have to be brought by the FDA itself. The decision was appealed and the Third U.S. Circuit Court of Appeals in Philadelphia reinstated the lawsuit and stated makers of medical devices can be sued in state courts over alleged defects in their products, regardless of FDA status. The Supreme Court will now attempt to shed some light on the debate. Arguments will be heard this October with a decision expected in early 2001.

### **Surgeon Sues Pedicle Screw Manufacturers**

In a unique twist, an orthopedic surgeon has filed a lawsuit against *DePuy Acromed* and *Medtronic Sofamor Danek*, claiming the companies misled him about the FDA status of their respective pedicle

screw systems and caused him to be sued in over 34 pedicle-screw related lawsuits. *Richard A. Balderston*, a Philadelphia orthopedic surgeon on staff at *Pennsylvania Hospital and Jefferson University Hospital* and who limits his practice to spine surgery, was part of the *Spinal Fixation Study Group* in 1985 that first began testing the use of the screws in the spine. *Dr. Balderston* alleges 1) the manufacturers misled him about the true FDA status of the pedicle screw through their marketing techniques; 2) he relied on the manufacturers to obtain proper FDA approval for the screws in the spine because they were marketing their use in the spine; and 3) these misrepresentations caused him to not be able to obtain proper informed consent from the patients he implanted the screws in. Besides recovering legal costs, he claims the number of lawsuits against him has damaged his reputation and he has suffered a loss of profits to his practice.

### **Court Rules Pedicle Screws Could Not Have Been Defective**

A Pennsylvania judge overturned a \$1.5 million jury verdict against *Stuart Pharmaceutical Company*, reasoning the pedicle screws couldn't possibly have been defective, as the jury found. The plaintiff had the *Cotrel-Duboussett (CD)* spinal fixation system implanted in her spine, and over the next year her curvature was reduced by 30 degrees and she became asymptomatic. Four years later, she suffered pain and numbness and it was found her spine had not fused and one of the CD rods had fractured. The plaintiff alleged the rod was defective because the grooved surface caused premature breakage. She sued *Stuart Pharmaceutical* and the jury awarded a \$1.5 million verdict. However, within days of the judgment, the judge, reasoning that the rod lasted three years beyond its intended use, overturned the jury's verdict.

### **An End in Sight?**

Many courts are beginning to dismiss pedicle screw cases because of the statute of limitations. Under the statute of limitation rules, a plaintiff has two years to bring a lawsuit against a product manufacturer and one year to bring a medical malpractice law suit against a physician. The clock begins running when the plaintiff "discovers" he might have a problem.

The U.S. Court of Appeals for the Fourth Circuit has ruled that the onset of any post-surgical pain is a "discovery" for pedicle screw cases, regardless of when the screws are eventually removed from the spine or found to be malfunctioning by the surgeon. Surely, there is more to come, but, overall, it appears that the juggernaut of pedicle screw litigation may finally be approaching an end. ■

*Barbara Peck* is former AANS Communications Manager and currently attends law school at Case Western Reserve University in Cleveland.

# A Culture of Safety

## *Strategies for Improving Clinical Quality*

BY JAY COPP AND JANE RIES

Physician leaders presented their strategies on crafting “a culture of safety” in April at the AMA Clinical Quality Improvement Seminar in Rosemont, Ill. Forum participants acknowledged that the 1999 report “To Err is Human: Building a Safer Health System” by the Institute of Medicine has heightened interest in patient safety. The report revealed that 98,000 people die as a result of medical errors annually, making medical mistakes the 8th leading cause of death in the United States.

Yet participants also emphasized that efforts to protect patient safety by physicians and the systems in which they work has been under way for some time. Physician leaders detailed their safety plans. Here are summaries of safety perspectives of the leading forum participants, as presented in a forum agenda.



**Kenneth W. Kizer, MD**

*President and CEO*

*The National Quality Forum*

“It is widely known that error is inherent to anything that human beings do, and substantial evidence exists that errors are the result of poorly designed processes or systems that fail to account for the inherent limitations of human performance. Indeed, because medical errors typically involve problematic processes or systems rather than the incompetence or malice of individual practitioners improvement strategies that punish clinicians for reporting errors are misguided.” — *Congressional testimony, February 2000*

### Ten Recommendations

1. Obtain complete data on the occurrence of therapeutic adverse events.
2. Make patient safety a key strategic priority.
3. Create a patient safety infrastructure (close the loop on communication in healthcare).



Patient safety was the chief concern of health care leaders at the AMA Clinical Quality Improvement Seminar last spring.

4. Create a culture of safety, including open acknowledgement that healthcare is a high risk activity and everyone has a responsibility for risk reduction.
5. Implement patient safety best practices.
6. Recognize and deal with professional misconduct.
7. Encourage healthcare regulators and accreditation organizations to embrace measures that enhance patient safety.
8. Conduct patient safety self-assessments.
9. Fund patient safety research.
10. Include patient safety training in medical education.



**John Eisenberg, MD**

*Director, Agency for Healthcare Research and Quality*

“The issues of reducing medical errors and improving patient safety are critical and timely, but we need to make sure that the proposed solutions address the problem of errors at its root—the system—rather than blame individuals. We need to improve the system so that health care providers have an opportunity to provide high quality healthcare in a safe, effective environment.” — *Congressional testimony, December 1999*

**AHRQ Goals for FY2000**

- Fund additional research on medical errors and patient safety.
- Identify tools and approaches from other industries that could be applied in the health care sector.
- Identify targets of opportunity for short-term quality improvement where overuse or underuse of healthcare services is well documented.

- Fund research on how information systems can be used to identify and, where possible, prevent medical errors and threats to patient safety.
- Support activities to translate the findings of this research into improved medical practice.



**Don Nielsen, MD**

*Senior VP for Quality Leadership, American Hospital Association*

**AHA Medication Safety Initiative Goals**

- Create/enhance member awareness and understanding.
- Increase member involvement and commitment.
- Lead change.
- Develop appropriate policy and advocacy positions.
- Communicate successfully the results of the initiative.

**INITIATIVES OF OTHER HEALTHCARE LEADERS**

- **Joint Commission on Accreditation of Healthcare Organizations.** JCAHO is taking patient safety so seriously that the organization changed its mission statement to include providing safe as well as quality patient care. The organization implemented a Sentinel Event Policy, designed to encourage self-reporting of medical errors, to learn about frequencies and underlying causes of sentinel events (any unexpected occurrence involving death or serious physical or psychological injury), to share “lessons learned” and to reduce the risk of future events. The ultimate goal is to create a culture of safety, one in which individuals feel secure and are even rewarded for identifying and reporting errors and other opportunities for improvement.
- **National Committee for Quality Assurance.** NCQA convened in January to discuss patient safety issues. It is considering the appropriateness and feasibility of requiring managed care organizations to develop a patient safety program. The program may include stan-

dardized visits to physician practices and health care organizations to assess patient safety issues, designating centers of excellence for complex procedures and educating members about advantages to these centers. HEDIS measures addressing patient safety (i.e., inappropriate use of antibiotics and continuity and coordination of care) also may be developed.

NCQA would ask MCOs to develop a meaningful patient safety programs in 2001. Beginning in 2002, NCQA standards would incorporate more specific requirements,

- **Kaiser Permanente.** Kaiser has developed a unique reporting infrastructure supporting patient safety issues throughout their network. The filtering committee is the Patient Safety Committee, responsible for root cause analyses, dissemination of information and best practices development. Some of the major initiatives include adverse drug event prevention, nursing quality indicators, error reporting and revision of peer review process.

# Pressure on Not-for-Profits

## Hospitals Face Tough Financial Future

The financial health of not-for-profit hospitals faces a negative outlook over the next few years as providers face the challenge of adapting and keeping pace with a fast changing health-care market. The effect of these threats will be felt by neurosurgeons who practice in these hospitals.

### Declining Credit Quality

Not-for-profit hospital credit quality continued to slide in 1999 after deteriorating sharply during 1998, according to a recent publication entitled *2000 Not-For-Profit Healthcare Sector*, which is published by Moody's Investors Services. During 2000 it is anticipated that the not-for-profit sector will continue its credit decline.

The rapidly shifting healthcare environment, characterized by increased competition, revenue pressure caused by managed care and government payers, and the changing strategic responses to this volatile landscape, is cited as the reason for the present financial difficulties in which many hospitals find themselves. Moody's states that hospital earnings will remain suppressed over the near term and foresees an increasing number of bankruptcy filings as less competitive, cash-strapped hospitals struggle with excess capacity and lower levels of reimbursement.

