

AANS

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NEUROSURGEON

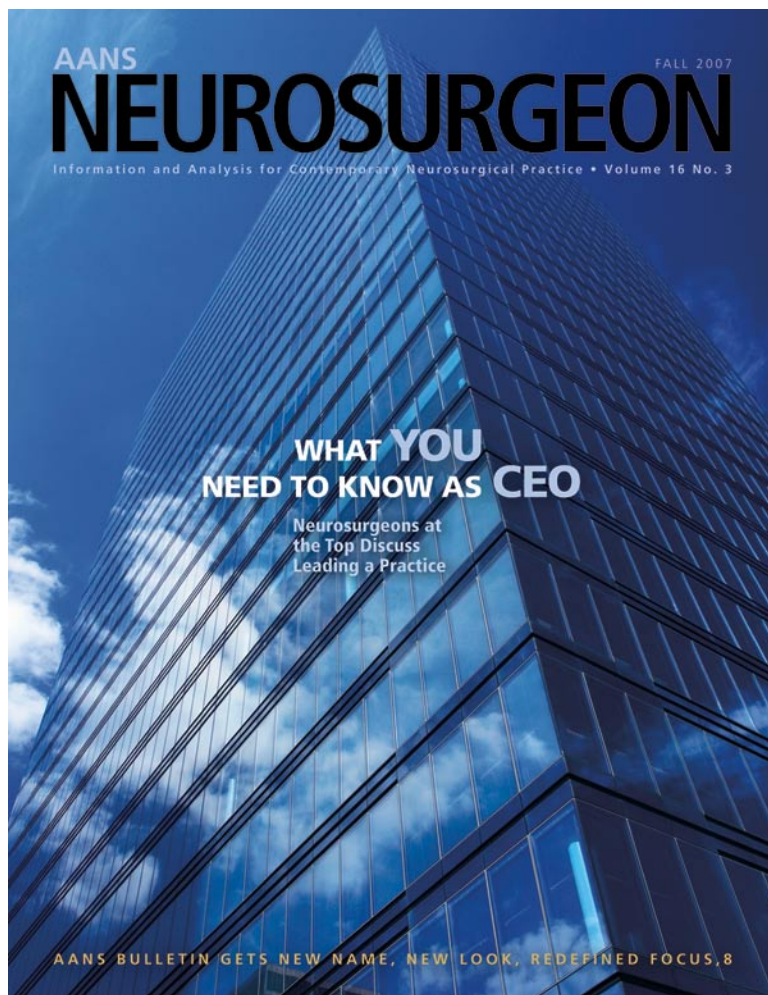
Information and Analysis for Contemporary Neurosurgical Practice • Volume 16 No. 3

WHAT YOU NEED TO KNOW AS CEO

Neurosurgeons at
the Top Discuss
Leading a Practice

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AANS MISSION

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

AANS NEUROSURGEON

The official socioeconomic publication of the AANS, *AANS Neurosurgeon* (formerly *AANS Bulletin*) features information and analysis for contemporary neurosurgical practice.

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OPEN, ONLINE ARTICLE SUBMISSIONS

Articles or article ideas concerning socioeconomic topics related to neurosurgery can be submitted to aansneurosurgeon@aans.org. Objective, nonpromotional articles that are in accordance with the writing guidelines, are original, and have not been published previously may be considered for publication. The AANS reserves the right to edit articles for compliance with publication standards and available space and to publish them in the vehicle it deems most appropriate. Articles accepted for publication become the property of the AANS unless another written arrangement has been agreed upon between the author(s) and the AANS.

PEER-REVIEWED RESEARCH

AANS Neurosurgeon seeks submissions of rigorously researched, hypothesis-driven articles concerning socioeconomic topics related to neurosurgery. Selected articles are reviewed by peer-review panels. Papers must comport with the writing guidelines at www.aansneurosurgeon.org.

Peer-Review Panel led by Deborah L. Benzil, MD; William E. Bingaman Jr., MD; Frederick A. Boop, MD; Fernando G. Diaz, MD; Domenic Esposito, MD; David F. Jimenez, MD; Mark E. Linskey, MD; Mick Perez-Cruet, MD; Richard N. Wohns, MD

LETTERS

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

AANS NEUROSURGEON ONLINE

The advanced search of *AANS Neurosurgeon* and *AANS Bulletin* archives since 1995, subscription to the RSS feed and table of contents alert, and more are available at www.aansneurosurgeon.org.

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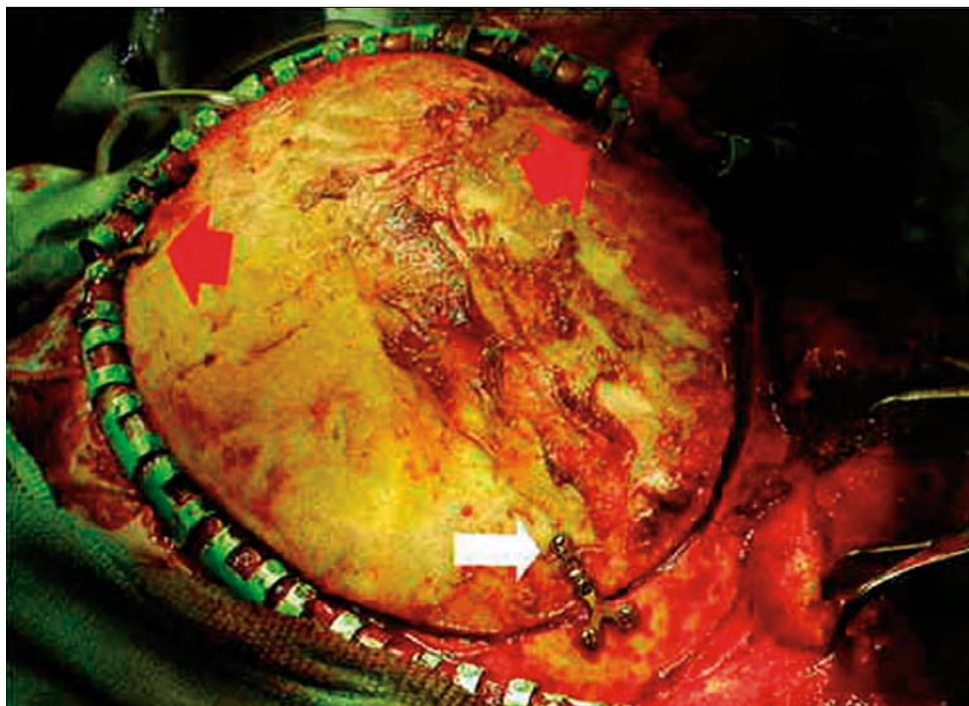
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FRONTLINES

NEWS TRENDS LEGISLATION



IN THE LOUPE

The hinge technique effectively prevents procedure-related morbidity and subsequent surgical bone replacement necessitated by traditional decompressive craniotomy. To create a "hinge" on the bone flap, a Y-shaped plate is secured loosely to the surrounding bone (white arrow). Two additional straight plates (red arrows) secured to the flap prevent future bone flap subsidence. For more information, see Schmidt JH, Reyes BJ, Fischer R, Flaherty, SK: Use of hinge craniotomy for cerebral decompression. *J Neurosurg* 107: 678–681, 2007.

Five Companies Publish Consultant Names and Payments in Industry-DOJ Agreement

Physicians with Company Ties Must Tell Patients

Five companies, Biomet, DePuy, Smith & Nephew, Stryker and Zimmer, have prominently published on their Web sites the names of their consultants and the fees that they pay them. The disclosure of consultant payments was among the terms of deferred prosecution agreements and a nonprosecution agreement (Stryker) between the respective companies and the Department of Justice. The agreements also require the physician consultants to disclose their financial engagements with any company to their patients. In addition, a federal monitor at each company will review compliance with the agreements as well as all new and existing consulting relationships with the companies, and each company will assess reasonable needs for educational consulting services and new product-development consultants, among other requirements. The DOJ noted that many of

the requirements in the agreements are based on those developed by Zimmer for its current Corporate Compliance Program. The companies were investigated for using consulting agreements with orthopedic surgeons as inducements to use a particular company's artificial hip and knee reconstruction

Continues ►

▲ **GET IN THE LOUPE.** Compelling digital photos that depict a contemporary event or clinical topic or technique in neurosurgery are sought for In the Loupe. Submit a low resolution image in JPG format to aansneurosurgeon@aans.org with "In the Loupe" in the subject line and a brief description of the photo and its significance in the e-mail message. Submitters must verify copyright ownership of the image and have a 300 DPI resolution image available for publication.