Massachusetts hospitals, for example, reported that operating margins were in the red for the 14th straight quarter, according to results of the latest financial performance survey by the Massachusetts Hospital Association. The survey of 61 acute-care hospitals from the second quarter of FY 2000 shows that the average operating margin was a negative 2.6 percent. Over two-thirds of the hospitals in the state reported operating deficits. There was little

change from the FY 1999 year-end average operating margin of negative 2.8 percent. Margins have been negative since 1997. Many other hospitals throughout the US have similar reports.

Moody's reports that during 1999 downgrades of bond ratings for hospitals exceeded upgrades at a rate of 5 to 1. Specifically, there were 64 rating downgrades affecting over \$13.4 billion of debt

*John A. Kusske is Vice President of the AANS Board of Directors and former Chair of the AANS Managed Care Advisory Committee.*



versus only 14 upgrades affecting \$1.7 billion of debt.

The debt downgrades have a direct impact on hospital bottom lines since they raise the cost of borrowed money. Moody's also states that there are more than double the number of negative rating outlooks (95) than positive outlooks (45) in their current portfolio.

### Strategic Failure

Industry observers have noted that one reason for this negative outlook is that hospital leaders have experienced difficulty when making the transition from strategic planning to execution in their development toward larger, integrated delivery systems.

These difficulties can be broadly categorized within the following four areas:

- Failure to achieve merger and acquisition benefits;

- Continued losses from employed physician group practices;
- Ineffective management of HMO product lines; and,
- Trouble managing capitation contracts.

Problems in any of these areas have the potential to cause significant financial dislocation for neurosurgeons affiliated with affected institutions.

One key factor behind the recent credit deterioration is the inability of management to reduce costs shortly after a merger and the lack of past experience in assessing the complexity of the steps necessary to integrate the constituents and business components of the separate organizations.

Post-merger outcomes have varied, ranging from the highly publicized "break ups" of UCSF/Stanford Healthcare, Penn State-Geisinger Health System and Optima Health to implementation delays that have hampered expense reduction efforts and earnings expectations. Moreover, over the past several years, hospitals overpaid to acquire physician groups and invested significantly in their own insurance products and continue to subsidize many of these money losing operations.

On the physician front, hospitals are reducing their physician losses either through renegotiating compensation contracts, consolidating physician office sites or, at the extreme, capitalizing and spinning off physicians into private practice. Moody's believes the hospital sector has yet to demonstrate a track record that sufficiently offsets concerns over the ability to implement and execute strategic plans during this period of market turbulence.

Hospital management teams have begun to analyze strategic growth strategies against actual benefits and have come to realize that financial objectives have fallen far short of expectations. Only now is management beginning to terminate costly strategies that are proving detri-

mental to the financial integrity of the entire health care system.

### Some Relief

Any financial relief afforded to the hospital sector would be positive. For example, recent changes in the Balanced Budget Act of 1997 (BBA) will either reverse or delay payment cuts stipulated under the BBA. It is believed that the nation's teaching hospitals will receive a larger share of the benefit due largely to the fact that they were disproportionately impacted by the original legislation. Despite this relief Moody's believes that the ongoing effects of the BBA will still pose challenges for the industry since Medicare revenues are expected to be less than the increases in cost to provide patient care.

A recently improving pricing environment could contribute to some prospective credit stability for some financially stronger providers benefiting from favorable market positions. However, the premium increases will probably not be shared equally with all providers and any amount that is passed on will likely fall below the increases received by the health plans.

### Neurosurgeons Should be Cautious

Neurosurgeons should anticipate that the credit quality of the hospital industry will continue to deteriorate over the near term. Several recent developments could result in some credit stabilization as hospitals dismantle past merger and integration initiatives and focus on issues of cost control. However, any neurosurgeons who are affiliated with a not-for-profit hospital should keep abreast of what is occurring in their local markets in anticipation of how these changes will affect their future. ■

#### HAVE YOU CHANGED YOUR ADDRESS?

Let us know by writing us at: American Association of Neurological Surgeons, 5550 Meadowbrook Drive, Rolling Meadows, IL 60008. Or e-mail [kjs@aans.org](mailto:kjs@aans.org).

# Estimating a Physician's Work

## *How RBRVS and RUC Impact Your Reimbursement*

The gradual reduction in physician reimbursement over the past decade has focused greater attention upon the methods for determining physician work. Since the beginning of the Medicare program in 1965, the physician payment schedule was based upon usual, customary, and reasonable charges that reflected an aggregation of actual physician fees. After successful cost-containment efforts using a prospective pricing system for hospital reimbursement in 1983 allowed reduction of Medicare expenditures by more than half during the 1980s, the Health Care Finance Administration (HCFA) sought an alternative method for physician reimbursement as well.

### RBRVS System

Although defining the prevailing charge as a lower percentile initially reduced costs, HCFA subsequently introduced a price-freeze on physician services with efforts to reduce payments on "over-priced" surgical services. With judicial support of congressional legislation to limit physicians' fees, HCFA sponsored development of a relative value system. This concept had already been implemented by the California Medical Association in 1956, but it was based on a median of charges reported by California Blue Shield.

Antitrust concerns raised by the Federal Trade Commission regarding common use of this data to develop physician fee schedules led to discontinuation of database updates. Rather than using a charge-based system, attention was directed toward development of a resource-based relative value system (RBRVS) that reflected the costs involved in providing services.

The development of this system by the Harvard University School of Public



Health, which was mandated by the Consolidated Omnibus Budget Reconciliation Act of 1986, led to the basis for the current Medicare Fee Schedule (MFS). Under the direction of Drs. Hsiao and Braun, an initial RBRVS system for 12 physician specialties was expanded to 33 specialties over several phases.

The final determination of the MFS was based on measurements of physician work, professional liability costs, and practice expense multiplied by a conversion factor that was adjusted for geographic variations. The five-year transition to the RBRVS began in 1992. Codes that were not studied were assigned relative value units (RVU) by regional carrier medical directors, and the final comprehensive list was published in the Federal Register in November 1992.

### Role of the RUC

In order to maintain this system as current procedural terminology (CPT) evolved, the AMA/Specialty Relative Value Update Committee (RUC) was created in 1991 to

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work with HCFA in recommending additions/changes to the estimates of physician work. Specialty society representatives are responsible for gathering physician survey data to determine the time, complexity, and intensity of providing physician services so that a scaled work value can be determined.

Every five years, HCFA has been mandated to re-examine the work values and allow for changes based on new data. We are currently preparing for the second five-year review. However, the Balanced Budget Act requires maintenance of budget neutrality, which results in reductions in reimbursement for some services with each addition of new services or upward revision in work estimates for existing services.

Evaluating the methodology for estimating physician work is imperative in understanding the basis for the MFS as well as the fee schedule of many third party payers. After a CPT code is assigned for a physician service, the specialty society is charged with soliciting survey data from practicing physicians.

The RUC has developed a survey instrument that asks the physician to compare the surveyed service with other reference services to obtain a relative estimate of comparable work. The driving factor in estimating physician work is the time spent by the physician with the patient. A

vignette is provided which summarizes the components of work included in a particular CPT code.

Surgical services have been divided into preoperative, operative, and postoperative components. The pre-service (preoperative) time includes the evaluation and management service for obtaining the history, physical, and operative consent as well as the preparatory work of pre-admission testing. The intra-service time describes the actual surgical time. Finally, the post-service time includes speaking with the family and other physicians, postoperative hospital visits, and office visits within the global period (0, 10, or 90 days) for that particular procedure.

The survey respondent is asked to provide time estimates for the surgical procedure whereas estimates of pre- and post-service times are obtained by using the number and level of evaluation and management services provided in the hospital and office within the global period. In addition, the physician is asked to compare the complexity and intensity of various components of the surgical service in comparison to the reference code chosen. A formula combines physician time and intensity to calculate physician work, thereby forming the basis for the RVU recommended for a particular CPT code.

Subsequently, HCFA determines whether to accept the value recommended by the RUC. A mechanism exists for resolution of differences in work estimates between the RUC and HCFA.

Obviously, the system is dependent on several factors, including accurate estimates of physician time for the average patient undergoing the particular surgical procedure as well as sufficient survey responses to ensure accurate median time estimates. Since the RUC is composed of multiple surgical and medical specialists as well as other representatives, presentations by a specialty society are very carefully examined for accuracy, data quality, and relativity to other physician services both within and between specialties. The quality of the information is exceedingly important in obtaining a consensus support by the RUC for the requested valuation recommended by the specialty society.

### Complicated Process

In summary, the determination of physician work is a complicated and very political process, which affects not only the providers of that service but also all physicians in general. Timely and accurate completion of RUC surveys is critical for your specialty society representatives in their presentation to the RUC members.

Time estimates of the "smoothest" case or most complicated, unusual case affect the reliability of the data gathered. Misunderstandings of the actual work being valued have also led to data variations, which become difficult to explain.