and replacement products. According to the DOJ, the financial inducements in the form of consulting agreements were entered into with hundreds of surgeons throughout the 2002–2006 time frame. The investigation revealed instances in which physicians did little or no work for the financial inducements but did agree to exclusively use the paying company's products. The physician consultants also failed to disclose the existence of their relationships with the companies to the hospitals where the surgeries were performed and to the patients that they treated. <http://newark.fbi.gov/dojpressrel/2007/nk092707.htm>.

CMS Won't Pay for Some "Never Events" in 2008

In August the Centers for Medicare and Medicaid Services issued a final rule that included nonpayment for some "never events." According to American Medical News, in fiscal 2008 Medicare will not pay the added costs associated with objects left behind in surgery, air embolisms, delivery of incompatible blood or blood products, patient falls in the hospital, decubitus ulcers not present on admission, catheter-associated urinary tract infections, vascular catheter-associated infections, and mediastinitis after coronary artery bypass graft surgeries. It further reported that Medicare will propose adding six more conditions to this list in fiscal 2009.

Genetic Makeup May Influence Patient Response to Warfarin, Says FDA

In August the FDA approved updated labeling that includes pharmacogenomics in the prescribing information for warfarin. The information explains that people with variations in two genes, CYP2C9 and VKORC1, may need lower warfarin doses than people without these genetic variations. The CYP2C9 gene is involved in the breakdown (metabolism) of warfarin, and the VKORC1 gene helps regulate the ability of warfarin to prevent blood from clotting. The dosage and administration of warfarin must be individualized for each patient according to the particular patient's prothrombin time/International Normalized Ratio (PT/INR) response to the drug. The specific dose recommendations are described in the warfarin product labeling, along with the new information regarding the impact of genetic information upon the initial dose and the response to warfarin. Ongoing warfarin therapy should be guided by continued INR monitoring.

The warfarin safety alert is posted in its entirety at www.fda.gov/medwatch. MedWatch offers a listserve, RSS news feeds and podcasts. The FDA also makes free, updated prescription drug labels available to physicians at <http://dailymed.nlm.nih.gov>.

CMS Selects Neurosurgeons for MedCAC

John A. Wilson, MD, and Andrew E. Sloan, MD, were selected in September to serve on the Medicare Evidence Development and Coverage Advisory Committee. They are among the pool of approximately 100 experts from which 15 or so are chosen as panelists for each MedCAC meeting. The MedCAC's purpose is to provide unbiased and current deliberation of "state of the art" technology and science. www.cms.hhs.gov/FACA/02_MedCAC.asp

Study Suggests P4P Doesn't Improve Patient Outcomes

A study of a pay-for-performance program for diabetes care showed that doctors complied with testing guidelines but patient outcomes did not improve. Coleman and colleagues looked at changes in physician practice patterns after the physicians started receiving bonus payments, on top of a base salary, for testing for hemoglobin A1c. The study is published in the November issue of the *Journal of Health Care for the Poor and Underserved*.

Teamwork Breakdowns Result in Errors by Residents

A recent study of closed malpractice claims in which errors by residents caused patients harm revealed that errors in judgment, teamwork breakdowns, and lack of technical competence were the most prevalent contributing factors. Lack of supervision and handoff problems were the most prevalent types of teamwork problems, and both were disproportionately more common among those errors that involved trainees than those that did not. Diagnostic decision-making and monitoring of the patient or situation were the most common tasks during which failures of technical competence occurred. Singh and colleagues studied errors that occurred between 1979 and 2001 with claims closed between 1984 and 2004. Specialist physicians reviewed random samples of closed malpractice claim files at five liability insurers and determined whether injuries had occurred and, if so, whether they were due to error. The study is published in the Oct. 22 issue of the *Archives of Internal Medicine*. **NS**



You Made the "Grade"

Consumer Web Site Portrays You and Your Practice to the World

The expansion of information technology has put more and more data in the hands of patients. As patients have come to be viewed and to view themselves as healthcare "consumers," there has been an increased demand for information concerning the consumable "product"—the physicians and hospitals from which they will seek care. Many consumers are familiar with Consumer Reports magazine, which provides ranking and information concerning top brands of dishwashers, and similarly several Web-based publications now offer consumer-based information for selecting a physician or hospital for medical services.

HealthGrades

One of the better known such services is HealthGrades, www.healthgrades.com, which provides ratings on physicians, procedures, hospitals, and nursing home facilities. Some information on this Web site is available at no cost, while other information requires creation of an individual account and a fee. Because the physician information HealthGrades reports is based on public records such as state licensure and board certification, nearly all practicing doctors can expect to be represented on the site.

HealthGrades was founded in 1999 with an initial emphasis on hospital quality ratings. Since then, its mission has expanded to not only include ratings, but also to offer employers and health plans services that guide employees and plan members in their care decisions. The HealthGrades Web site boasts three million monthly visitors and data on 5,000 hospitals, 16,000 nursing homes and 650,000 physicians. Based in Golden, Colo., the company also has an advisory arm that works with hospitals to understand their quality ratings and to improve upon them.

HealthGrades literature states that to compile ratings on physicians and hospitals the company uses the most current three-year data set available from the Centers for Medicare and Medicaid Services and from several individual states. It uses "advanced in-

formation management and statistical techniques" to risk-adjust patient data for hospitals to enable valid comparisons. The company compiles information from state medical board records, publicly available directories, and telephone surveys. Until recently the data on hospitals was updated annually while physician data was updated quarterly, and now data is updated continuously.

Visitors to the site are prompted to request information about a physician or a hospital. Physicians may be searched by name, specialty, or location. Once the appropriate physician is identified, the Physician Quality Report is offered for \$19.95, although in some markets the cost is \$29.95. Optional report upgrades are offered including a "malpractice search" for a \$7.95 additional charge, and a "what physicians are paid" report for \$3.95 more. To order the actual report, the patient creates a customer account profile and then has the option to pay online and immediately receive the report.

The actual report contains 12 sections. The first section includes general information concerning specialty training, medical school, residency and internship. The physician's medical school, years since graduation, and residency programs are listed. Board certification is explained and listed as well. The next section deals with disciplinary actions, both at the state and federal levels. Any disciplinary action in the previous five-year period is reported. Closed malpractice claims, listed for 15 states, include claims settled out of court and those in which a jury verdict was rendered.

Two indications of "quality" are listed—the number of years since medical school and the presence of any government disciplinary actions—and compared against national norms. A reimbursement section lists certain procedures and their average Medicare physician payments in the home state of the physician. The next section includes a patient experience survey with the data about the trust level of the

Continues ►

physician's recommendations and whether or not the patient would recommend this physician to family or friends. No data is provided about the number of patients surveyed and, in fact, while national averages are listed, the site is extremely confusing as to whether an individual physician's data is included in the table. Also listed are physician characteristics such as languages spoken and gender.

A "free physician research comparison report" lists information for four other local physicians in the same specialty, including each one's address, record of malpractice claims, board certification

status, number of years since medical school, gender, and foreign language spoken. The last section of the report concerns area hospitals' quality ratings based on various specialty areas, but it frequently lacks data concerning neurological procedures or diagnoses. This section also discusses questions that patients should ask of their doctor when they are considering forming a relationship.

At the end of the report, a disclaimer states:

Healthcare provider ratings are statements of opinion and not statements of fact or recommen-

HealthGrades Checkup

AANS Neurosurgeon interviewed Scott Shapiro, HealthGrades vice president of corporate communications and marketing, to clarify some key information for neurosurgeons.

Is the physician information available from HealthGrades impartial?

SHAPIRO: The information is absolutely impartial. It's gathered from more than 100 sources and simply aggregated into one place to make it easily accessible for consumers. The patient experience surveys that were added recently represent patients' opinions, and HealthGrades applies no analysis to the patient survey data.

HealthGrades allows advertising on its Web site and offers physicians fee-based opportunities to maximize their presence on major search engines and to sponsor free reports for patients. Doesn't this conflict with the essence of impartiality?

SHAPIRO: HealthGrades now continuously gathers physician information from a number of sources, and this costs money. We initially charged only consumers for the physician reports, and more recently we started allowing physicians to sponsor their own reports, essentially making them free for consumers. Whether or not a physician pays for these services, there is no impact on the information presented in the Physician Quality Report.