I hope that this summary of the history and methodology of measuring physician work will foster cooperation among our colleagues when asked to complete surveys. The data is invaluable in the RUC process and is the basis for the fee schedules by which physicians are reimbursed. ■

Gregory J. Przybylski, MD, is on staff at Northwestern Medical Faculty Foundation in Chicago and a faculty member for the AANS-sponsored coding and reimbursement courses.

### Award Begun for History Section

A Detroit neurosurgeon has donated \$10,000 to establish the Vesalius Award in the History Section of the AANS. The award will be given to the best paper by a resident or fellow in training on the historical aspect of the nervous system and its disorders. Setti S. Rengachary, MD, Professor and Associate Academic Chairman of the Neurological Surgery Department at Wayne State University, made the donation to establish the award.

Andreas Vesalius was a 16th-century Belgian anatomist and physician whose dissections of the human body laid the foundation for the modern science of anatomy.

# Research Awards Announced

## *AANS Recognizes Five Promising Researchers.*

*Since 1983, the Neurosurgery Research and Education Foundation has funded 31 Research Fellowships and 29 Young Clinician Investigator Awards. With these grants, some of the nation's most promising neurosurgeons have begun their research careers. The awards have been made possible through the generosity of AANS members, corporations, foundations and interested individuals. This year, the Scientific Advisory Committee of the Research Foundation reviewed 38 applications and approved five for grants. Funding for the following individual researchers began in July.*



### 2000 Research Fellow

Dean Chou, MD

John Hopkins Hospital

Sponsor: Robert Benezra, MD

Chairman: Donlin Long, MD, PhD

Title: *"Inhibition of Angiogenesis by Knockout of Id1 and Id3 and its Effects on Murine Brain Tumor Growth"*

Inhibition of angiogenesis at the genetic level by knockout has been shown to inhibit xenograft lymphoma and breast tumor growth; the project will investigate brain tumor growth after the inhibition of angiogenesis. Inhibition of xenograft tumor growth has been inhibited via knockout of the genes Id1 and Id3, which target helix-loop-helix transcription fac-

tors. Reduction of Id dosage results in an angiogenic defect, which blocks the vascularization, growth, and metastasis of tumor xenografts. A murine brain tumor model is produced after transgenic modification to express TVA, an avian surface cell receptor. These cells are transfected with an avian viral vector that contains dominant negative tumor suppressor genes or oncogenes. We propose to breed these mice to the knockout model for Id1 and Id3 (thereby inhibiting angiogenesis) to assess whether inhibition of angiogenesis will prevent growth of brain tumors (compared to controls).

Also, the project can study xenograft brain tumors in this model and explore the different angiogenic processes in xenografts versus tumors in situ. The clinical consequence of the results (positive or negative) will direct further investigation in pharmacologic or gene therapy against angiogenesis in the treatment of brain tumors.



### 2000 American Brain Tumor Young Clinician Investigator

John K. Park, MD, PhD

Brigham & Women's Hospital

Sponsor & Chairman: Peter McL. Black, MD

Title: *"Prevention of Venous Thromboembolism in Brain Tumor Patients"*

Deep venous thrombosis (DVT) and pulmonary embolism (PE) can be catastrophic complications for brain tumor patients following craniotomy. In 1995-96, 497 brain tumor patients underwent craniotomies at Brigham and Women's Hospital. Despite the routine use of low dose, unfractionated heparin and pneumatic compression boots, the clinically documented rate of DVT was 10%. Further analysis of this figure revealed a 7.5% rate for primary brain tumor patients and a 19% rate for metastatic brain tumor patients. Based on preliminary data, there is a clear need to develop a more effective therapeutic strategy for the prevention of DVTs as well as PEs. The use of low molecular heparins is increasing in other fields of medicine. To determine if these fractionated forms of heparin are both safe and effective in preventing DVTs in post craniotomy patients, a clinical trial is proposed.

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**2000 Hunt-Wilson  
Young Clinician Investigator**

Bruce E. Pollock, MD

Mayo Clinic

Sponsor: Michael J. Ebersold, MD

Chairman: David G. Piepgras, MD

Title: *"Patient Outcomes after Vestibular Schwannoma Management: A Prospective Comparison of Surgical Resection and Stereotactic Radiosurgery"*

The preferred management of patients with vestibular schwannomas (acoustic neuromas) is controversial. Over the past several decades, advances in anesthesia, neuroradiology and microsurgery have led to significant improvements in patient outcomes

after vestibular schwannoma resection. As a less invasive alternative to surgical resection, stereotactic radiosurgery has been utilized increasingly over the past 10 years. Currently, no study is available that meets the requirements of evidence-based medical practice to conclude that either surgical resection or stereotactic radiosurgery should be the preferred management strategy for patients diagnosed with small- to medium-sized vestibular schwannomas. Each year between 45 and 50 patients with vestibular schwannomas are operated on at the Mayo Clinic. Assuming 25 patients who undergo surgical resection annually would be candidates for radiosurgery, sample size analysis (power=0.8, significance level=0.05) predicts that patient accrual over three years is likely to detect significant differences in outcomes between the patient groups. The specific factors to be compared would include facial nerve function, hearing function, management-related complications, tumor recurrence/growth control, subjective symptoms and employment/activities of daily living. All the data will be prospectively gathered and blinded evaluations performed by individuals independent of surgical teams.



**2000 Young Clinician Investigator**

Michael A. Vogelbaum, MD, PhD

Cleveland Clinic Foundation

Sponsor: John Cowell, PhD

Chairman: Marc Mayberg, MD

Title: *"Mechanisms by Which P53 Regulates Bax-Induced Apoptosis in Human Gliomas"*

Development of neoplasms and resistance of cancer cells to clinical treatment with DNA-damaging modalities is in part due to the loss of ability of cells to undergo apoptosis. Further understanding of the key mechanisms underlying DNA-damage induced apoptosis will lead to novel therapies. Overexpression of wild type p53 in human malignant glioma cell lines results in transactivation of the pro-apoptotic gene bax and spontaneous apoptosis in cells with mutant p53, but not in those with wild type p53. However, the same p53 mutant cell lines can support high levels of bax overexpression alone, in the absence of wild-type p53 overexpressions. In contrast, bax overexpression in p53 wild-type cell lines produces spontaneous apoptosis. It appears that both functional P53 and elevated bax levels must be present for apoptosis to occur. One explanation for the requirement of wild-type P53 for bax -induced apoptosis is that P53 mediates a "death signal" distinct from its transactivation of bax. We will demonstrate more clearly that bax overexpression induced apoptosis requires the presence of functional P53, demonstrating this requirement is present in tumor cells obtained from O.R., and identify successful strategies for determining substrate(s) for a separate "death signal" pathway transduced by P53.

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### 2000 Codman/DePuy AcroMed/Johnson & Johnson Research Fellow

Michael M. Woodruff, MD

University of Utah Medical Center

Sponsor: Robert Gross, MD

Chairman: Peter Heilbrun, MD

Title: "Neural Restoration after Radiation Injury"

Apoptosis has recently been shown to play a role in early radiation-induced brain injury. Post-radiation apoptosis has been observed in the subependymal region, which contains a population of multipotent precursor cells that maintain the ability to proliferate and migrate throughout adulthood. Depletion of this active population of cells may underlie the late degenerative changes seen in white matter after irradiation. Since experimentally induced apoptosis of cortical neurons in the mouse triggers the expression of a set of neurotrophic factors that supports the differentiation and integration of grafted neural stem cells, the irradiated subependymal zone (SEZ) may, through a similar mechanism, support growth of transplanted neural cells. We will analyze the expression of developmentally relevant neurotrophic factors by the irradiated rat brain. Using neural transplantation as a tool to elucidate the cellular and molecular mechanisms underlying the response of the SEZ to radiation injury, we will characterize the ability of transplanted SEZ stem cells to (1) differentiate and integrate into the apoptotic microenvironment, (2) prevent late degeneration of white matter characteristic of radiation injury, and (3) ameliorate the behavioral changes associated with radiation-induced brain injury. ■

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For more information on the wealth of membership benefits offered through the AANS, contact the Member Services Department at (888) 566-AANS or visit

[www.neurosurgery.org/aans/membership](http://www.neurosurgery.org/aans/membership).



# AANS Tightens Its Belt

## *Streamlining Across the Organization*

It has been a hectic year for AANS. The fiscal year just ended (July 1, 1999 - June 30, 2000) started off with a new executive director, Dave Fellers, CAE, coming on board. Since then, there have been many changes for the organization, including shifts in its structure.