How can physicians view the information that is published about themselves in the comprehensive Physician Quality Report without being charged for a report?

SHAPIRO: Physicians [or their practice administrators] can go to www.healthgrades.com/physicians, click on Update Physician Profile at the top right of the screen, and then follow the instructions to register and view their own reports.

If some information listed in the report is incorrect, how can a physician correct it?

SHAPIRO: Physicians can update some information while they are in the Update Physician Profile section of the site, but documentation is required for changes to certain information. In this section and at no charge, physicians also can add to their reports information about themselves and their practices—practice philosophy, subspecialty focus, awards and honors, etc.

[On the HealthGrades Web site, the Physicians Frequently Asked Questions states: "To update your profile on HealthGrades, contact us by email at info@healthgrades.com, or via facsimile at (303) 716-1298. HealthGrades will verify all revision requests before modifying information published the site. Physicians may be required to submit documentation for some updates."]

Last word:

SHAPIRO: An interesting thing about HealthGrades is that it started as a way for consumers to find the right doctor for them, but it's also become good way for physicians to attract the patients that are right for them.

dations to utilize any healthcare provider services and do not constitute medical advice. User is solely responsible for determining whether the information provided is suitable for their purposes, and reliance on the information is at the user's sole risk. Users should obtain any additional information necessary to make an informed decision.

HealthGrades recently has received favorable publicity on a national scale. CBS News in a January 2007 report described two patients who used HealthGrades to compare prices for their surgeries at the Dartmouth Medical Center. The Washington Post in an April 20 article urged patients not to utilize Johns Hopkins Hospital in Baltimore but rather to seek care at smaller suburban hospitals for certain diagnoses, based upon the data listed at HealthGrades. Similar stories have appeared in the Wall Street Journal, Los Angeles Times, USA Today, Reader's Digest, and on Fox News Channel.

The Fine Print

Few physicians would argue that it is reasonable for patients to be aware of physicians' demographic data such as schools attended, status of licensure, and board certification. Additionally, much of the HealthGrades physician report contains educational material to help patients understand what terms such as "residency," "internship," and "board certification" mean.

But HealthGrades is not quite as unbiased as it initially might seem. Unlike Consumer Reports magazine, which does not accept any advertising or test samples in order to maintain its objective status in providing product reviews, the company allows physicians to pay HealthGrades to give site visitors a free report on their practices. Physicians may also pay HealthGrades to enroll in its "Internet patient acquisition program" through which the company will optimize the physician's presence on major search engines so that potential patients can find the physician information more easily. Hospitals may pay to have themselves listed as a free item in a patient's reports on physicians in their geographic area. HealthGrades will then link physicians who have contracted to provide their reports for free with the free hospital report to provide them with better visibility to any patient who is searching in that area.

HealthGrades also will contract with hospitals to provide "marketing solutions and services" to make sure that the hospital's clinical excellence and patient safety are "broadcast strategically and effectively."

This would include the aforementioned search engine optimization as well as onsite consultative services to help analyze patient safety reports, clinical service line reports, and community hospital reports available through the site.

Other HealthGrades shortcomings include that data from a limited number of states is used to generate norms for comparison among physicians and hospitals. Additionally, no information is given about the number of patients who are surveyed in the sections on patient experience survey. Obviously, one disaffected patient could have an enormous impact upon a physician's rating and this would not be discoverable based upon the listed criteria. Of note, there is only one physician listed among the entire leadership, management team, and board of directors of the HealthGrades organization.

Internet-based physician and hospital quality rating services are undoubtedly here to stay. Neurosurgeons should familiarize themselves with and perhaps monitor such services so that they are aware of what information patients are viewing about them and what information is being used by larger businesses and insurance companies in their contract negotiations. It is important to recognize that commercial organizations are not bound by the same rules concerning financial disclosure and relationships with their clients that govern physician activities. Even so, society must insist that physician information is objectively derived and statistically valid and that it is promoted in an open and ethical manner. **NS**

Allen K. Sills, MD, is in practice at Semmes-Murphey Neurologic and Spine Institute, and he is associate professor of neurosurgery at the University of Tennessee Medical School in Memphis. The author reported no conflicts for disclosure.

PHYSICIAN RATING SITES

A Google search was performed using key words: physician rating, rate a doctor, doctor rating.

- www.bookofdoctors.com
- www.consumerconnection.com
- www.doctorscorecard.com
- www.drscore.com
- www.findadoc.com
- www.healthcarereviews.com
- www.healthgrades.com
- www.mdnationwide.org
- www.physicianreports.com
- www.ratemds.com
- www.ucomparehealthcare.com



AANS Neurosurgeon Builds on Bulletin's Success

New Name, New Look, Redefined Focus

With this issue the AANS launches *AANS Neurosurgeon*. New in look and name, *AANS Neurosurgeon* nonetheless continues on the path emblazoned by the *AANS Bulletin* since its inception in 1992. As its name suggests, *Neurosurgeon* redefines the *Bulletin's* socioeconomic and professional focus to center on the concerns, interests and needs of contemporary neurosurgeons, for whom the publication will provide in-depth information and analysis that enhances neurosurgical practice.

Articles in this first issue illustrate the redefined focus. In-depth information in the form of useful data is at the core of the peer-reviewed socioeconomic research component. Jonathan L. Miller, MD, and colleagues present a new computerized patient information system that improves compliance with resident work hour regulations. In InfoTech Impact, Allen K. Sills, MD, analyzes a Web site that provides potential patients with physician information and ratings, laying out the benefits and drawbacks of the system from a neurosurgeon's perspective.

The new Calendar/Courses area shows how *AANS Neurosurgeon* will complement the Web, where time-sensitive information can be frequently updated and a variety of interactive features can be employed. Readers can review the new concise and easier-to-read listings and then access the online version where they can view a greater volume of information, sort it in a number of ways, connect to online continuing medical education information and track their credits, and submit calendar items.

Cutting-Edge Content

How will *AANS Neurosurgeon* keep its finger on the pulse of neurosurgery? The answer primarily lies in the dedicated editorial board members, who meet at least twice a year to brainstorm ideas—based on current news and conversation in the office, clinic and hospital—for upcoming issues and to lend a neurosurgeon's perspective to the writing assignments they take on.

AANS Neurosurgeon also will build upon the foundation laid for the *Bulletin* toward increased in-

teractivity that leads to more reader involvement. The launch in February of the online article submission portal, where authors of socioeconomic research papers or general articles submit their work for possible publication, was a great step forward. The portal is accessible through a link on the Web site, www.aansneurosurgeon.org. Those interested in being considered as peer reviewers of socioeconomic research also can register at this article submission portal.

Throughout each issue readers will be asked to send topic ideas for future articles and to comment on published articles by sending an e-mail message to aansneurosurgeon@aans.org. Items for the following new departments also can be submitted there.

- **In the Loupe**—Photographic feature published in Frontlines (page 3).
- **Gray Matters**—Case presentations intended to build consensus on everyday neurosurgical challenges for which class I evidence is not available (page 24).
- **Open Book**—To complement Bookshelf, mini reviews of a recently read book in any genre relate its value as an interesting, entertaining or enlightening work. Include title, author, year of publication, publisher and city, number of pages, and cost.
- **Inside Neurosurgeon**—News briefs and articles focused on neurosurgical organizations (page 25).

The online version of *AANS Neurosurgeon* at www.aansneurosurgeon.org will include the advanced search of *Neurosurgeon* and *Bulletin* archives since 1995, subscription for the RSS feed and table of contents alerts, and other information.

The new *AANS Neurosurgeon* exemplifies the AANS commitment to quality as well as the AANS mission to serve as the organization that speaks for all of neurosurgery. The changes in this issue are the first of others to come. I hope you will add your voice to our profession's developing dialogue by participating in *AANS Neurosurgeon*. **NS**

William T. Couldwell, MD, PhD, is editor of *AANS Neurosurgeon*. He is professor and Joseph J. Yager Chair of the Department of Neurosurgery at the University of Utah School of Medicine in Salt Lake City, Utah. Send letters to the editor, with "Letter to the Editor" in the subject line, via e-mail to aansneurosurgeon@aans.org.



WHAT YOU NEED TO KNOW AS CEO

Neurosurgeons at the Top Discuss Leading a Practice

Most neurosurgeons practicing today began their careers without the benefit of formal instruction in business administration or management principles. The sea change in medicine of the past 20 years toward a market-driven model simultaneously encumbered by increased federal regulation and oversight has resulted in a need for neurosurgeons to become savvy CEOs as well as consummate clinicians.