FY 2000 has just ended as this is written and, on paper, it was a difficult one. While our bottom line showed a significant loss for the year, the vast majority of the shortfall came as a result of major changes and write-offs that set the stage for a much more efficient and effective organization. Some of the adjustments at AANS this past year have included:

### **Consolidation of AANS Facilities**

The 10,000-square-foot headquarters building in Park Ridge, Ill., and two 7,000-square-foot warehouse buildings in Rosemont, Ill., were sold and the 1,000-square-foot book publishing office in New Hampshire was closed. To replace these disparate facilities, a new 36,000-square-foot office building was purchased in Rolling Meadows, Ill. AANS is using 24,000 square feet, has leased 1,000 square feet to THINK FIRST and will lease the remaining 11,000 square feet to an outside tenant.

This consolidation of facilities brought most staff functions under one roof, substantially increasing efficiency of operations. There also were several one-time expenses related to the move that contributed to the 1999-2000 budget deficit.

### **Publishing Operations Streamlined**

AANS' unprofitable print shop was closed and more cost-effective outsourcing of printing was pursued. Additionally, the AANS book publishing program was reviewed and an extensive business plan



was developed to increase its efficiency and cost effectiveness.

Outdated and unusable books were eliminated from inventory, resulting in a more than \$250,000 charge to the bottom line. Several thousand books were donated to residency programs and Third World countries. The AANS publishing program has previously resulted in a significant loss to the organization but is now expected to be much more cost efficient.

### **Archives Displayed**

The move to a new office building resulted in an opportunity to showcase considerably more archive material in display cases and a library within the new facility. This will result in considerably more visibility for neurosurgical history. Additionally, the archives previously valued at \$400,000 were revalued at \$215,000, resulting in a paper loss of more than \$185,000.

### **Staff Restructuring**

For years the AANS staff organized and administered the Congress of Neurological Surgeons Annual Meeting. In December 1999, CNS withdrew its meeting services from AANS to establish an independent

office. This resulted in a significant reduction in income and AANS immediately responded with staff restructuring.

During the past fiscal year, AANS has "downsized" by a net of 10 staff positions. While the staff adjustments were made as quickly as possible, the continuing overhead and infrastructure built by AANS to manage the CNS meeting continued. This contributed to the deficit budget for the most recent fiscal year. Steps are being taken to further reduce overhead in the current fiscal year.

### **Annual Meeting is a Record Success**

While many of the "adjustments" during the last fiscal year negatively impacted the bottom line, the AANS Annual Meeting in San Francisco set positive records. The record number of registrants, exhibitors and sponsors resulted in the largest neurosurgical meeting in history. The Annual Meeting continues to be a major contributor to the financial viability of the AANS.

### **Seed Money for New Programs**

One of the major initiatives of the current president, Stewart Dunsker, MD, is to increase the "value" of membership in AANS. During the past fiscal year, considerable effort has been committed to the development of new programs and services. While these new ventures are expected to generate income that will more than offset expenses, their "research and development" costs have been funded this past year.

Some of the new programs include:

- Malpractice Insurance through The Doctors Company
- Medical Supply Discount Program
- Informed Consent Guide
- Credit Card Processing Program
- Equipment Financing/Leasing Program
- Fraud and Abuse Insurance
- Practice Management Publications
- MBNA Credit Card Program

- Membership Certificate Framing Service
- Rental Car Discounts
- Public Education Brochures

Keep an eye out for these programs. While they will not always be the lowest priced product in every community, they will be extremely valuable programs for the majority of members. The “research and development” efforts in this past fiscal year will substantially increase the “value” of your membership in the future.

### Outsourcing and Cost Efficiencies

AANS efforts to increase its efficiency will continue. Options for outsourcing certain services will be evaluated at the central

office and efforts to substantially reduce overhead and general and administrative expenses will be pursued. An evaluation of priorities for AANS will help to assure that services responsive to members’ needs.

### Governance Streamlined

Great strides were made over the past year in bringing the organization’s policies and governance documents up-to-date. Troy Tippet, MD, has chaired an aggressive Bylaws Committee in rewriting and streamlining the bylaws. Working with General Counsel Russell Pelton, the committee is updating its Rules and Regulations document to guide the governance of AANS. These will be presented to the members for review during the year ahead. Pulling together the historical policies of

the organization has been a long-term goal of AANS Board Member Robert Page, MD, who has pulled together a comprehensive AANS Policy Manual. This document is currently undergoing review by the Board.

### Look to the Future

The Association is committed to being the spokesorganization for neurosurgery and is well prepared to enhance and expand the “value” of your membership now and in the future. We feel very positive about the changes that have been made at AANS and believe we are a much more cost efficient organization as a result of them. ■

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**Roberto C. Heros, MD**, is Treasurer of the AANS Board of Directors and **Dave Fellers, CAE**, is AANS Executive Director.

# NEWS.ORG

AANS/CNS Sections Committees Associations Societies

## Research Funding

### Sources Listed Online

This fall the AANS/CNS Section on Cerebrovascular Surgery will begin offering an Internet-based service that will allow investigators to be notified automatically of funding opportunities for research pertaining to stroke, aneurysms, AVMs, carotid surgery and vessel imaging. This service will be created and maintained by the University of Wisconsin-Madison, Department of Neurological Surgery. The major portion of the service will be a Web site—powered by an underlying database—that will allow interested cerebrovascular surgeons to be notified of funding opportunities within their specific areas of interest.

## Section News

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**Joint Section on Cerebrovascular Surgery.** A number of new developments are currently taking place through the dauntless efforts of members of the Joint Section on Cerebrovascular Surgery.

With a mandate from Section Chairman Issam A. Awad, MD, and under the able aegis of Robert Harbaugh, MD, a task force on communications and technology was established early this year to explore new and better ways to communicate with, inform and serve the CV Section membership. The task force also was charged with finding more accessible ways to explore, engage and assess new technologies.

One very prompt and palpable result of this task force is *The Circle of Willis (COW)*, the CV Section's new electronic newsletter. This new CV Section endeavor will feature news, reviews and reminders from the world of Cerebrovascular Surgery. Harold Pikus, MD, is the *COW* editor, and with a talented editorial staff, plans to offer articles on funding, summary abstracts and reviews of recent publications, and features on novel technologies and new medications. *COW* will also include articles on billing and coding, and a timetable of meetings and abstract deadline reminders. Dr. Pikus can be reached at [hpikus@gte.net](mailto:hpikus@gte.net)

The first-ever joint meeting of the Section on Cerebrovascular Surgery and the ASITN with the Japanese Society for Cerebrovascular Surgery is under final preparations for its February 9-12, 2001, meeting in Hawaii at the Big Island Hilton Walkaloe Village resort. Program Chairman Joshua Bederson, MD, has arranged an outstanding scientific program featuring two Special Courses (Carotid Endarterectomy and Critical Care), and separate Scientific Symposia on AVMs, Aneurysms, and Cerebral Ischemia. Enrollment and hotel reservations are limited so be certain to register early.

*Reprinted with permission from Cerebrovascular News, fall 2000.*

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**Section on Neurotrauma and Critical Care** Brian Andrews, MD, FACS, past chairman of the AANS/CNS Section on Neurotrauma and Critical Care and

liaison to the Board of Directors of the AANS, reports on emergency department issues:

We put together an extremely well-received breakfast session at the 2000 Annual Meeting on "Emergency Department Coverage: Issues, Obligations and Opportunities for the New Millennium." Major areas covered were the Federal EMTALA laws as they pertain both to us as neurosurgeons and to hospitals that run Emergency Departments (EDs), the current problems surrounding neurosurgical coverage from the perspective of both the hospitals and neurosurgeons and solutions to the problems.

As the course director, it was clear to me that the problems regarding neurosurgeons and EDs occur throughout the United State. It appears that many hospitals rely upon bylaws requiring physicians to be available to the ED, often without payment for such services. It is also clear that many hospitals have resorted to payment of a stipend to guarantee the necessary coverage. In California, 42% of all EDs pay a stipend to neurosurgeons for ED coverage, but such payments are geographically uneven and the amounts variable.

Recently the CSNS initiated an online national survey about these issues, which I hoped you filled out for your state. As your representative to the Board of Directors of the AANS, I will continue to keep the issue of EDS coverage a top priority. I would like to hear from you about your concerns as well as any useful solutions you may have developed. This way your Section can remain an important voice. My e-mail is [BTANeuro2@aol.com](mailto:BTANeuro2@aol.com).

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**Section on Pediatric Neurological Surgery** Coronado, a sister city of San Diego, will host the AANS/CNS Section on Pediatric Neurological Surgery 29th Annual Meeting December 6-9. The early registration deadline is November 1, and the advanced registration deadline is November 17.

The first day's scientific programs are on perinatal neurosurgery, teaching how to assess prenatal imaging and acquire prenatal counseling strategies; neurosurgery of infancy and childhood, teaching participants to recognize neurosurgical conditions and manage congenital neurosurgical anomalies; and neoplasms, teaching current treatment and protocols for brain tumors and analyzing therapeutic options for CNS neoplasms.

## Neurosurgical Focus to be Listed in Index Medicus

*Neurosurgical Focus*, the AANS online scientific journal which is published by the *Journal of Neurosurgery*, has recently been recognized by the National Library of Medicine as a peer reviewed journal and will be listed in Index Medicus and be available through Medline searches. Work is now under way to program *Neurosurgical Focus* on to Index Medicus. The process should be completed within the next few months. When it goes live, a retroactive content listing of *Neurosurgical Focus* from the time of its inception will be featured (listing on Medline from our initial issue).

The scientific sessions on the second day are on hydrocephalus, teaching participants how to judge the use of shunt procedures and value treatment options; and topics and advances in pediatric neurosurgery, teaching participants to recognize the value of diagnostic techniques and formulate treatment strategies. The third day covers practice management and CPT coding and billing for pediatric neurosurgery, teaching participants coding and reimbursement issues.

Coronado is an enchanting city nestled between the Pacific Ocean, mountain ranges, the desert and the Peninsula of Coronado. The days are often warm enough in December for shorts. Area attractions, besides miles of jogging, hiking and biking trails, are San Diego Zoo, considered to be the world's finest, and Sea World, famous for Shamu the killer whale and a new shark exhibit. Downtown Coronado offers a quaint beach area with shops, eateries, boutiques and galleries in ornate buildings.

For information, call (847) 378-0500 or visit [www.neurosurgery.org/pediatric](http://www.neurosurgery.org/pediatric).

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**Section on Disorders of the Spine and Peripheral Nerves** Larry T. Khoo, MD, of South Pasadena, Calif., is the recipient of this year's Cloward Fellowship Award. Sponsored by Danek/Medtronic Sofamore Danek, the fellowship is given annually to one or two U.S. or Canadian trained neurosurgical residents to provide supplemental funds for advanced education and research in disorders of the spine or peripheral nerves in the form of fellowship training. The amount award is \$30,000.

Visvanathan Rajaraman, MD, of Newark, N.J., is this year's clinical recipient of the Mayfield Award. The honor is presented annually by the Joint Section on Disorders of the Spine and Peripheral Nerves to the neurosurgical resident who authors an outstanding research manuscript detailing a laboratory or clinical investigation in the area of spinal or peripheral nerve disorders. Dr. Rajaraman's paper was titled "Use of Intensive Care Units for Patients with Spinal Disorders."

Neill M. Wright, MD, of St. Louis, Mo., was given the Mayfield Award's basic science prize for his paper titled "Bone Marrow Derived Mesenchymal Stem Cells Transduced with an Adenoviral Vector Carrying the Gene for Human BMP-2 Can Induce Anterior Spinal Fusion."

Each Mayfield award is valued at \$500. For more

information and submission forms, contact Keith R. Kuhlengel, MD, 1671 Crooked Oak Dr., P.O. Box 10247, Lancaster, Pa., 17605-4207, (717) 569-5331, [kkuhle@redrose.net](mailto:kkuhle@redrose.net) or [www.neurosurgery.org](http://www.neurosurgery.org)

The AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves has established two research grants: the Larson Award and the Sonntag Award. The grants will help establish funding for clinical projects related to the spine and peripheral nerves. They also will provide a means of peer review for clinical research projects to enhance competitiveness for National Institutes of Health (NIH) funding. Additionally, the awards will provide annual funding to establish the AANS/CNS Spine Section as a known source for quality clinical research aimed at answering questions pertaining to the treatment of disorders of the spine and peripheral nerves.

This year's recipients were Gavin W. Britz, MD, of Seattle, for a paper titled "Ulnar Nerve Entrapment at the Elbow: Improved Diagnosis and Treatment with MRI," and David Mikulis, MD, for a paper titled "Characterization of Adaptive Changes in the Brain of Individuals with Cervical Spinal Cord Injury: Serial Evaluation using fMRI and electrophysiological testing."

The awards, which range from \$15,000 to \$30,000, are intended for primary investigators of planned clinical studies requiring national level funding to support the preparation of grant proposals and external consultations and to assist in the development of the proposal, planning meetings and the collection of pilot data. Work that can be completed without such support (such as literature review and preliminary protocol design) should be done before applying for the Sanford Larson or the Volker Sonntag Awards.

The format of the proposal should follow that of the NIH grant package. Specifically, applications should not exceed five single-spaced pages. The applicants should address their specific aims, pertinent literature review and previous studies review, include a brief summary of the proposed study, and a plan for utilization of the funds, as well as a detailed budget and budget justification. The budget should not include salary support for the primary investigator or co-investigators.

Send six copies of the proposals to be received no later than December 1 to Michael G. Fehlings, MD,

PhD, The Toronto Hospital, 399 Bathurst St., Suite 2-417, Toronto, Ontario. M5T 2S8 Canada, (416) 603-5627, mfehlings@torhosp.toronto.on.ca, or visit [www.neurosurgery.org](http://www.neurosurgery.org)

**Section on Tumors** The Commission on Cancer of the American College of Surgeons initiated in January the most extensive single-year study of brain tumors ever undertaken The Patient Care Evaluation (PCE) study, consisting of a prospective compilation of data from tumor registries across the United States, is expected to involve at least 6,000 patients with brain tumors.

A similar (but more limited) study was conducted in the late 1980s by a group headed by the late Stephen Mahaley, MD. Significant changes have occurred since that time in the care of brain tumor patients. Examples include the rise of radiosurgery, new diagnoses (such as neurocytoma), better MRI imaging and new chemotherapy treatments, including both interstitial BCNU wafers, and improved systemic regimens for certain tumors.

Neurosurgeons on the Commission on Cancer Committee that developed the study included Drs. Herb Engelhard, Jeff Olson and Joe Piepmeier. Non-neurosurgeon members of the committee included Jerome Posner, Howard Fine, Faith Davis, Ed Shaw and Bernd Scheithauer.

The goal of the Commission on Cancer is to decrease the morbidity and mortality caused by can-

cer through 1) prevention, 2) reporting and monitoring care, 3) standard setting and 4) education.

The National Cancer Data Base oversees and coordinates the national PCE studies and provides statistics for more than seven million cancer cases based on patient demographics, treatment by type of surgery, tumor characteristics and rates of survival. The Commission on Cancer also has an Approvals Program, which sets standards and evaluates and approves cancer programs across the country. There are currently approximately 1,500 cancer programs that have been approved by commission.

Each approved program has a cancer registry (with a tumor registrar) that collects data on the type and stage of cancers and treatment results and also offers life-long patient follow-up.

A new data form was developed for conducting the brain tumor PCE study. In addition to containing standard identification, general information, treatment and survival sections, data is being collected on diagnostic imaging, new therapies, tumor pathology, tumor recurrence and quality of life. The study is expected to generate a large amount of information related to the descriptive epidemiology of the various brain tumors, treatment options for brain tumor patients and patient survival.

Hospital tumor registrars complete the data forms using information from hospital records (such as the operative report) and follow-up questionnaires. Much of the primary data, therefore, will be generated by neurosurgeons. The accuracy of the study will depend on the precision and completeness

#### Disorders of the Spine Annual Meeting Set

The 2001 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting will be February 14-17. Abstracts can be submitted online at [www.neurosurgery.org/abstractcenter](http://www.neurosurgery.org/abstractcenter).

#### Bulletin Index Online

An index of AANS *Bulletin* articles that covers the five years of issues posted on the AANS Web site is now available. The searchable index allows you to look for an article by title and/or key word. The index covers issues from Summer 2000 back to Summer 1995. The index can be found at [www.neurosurgery.org/aans/bulletin](http://www.neurosurgery.org/aans/bulletin).

### CSNS Holds Leadership Conference

The Council of State Neurological Societies is planning a socioeconomic leadership conference on July 20-24, 2001, in Washington D.C., announced Lyal G. Leibrock, MD, FACS, Chairman.

The conference will include professional development and leadership courses and meetings with legislators. Held over several days, the conference will coincide with the CSNS Executive Committee meeting and the Joint Officers Meeting.

Adam Lewis, MD, and the Communications and Education Committee are planning the leadership conference.

#### Logo Approved

In other CSNS news, a new logo was approved recently. The logo represents the CSNS as the organization of the U.S. State and Regional neurological societies and illustrates the broad scope of neurosurgery, including the cranial and spine. Mick Perez-Cruet, MD, designed the logo. ■



## In Memoriam

Petter Lindstrom, MD, of Sonoma, California, died May 24 at the age of 93. He was a pioneer in ultrasound surgery in the 1950s. He also was known for being married to actress Ingrid Bergman for 13 years.

Anthony J. Raimondi, MD, of Verona, Italy, died June 16. Colleagues credited him with creating the specialty of pediatric neurosurgery.