In this issue, James R. Bean, MD, offers a neurosurgeon's view of the business aspects of neurosurgery. *AANS Neurosurgeon* also taps into the experiences of neurosurgeons "at the top" in private and academic practice who have ridden the wave of change and achieved significant success. Thorough knowledge of business management principles and practices, understanding the value of one's time, and cultivating positive relationships with people around them are among their secrets.

What YOU Need to Know as CEO

A Look at the Business Aspects of Neurosurgery

JAMES R. BEAN, MD

A neurosurgical practice is more than the practice of neurosurgery. The craft of surgery is only the beginning. Whether managing a large, single-specialty practice or employed by a hospital, a neurosurgeon cannot afford to ignore the complexities of revenue generation, expense payment and economic forces that either threaten or strengthen the bottom line.

The daily routine of neurosurgery—patient visits, surgery and other billable services—generates the core revenue engine that drives the practice. But the basic practice of neurosurgery alone is not enough for a practice to thrive in the changing environment of healthcare. A practice needs a vision—and a visionary: someone who sees the big picture, and looks beyond the practice of today to the possibilities of tomorrow; who has the discipline and common sense to run a practice like a business but constantly pursues a clear vision of the future; who sees where the puck is, but skates where it's going; who can communicate not only today's plan, but tomorrow's promise; who snares success by risking change. A practice needs a CEO.

Driving an Economic Machine

Whether two neurosurgeons or 20, a neurosurgical practice is a multimillion-dollar business, and more than that, an economic machine that generates exponentially more millions of dollars in revenue for the institutions and facilities with which it is affiliated. To manage that kind of revenue, the practice must plan, invest, manage, and perform like any successful corporation. It must understand how finance, operational efficiency, research and development, marketing, and strategic planning are as integral to success in neurosurgical practice as are diagnostic accuracy and surgical precision.

For a neurosurgical practice to function as a successful business, there is a need to look beyond day-to-day operations: beyond the basics of cor-

rect coding, efficient scheduling, prompt billing and collection, and even the technical aspects of clinical neurosurgery. Although they come in many designs and models, neurosurgical practices, like cars, operate in similar ways; the roads, fuel, and destinations are similar, regardless of the design of the vehicle. And curiously enough, the same forces threaten and the same strategies protect practices across the entire spectrum.

Cornering Competitive Advantage

Neurosurgery, and indeed every medical practice, is in transition to a more consumer-driven market. Patients are consumers in this market-oriented world, and they increasingly shop for their preferences and look for information, convenience, top performance and value. The practice that embodies these qualities will pull away from the pack to wear the wreath in the winner's circle.

Practices, like businesses, need a competitive advantage. General neurosurgical practices with an undifferentiated service, no matter how competent, personable, or historically successful, offer no distinctive advantage in a competitive

market. Each neurosurgeon must have a subspecialty focus which makes that individual unique and the practice more distinguished and valuable than other competitors in the region. Group practices should aggregate distinctive and complementary neurosurgical subspecialties that offer a broad range of highly specialized services unmatched for expertise and unexcelled in value by any competitor.

Developing Alternative Revenue Sources

The traditional model of reimbursement for professional services is decreasing, either directly through fee cuts or more subtly by failure to keep pace with cost-of-living or practice expense increases. There are ways to deal with shrinking reimbursement driven by rising costs and falling prices. One way is to see more patients, do more cases and charge more fees—turn up the speed on the treadmill. And for neurosurgeons working at less than capacity and ready to work longer hours, that is an easy option. But when a practice or a neurosurgeon is already working at capacity, when there are no hours to spare, a fresh idea is needed. In summary, to compensate for the decrease in professional service revenue, practices can employ two strategies: either increase the volume and improve the efficiency of traditional neurosurgical services, or expand the practice into new ventures and incorporate nontraditional revenue sources.

Fees for surgical services are limited by federal and private fee schedules. Furthermore, no matter how complex the surgery or efficient the surgical practice, the potential for revenue is limited by the number of hours the surgeon can work.

Alternative revenue sources expand that potential considerably, without requiring additional surgeon work time.