Other deceased AANS members (not previously published) since January 1, 1999:

- John E. Adams, MD, of San Francisco
- Robert B. Aird, MD, of Mill Valley, Calif.
- Joseph P. Cascino, MD, of Hinsdale, Ill.
- Lee A. Christoferson, MD, of Bonita Springs, Fla.
- Robert W. Forsythe, MD, of Cleveland
- Cordell E. Gross, MD, of Burlington, Vt.
- Lucien R. Hodges, MD, of Madison, Miss.
- Wolfgang Koos, MD, of Vienna, Austria
- William R. Lipscomb, MD, of Tempe, Ariz.
- George C. Manning, MD, of Fort Wayne, Ind.
- Venkat Iyer Narayan, MD, FAC, of Santa Fe
- Douglas L. Polk, MD, of Oklahoma City
- John Raaf, MD, of Portland, Oregon
- Morris Sanders, MD, of Dallas
- Emil Seletz, MD, of Los Angeles
- James C. Walker, MD, of Milton, Mass.

of the information provided by neurosurgeons. The neurosurgical community needs to be aware of the existence of this study and its importance.

Neurosurgeons should encourage their hospital tumor registrars to participate in the study and to ensure that the data collected on their patients is as accurate as possible. Sometimes it is difficult for the

tumor registrar to obtain follow-up information but this is critical for the success of the study.

Direct questions about the study to Herbert H. Engelhard, MD, PhD, FACS, M/C 799, Department of Neurosurgery, 912 S. Wood Street, Chicago, IL 60612.

*This article was reprinted with permission from Tumor News, fall 2000. ■*

## AANS Bylaws Update

### Two New Classes of Members are Added

AANS members approved 10 changes to the Association's Bylaws, including adding two new classes of membership and shortening the time frame under which members can be terminated for failure to pay dues.

A total of 798 valid ballots were returned on the Bylaws, which were discussed at the AANS Annual Business Meeting in April in San Francisco. Balloting ended May 25.

Amendments are passed if approved by two-thirds of eligible votes cast.

The two new classes of members added were International Associate Active and International Associate Active (Provisional). These new classes broaden the eligibility requirements for international membership to include ethical, well-trained and competent neurosurgeons outside of North America who may not necessarily be considered to

have "international recognition."

There was an International Associate membership under the old Bylaws. The change in the Bylaws stems from the policy of AANS to be more inclusive.

The new Bylaws gives the Board of Directors the right to terminate members who fail to remit their dues within the six months following the due date. The Member Services Department will notify the delinquent member to remit the dues one month before to avoid termination. The old Bylaws required a member to be more than two years delinquent in payment of annual dues before membership could be terminated. That created additional cost and expense for the Association in generating dues notices.

For a complete explanation of the articles that were changed, go to pages 36-39 of the Spring 2000 issue of the *Bulletin*.

VOTES				
AMENDMENT	APPROVED	DISAPPROVED	VOTES CAST	%
Article II, Section 1	773	17	790	97.8%
Article II, Sec 1-B, Para 5	774	15	789	96.1%
Article II, Sec 1-E, Para2-2	764	25	789	96.8%
Article II, Section 1-F	775	14	789	98.2%
Article II, Section 3	709	81	790	89.7%
Article VIII, Sec 1, Line F	793	3	796	99.6%
Article IX, Section 8	792	3	795	99.6%
Article X, Sec 1, Para 5	785	10	795	98.7%
Article X, Sec 2, Para 3	786	9	795	98.9%
Appendix to Bylaws	791	4	795	99.5%

## AANS News

**AANS Approves Head Injury Guidelines** The AANS Board of Directors approved the Guidelines for the Management and Prognosis of Severe Traumatic Brain Injury. This includes updated guidelines for the management of severe head injury and the addition of a new section on early indicators of prognosis in severe traumatic brain injury.

The combined sections will be published and available in book form by fall of 2000.

**2000 Annual Meeting Courses Put Online** AANS members now can view presentations from the 2000 Annual Meeting on the AANS Web site. Presentations include plenary sessions, special courses, breakfast seminars and special lectures. This service is free for a limited time.

The site is [www.aans.org](http://www.aans.org). Courses are organized by category. Each category is cross-referenced with the presenter's name, and each course title is listed within each category.

Each online presentation was developed from videotaped sessions or by formatting slides from the course into an online video format. Site visitors can view the complete course, including a transcript of the presentation.

After using this special online program, remember to fill out the evaluation form. AANS needs to assess the interest in this service for future meetings—and make CME available. The project was supported by MedLeader.com, Inc., in collaboration with Caliber Learning Network, Inc.

**AANS penalizes two members** The AANS Board of Directors voted in April to suspend the membership of a Connecticut neurosurgeon for six months for unprofessional conduct while testifying as an expert witness in a medical malpractice case. The Board found that his testimony that spinal epidural, subdural and subarchnoid hemorrhages were equivalent for the purposes of diagnoses and treatment decision making was incorrect, as was his testimony that the standard of neurological care required immediate surgery. The Board also found that he

failed to review all pertinent medical information prior to offering his opinion and that he inappropriately acted as an advocate for one side of the case.

The Board also issued a letter of censure in April to a Washington neurosurgeon for unprofessional conduct regarding his testimony as an expert witness in a medical malpractice lawsuit. The neurosurgeon testified that doing a bypass procedure prior to treating a thin-walled clotted aneurysm was the neurological standard of care. Agreeing with the Professional Conduct Committee, the Board concluded that the neurosurgeon failed to identify that opinion as his own, one not generally accepted by other neurosurgeons.

**AANS Develops Guidelines Repository** The AANS Department of Education and Practice Management is developing a Guidelines Repository for Neurosurgery containing almost 50 clinical guidelines. Members will be able to electronically access a database of internal and external clinical guidelines associated with Neurosurgery. The repository is the beginning of a "living" document that will continue to evolve reflecting the advances in guideline development. Any information on additional neurosurgical guidelines that can be included in the document would be greatly appreciated.

For information, call Jane Ries, AANS Practice Administrator, at (847) 378-0558 or e-mail her at [jmr@aans.org](mailto:jmr@aans.org).

**AANS Communications Projects Recognized.** AANS recently received two awards of recognition for communications initiatives from the American Association of Medical Society Executives. The awards were presented during ceremonies held in July at the Association's Annual Meeting in Seattle. AANS received a Certificate of Achievement for Management Excellence for AANS Online Initiatives and a Certificate of Achievement for Community Excellence for work done with the CNS on the Getting Smart About Cerebrovascular Disease: An Education Program on Stroke.

### Brain Injury Guidelines Taught

The third phase of the Brain Trauma Foundation (BTF) program to develop and teach the Guidelines for the Prehospital Management of Traumatic Brain Injury began in 2000 with a national roll-out of the program in 11 locations. Program implementation varies in each state to accommodate local system needs and differences and all are initiated with state public health officials and regional medical directors. Additionally, two excellent centers have been chosen to collaborate with BTF on research and evaluation components of this project: University of Alabama Medical Center in Birmingham and Inova Fairfax Hospital in northern Virginia. The program is planned for 19 additional states. For more information or to purchase the Prehospital Guidelines, call Pamela Walker, BTF Project Director, (212) 772-0608. The Prehospital and In-hospital Guidelines can be reviewed at the BTF site, [www.braintrauma.org](http://www.braintrauma.org).

# Influence of Neurosurgery

## AANS/CNS Score Major Victories at AMA Meeting

The American Medical Association (AMA) held its Annual House of Delegates (HOD) meeting this June in Chicago. Highlights include:

### Medicare Practice Expenses

The AANS/Congress of Neurological Surgeons (CNS) and more than 40 other medical organizations are seeking legislation to halt the Medicare practice expense payment reductions at the current 2000 levels. If enacted, this legislation will give neurosurgeons an additional \$130 million in Medicare reimbursement alone from 2001-2005. Key to our success, however, is securing the AMA endorsement of our proposal. To accomplish this, we introduced a resolution for HOD consideration. Although the issue was highly divisive in that it once again pitted specialists against primary care physicians, Neurosurgery's delegates, particularly Cal Kam, MD, Phil Tally, MD, Troy Tippett, MD and Mark Kubala, MD, were instrumental in getting the HOD to overwhelmingly adopt our "Halt 2000" practice expense proposal. Katie Orrico, director of the AANS/CNS Washington Office, also played a key role, helping build a formidable coalition with other specialties and helping convince primary care physicians they would benefit by increasing reimbursement for practice expenses.

This effort again demonstrated that small specialties like neurosurgery can indeed influence AMA policy if we are highly organized and collaborate with other specialties in the process. The final language of the resolution that passed was:

*"RESOLVED, 1) That our AMA seek Congressional action if sufficient funding can be obtained through the current budget surplus to increase the money allocated to the Medicare Physician Fee Schedule, for the*

*purpose of seeking a halt to the amendments of the practice expense provisions of the Medicare law at the 2000 level (50% 1998 PE RVUs blended with 50% proposed 2002 PE RVUs), except for the office visit and office consultation codes, which would continue to increase to their projected 2002 levels, and 2) if sufficient funding cannot be obtained that our AMA continue to support the transition of Medicare practice expenses."*

### Legislative Reform of HCFA

Led by Troy Tippett, MD, and the Florida delegation, the HOD adopted a resolution that requires the AMA to "seek immediate and periodic Congressional oversight hearings of the Health Care Financing Administration (HCFA) on issues related to the administration of the Medicare and Medicaid programs and additionally to seek legislation to reform HCFA." The final resolution also called on the AMA to undertake action "that would hold state and federal agencies, their contractors, and employees dealing with health care issues to the same level of accountability as are physicians."

This action was taken as a result of the building frustrations physicians have with HCFA's voluminous, burdensome and confusing regulations. We have already seen results from this action, as the House Commerce Health Subcommittee recently convened the first in a series of oversight hearings aimed at reforming and modernizing HCFA. The AANS and CNS are hopeful that these hearings will lead to positive changes at HCFA that will benefit not only neurosurgeons, but our patients as well.

### On-Call Physicians and the EMTALA

The HOD considered several measures supported by the AANS and CNS related to the requirements of the Emergency Med-

ical Treatment and Active Labor Act (EMTALA), including strategies for reimbursing on-call physician. Responding to concerns expressed by many physicians on the inappropriate expansion of EMTALA, the HOD adopted the following resolution requiring the AMA to:

*Expediently identify solutions to the patient care and legal problems created by current EMTALA rules and regulations;*

*Urgently seek return to the original congressional intent of EMTALA to prevent hospitals with emergency departments from turning away or transferring patients without health insurance; and*

*Strongly opposed any regulatory or legislative changes that would further increase liability for failure to comply with ambiguous EMTALA requirements.*

### Neurosurgeons Urged to Join AMA

The AANS and CNS recently launched a collaborative membership campaign with the AMA. Under this program, the AMA has agreed to give AANS and CNS members a special AMA membership bonus package. This includes free AMA membership for the remainder of 2000, a \$100 discount (\$320 vs. \$420) in dues for 2001, a \$100 certificate for products from the AMA catalog, notation on the AMA Physician Select Web site that you belong to the AANS and CNS, subscriptions to *JAMA* and *AM News* and other benefits. For more details, call 800-AMA-3211.

### Dr. Carmel Announces Candidacy

At the conclusion of the HOD meeting, Peter W. Carmel, MD, CNS Delegate to the AMA, announced his intention to run for a position on the AMA Board of Trustees. The election will occur in June 2001, and if Dr. Carmel's effort is successful, it would mark the first time in decades that a neurosurgeon would hold a seat on the AMA Board and would give neurosurgery an even stronger position within the AMA. ■

Mark J. Kubala, MD, is a neurosurgeon in private practice in Beaumont, Texas, and the AANS delegate to the AMA's House of Delegates.

## AANS Clarifies Disciplinary Policy

*The AANS Board of Directors approved in August a new policy on publication of disciplinary actions. The new policy is:*

This policy states the practice and intent of the AANS with respect to providing notification to other parties of disciplinary actions taken against AANS members pursuant to the AANS Bylaws. These steps will apply only after all appeals have been exhausted and a particular disciplinary matter has become final.

**Letter of Censure** If a member receives a letter of censure from the AANS, a summary of that matter will be printed in one or more of the AANS publications, specifying the particular matter deemed to be unprofessional or unethical and the State in which the member has his or her principal

practice. The member's name will not be included. The member's State Licensure Authority and State Neurosurgical Society, where there is one, will be advised.

**Suspension of Membership** If a member is suspended by the AANS, a summary of that matter will be printed in one or more of the AANS publications, specifying the particular matter deemed to be unprofessional or unethical and the State in which the member has his or her principal practice. The member's name will not be included. Notice of such suspension shall be sent to the State Licensure Authority and State Neurosurgical Society, where there is one, of the State in which that neurosurgeon has his/her principal practice and will also be sent to the National Practitioners Databank.

**Expulsion** If a member is expelled from the AANS, a summary of that matter will be printed in one or more of the AANS publica-

tions, specifying the particular matter deemed to be unprofessional or unethical and the State in which the member has his or her principal practice. The member's name will not be included. Notice of such expulsion shall be sent to the State Licensure Authority and State Neurosurgical Society, where there is one, of the State in which that neurosurgeon has his/her principal practice and will also be sent to the National Practitioners Databank.

While it is the practice of the AANS to limit publication of such disciplinary actions in the manner outlined above, the AANS does not guarantee the confidentiality of the pendency or results of any disciplinary actions brought against members pursuant to the Bylaws. The AANS reserves the right to advise any licensure or certification board of any disciplinary actions taken, as deemed appropriate by the Board of Directors.

# Harassment Policy

## *AANS Updates its Ban on Offensive Conduct*

**T**he AANS recently updated its policy on harassment and offensive conduct. The policy covers both AANS employees and volunteers.

### Harassment and Offensive Conduct Policy

**Purpose and Scope.** The AANS is disseminating this policy to reinforce its commitment to employees to provide a work environment free from sexual harassment and other forms of offensive conduct. This policy applies to all members, vendors, contractors or business visitors of AANS. The AANS will require strict adherence to this policy by all of its members, vendors, contractors and business visitors so that all employees of the AANS continue work in an environment free of any form of sexual harassment or any other offensive or intimidating conduct.

**Offensive Conduct and Sexual Harassment Prohibited.** Sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual or offensive nature that has the purpose or effect of creating a hostile, intimidating or offensive work environment of any employee of the AANS is prohibited and will not be tolerated. This conduct violates the policy both where the perpetrator and the victim are of different genders and where they are of the same gender.

This kind of verbal or physical conduct by members, vendors, contractors or business visitors, if directed at an AANS employee, is completely unacceptable and will be met with prompt remedial action designed to eliminate this offensive conduct from the work environment of all AANS employees.

**Reporting of Sexual Harassment Required.** Any employee of AANS who believes that he or she has been subjected to words or con-

duct that violate this policy by any member, vendor, contractor or business visitor of AANS should report the incident as soon as possible to one of the following: Direct Supervisor, Associate Executive Directors or Executive Director.

Members, vendors, contractors and business visitors of the AANS do not have the authority to condition any tangible job benefit of an AANS employee's employment upon acquiescence to any words or conduct that may violate this policy, and any threats to do so must be reported immediately. If any employee believes that he or she has been deprived of a tangible job benefit or threatened with being deprived of such a job benefit (such as a significant change of employment status, discharge, demotion or undesirable reassignment) because the employee has refused to cooperate with sexually offensive verbal or physical conduct, requests for sexual favors or sexual advances, or any other offensive conduct, it must be reported to one of the people listed above.

Managers and supervisors of all AANS employees must report any incidents that they hear or observe that may constitute a violation of this policy.

All complaints of violations of this policy will be promptly investigated, and swift corrective action will be taken as determined by the AANS to be appropriate under the circumstances.

All complaints under this policy are considered confidential and all employees or other individuals involved in the complaint or investigation are required to take reasonable steps to protect the privacy of the individuals involved.

**Retaliation Prohibited.** It is also a violation of this policy for any member, vendor, contractor or business visitor of AANS to

retaliate in any way against any AANS employee who reports or cooperates in an investigation of an alleged violation of this policy. No member, vendor, contractor or business visitor of AANS has the authority to retaliate against any AANS employee in any way as a result of that person bringing a complaint under this policy or assisting in an investigation of a complaint under this policy. Any such retaliation, threat of retaliation or attempt to do so should be reported immediately as discussed in paragraph three above.

**Penalties.** Any member of the AANS found to be in violation of this policy will be subject to disciplinary action by AANS up to and including suspension or expulsion from the AANS. If any vendor or contractor is found to have violated this policy, AANS will take all the necessary steps to ensure future compliance with this policy by that vendor or contractor, or prohibiting the offending employee of the vendor or contractor from having any future business dealings with the AANS and its employees. Any business visitor found to be in violation of this policy will be subjected to whatever actions are appropriate under the circumstances, including being requested to leave AANS functions and/or being prohibited from participating in future AANS functions. ■

### Letters to the Editor

The Editors of the AANS *Bulletin* are interested in hearing your comments or queries on this issue, as well as your ideas for future issues. Write to A. John Popp, MD, care of the AANS, at 5550 Meadowbrook Drive, Rolling Meadows, IL 60073, or fax (847) 378-0600, or e-mail [ejc@aans.org](mailto:ejc@aans.org).

We want to hear from you!

# EVENTS

## Calendar of Neurosurgical Events

### 28th Annual Meeting of the International Society for Pediatric Neurosurgery

October 2-6, 2000  
Istanbul, Turkey  
90-232-4630591

### Romanian Neurosurgical Conference

October 4-6, 2000  
Bucharest, Romania  
40-1-4102174

### 62nd Annual Meeting of the American Academy of Neurological Surgery\*

October 11-14, 2000  
Colorado Springs, Colorado  
(734) 936-5020

### 4th National Conference of the Indian Society of Stereotactic and Functional Neurosurgery

October 14-15, 2000  
Indore, India  
91-731-362491-98 or 91-731-491965-98

### Neurology Outcomes Research: Current Science and Future Directions

October 15, 2000  
Boston, Massachusetts  
(612) 545-6284

### International Conference on Risk Control and Quality Management in Neurosurgery

October 15-18, 2000  
Munich, Germany  
89-7095-2695 or 3556

### European Society for Stereotactic and Functional Neurosurgery

October 25-27, 2000  
London, U.K.  
44-0-20-7829-8750

### American Pain Society

November 2-5, 2000  
Atlanta, Georgia  
(847) 375-4715

### Society for Neuroscience

November 4-9, 2000  
New Orleans, Louisiana  
(202) 462-6688

### AANS Department of Education and Practice Management 2000 Courses: Neurosurgery Review by Case Management: Oral Board Preparation

November 5-7, 2000  
Houston, Texas  
(888) 566-AANS

### AANS Department of Education and Practice Management 2000 Courses: Managing New Reimbursement Challenges in Neurosurgery

November 10-12, 2000  
Montreal, Quebec, Canada  
(888) 566-AANS

### AANS Department of Education and Practice Management 2000 Courses: Designing Better Business Systems

November 11, 2000  
Montreal, Quebec, Canada  
(888) 566-AANS

### Georgia Neurosurgical Society

November 17-19, 2000  
Atlanta, Georgia  
(706) 721-3071

### 16th Annual Meeting of Japanese Society for Intravascular Neurosurgery

November 17-19, 2000  
Sendai City, Japan  
Fax: 81-22-717-7233

### 4th World Stroke Congress

November 25-29, 2000  
Melbourne, Australia  
61-3-9682-0288

### Cervical Spine Research Society Meeting

November 30 – December 2, 2000  
Charleston, South Carolina  
(847) 698-1628

### AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting\*

December 6-9, 2000  
Coronado (San Diego), California  
(888) 566-AANS

### 49th Annual Conference of the Neurosurgical Society of Asia

December 14-17, 2000  
Chennai (Madras) India  
91-44-536-5374

### California Association of Neurological Surgeons

January 19-21, 2001  
San Diego, California  
(916) 454-6850

### 2001 Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and American Association of Interventional and Therapeutic Neuroradiology Annual Meeting

February 9-12, 2001  
The Big Island, Hawaii  
(888) 566-AANS

### American Stroke Association's 26th International Stroke Conference

February 14-16, 2001  
Ft. Lauderdale, Florida  
(214) 706-5262

### 2001 AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting

February 14-17, 2001  
Phoenix, Arizona  
(888) 566-AANS

### AANS 68th Annual Meeting

April 21-26, 2001  
Toronto, Ontario, Canada  
(888)566-AANS

### Fifth International Stereotactic Radiosurgery Society Congress

June 4-7, 2001  
Jerusalem, Israel  
972-3-795-1444

### World Congress of Neurosurgery

September 16-20, 2001  
Sydney, Australia  
61-2-9241-1478

### American Academy of Neurological Surgery\*

October 11-14, 2001  
Colorado Springs, Colorado  
(507) 284-2511

### Cervical Spine Research Society Meeting

November 29 – December 1, 2001  
Monterey, California  
(847) 698-1628

### American Epilepsy Society 55th Annual Meeting

November 30 - December 5, 2001  
Philadelphia, Pennsylvania  
(860) 586-7505

### American Academy of Neurological Surgery

November 12-16, 2002  
Palm Beach, Florida  
(507) 284-2511

### Education and Practice Management Course Schedule

The remaining three AANS courses this year are: **Managing New Reimbursement Challenges in Neurosurgery**, November 10-12, Montreal, Quebec, Canada; **Designing Better Business Systems**, November 11, Montreal, Quebec, Canada; and **Neurosurgery Review by Case Management: Oral Board Preparation**, November 5-7, Houston.

Dates and locations for the 2001 courses will be announced in September 2000. For information, contact the AANS Department of Education and Practice Management at 888-566-AANS, e-mail [jmb@aans.org](mailto:jmb@aans.org) or visit [www.neurosurgery.org/aans/meetings/edp/pdcourses.html](http://www.neurosurgery.org/aans/meetings/edp/pdcourses.html).

*\*Jointly sponsored by the American Association of Neurological Surgeons*

# Join the Evolution

## Using Computers in Neurosurgery

I recently returned from a one-day trip to find 72 new e-mails awaiting me. Advertisements, e-blasts, bed utilization data, practice billing data and committee correspondence, often with multiple iterations of responses, were all arrayed quite democratically by chronology without hierarchy, except the occasional bold type or other keyboard stratagem to denote the sender's estimation of importance.

Faced with this tsunami of information, I recalled that the advent of the computer had initially been hailed as the portal to a shorter work week. The actual effect seems to be that we have lost the "time out" that occurred each night, each weekend and during vacation. This suspension of work activity, so essential for attention to family, creative thoughts and various personal activities, is elemental to our sense of well being. Now, even while we sleep, the number of e-mails waiting continues to increase, lying in wait to greet us at the office like a Christmas card or a letter bomb, depending on their contents.

These Luddite musings passed quickly when my thoughts became crowded with the positive attributes of computers, which have changed the face of our specialty in slightly more than a quarter century. CT scanning, MRI, neuronavigation, surgical simulation, online patient education, electronic meeting registration, abstract submission, and yes, even correspondence, have either been made possible or improved by computers.

Computer savvy is fast becoming an essential tool in our profession. Internet access is a vital means of reaching out to patients and staying in touch with the latest professional developments. Twenty-five percent of Americans now have Internet access. An astonishing 96 percent of neuro-

surgeons have Internet access on their primary computer, according to an AANS study. Yet it's an open question of how often and adroitly they use the Internet.

Our cover story is an acknowledgement of the central role of the computer in neurosurgery. Future issues of the *Bulletin* will feature a regular column on computer topics. Our goal is to give practical advice to readers about how to introduce or enhance

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Editor of the AANS  
Bulletin, Chair of the  
Washington Committee,  
and Henry and Sally  
Schaffer Chair of  
Surgery at Albany  
Medical College.



the use of the computer in their practice and private lives. John Oró, MD, wrote the cover article and will write the computer column. A pioneer, he began working with computers in 1984. Since then, among other Internet projects, he founded Cybermed in 1993, an online publishing company, and served as editor of *Neurosurgery On-Call* from 1997-1999.

While we will continue to explore this topic during subsequent issues of the *Bulletin*, it is my personal perspective that we (and I include myself in this category) who are less sophisticated can take some major steps to benefit from the positive aspects of computer technology.

**Get Involved.** Sure, it's difficult to admit lack of omniscience in anything technological. In my own instance, it was my interest in patient education that led me, with a near dread of computers, to accept the role of associate editor of the AANS/CNS Web site, *Neurosurgery: On-Call*® (N:OC®). Serv-

ing as editor of the public pages has allowed me to pursue my interest in education and learn about technology that I had avoided.

**Keep Current.** In this rapidly evolving environment, last year's "state of the art" concept may be relegated to history's trash bin. Yet the pace of change, while rapid, is evolutionary and not anarchy. You need not have been involved from the beginning of computer development to be an expert, and yesterday's expert is only as proficient as his or her ability to continue to learn about new developments. Join the evolution!

**Get Help.** An experienced friend or office computer whiz can demystify computer technology. A few minutes of instruction, on occasion, can turn into a vast reservoir of knowledge.

AANS is a great resource, too. A wonderful feature of N:OC® is "Find A Neurosurgeon." This page has grown to one of the site's most visited components, receiving more than 1,700 visits a month. All actively practicing members of the AANS/CNS are listed, and listings can be upgraded for a small fee.

The AANS also is collaborating with WebMD.com, drKoop.com, Medem and SpineUniverse in various ways to promote neurosurgery and to better serve the public. (See page 10.)

Just as the Luddites could not stop technological advances from changing their lives, we must recognize the next time we are swamped with e-mails or hesitant to use the Internet in our practice that with progress comes problems. As professionals our futures are inextricably linked to the use of computers. With the support of the AANS, we can minimize the downside and enhance the value of this new technology. ■