Two alternative revenue sources are ancillary services and a share of facility payments.

Both are a byproduct of neurosurgical service, but they traditionally have been separate from the neurosurgeon's practice. Integrated services, joint

ventures, and hospital contracting are the portals to these parallel revenue streams, which are created by neurosurgical decisions and actions but which flow away from the practice in the customary independent, disconnected, nonintegrated medical market.

Ancillary services available to a practice span the range of services a neurosurgeon utilizes in treating a patient. Imaging services such as MRI and CT, electrodiagnostic and monitoring services, physical and occupational therapy, pain management and neuropsychological services, and a half dozen others can form the core of an integrated care package that benefits both the patient by convenience and higher levels of expertise, and the practice by the addition of revenue sources.

Ambulatory surgery center revenue is perhaps the most accessible of facility revenue streams, as minimally invasive surgery transforms more and more neurosurgical operations into outpatient procedures. Investment in independently owned ASCs offers the greatest return but also the greatest financial risk. Joint venture ASC ownership is an alternative strategy that lessens the financial risk, whether undertaken with a hospital or with other surgeons, who would be viewed as competitors from a strictly professional service perspective. State certificate-of-need regulations often determine whether independent facility investment is possible. Practices that included facility profits in their alternative practice revenues have found that, with time, they could generate as much as 40 percent to 60 percent of take-home income from sources other than personal professional services. Alternative income can fully buffer the decline in professional service revenue.

Mastering the Art of Negotiation

Today, perhaps more than ever, neurosurgeons must be practiced in the art of negotiation. Familiar to neurosurgeons is the process of gathering and analyzing data before making a surgical decision. Foreign to many neurosurgeons is the art of negotiation and compromise, searching for deals that benefit the interests of both parties and reaching agreement by persuasion, rather than threat and demand. One of the most challenging responsibilities for the practice leader is negotiating with hospitals: breaking down the traditional barriers of separate power and influence, adding value for both by increasing service volume and type, and sharing in the added revenue.

Mastering the art of negotiation is particularly relevant because neurosurgeon-hospital relationships are changing. The traditional relationship between

Continues ►

Neurosurgeon as CEO: Course Focuses on the Business of Neurosurgery

Neurosurgeons looking for advanced business management direction need advice from colleagues who have climbed similar peaks successfully. For that reason the AANS developed the *Neurosurgeon as CEO* course.

Following a successful debut in 2004, the second course was conducted in Chicago on June 9. The faculty of 12 neurosurgeons represented some of the most accomplished practices in America as well as the full neurosurgical practice spectra, encompassing small and large, academic and private, subspecialized and generalized practices, and both hospital and private employment. With the course filled to capacity, the faculty members, using their own unique and varied experiences, unfolded a tapestry of real life stories, illustrating the nuts and bolts of how to build a practice and succeed in the changing technical, political, financial, and legal milieu of medicine.

The goals for the course were to:

- increase practice revenue and find new alternative revenue sources;
- analyze different models of practice integration with hospitals, outpatient facilities, ancillary services and other practices;
- expand subspecialty and integrated service lines;

the hospital and medical staff members is more and more often supplemented by additional financial contractual arrangements such as compensation for emergency and trauma coverage, compensated administrative directorships, and joint venture ASCs or even joint venture specialty hospital ownership. Hospital employment is becoming increasingly more frequent, allowing professional service collections to be supplemented by hospital revenue while eliminating legal risks of private inurement or Medicare inducement to refer. The new hospital-employed neurosurgeon must balance guaranteed income granted as loans against the potential payback when revenue fails to meet targets.



James Bean, MD, at far left, leads a question-and-answer session with panelists (l-r) Patrick Kelly, MD, Richard Wohns, MD, Paul Camarata, MD, and James Ausman, MD (not pictured), during presentation of the *Neurosurgeon as CEO* course in June.

- describe new ways to create sustainable competitive practice advantages; and
- incorporate business principles of service line development, marketing, finance, strategic planning, and contracting into practice management.

The next *Neurosurgeon as CEO* course is scheduled for July 2008. Details will be published at www.aans.org/education when they become available.

If this all sounds foreign and complex, it is. Running a practice is not part of medical training, and little in the culture and practice of neurosurgery prepares one for the process of initiating a business venture or negotiating a joint ownership or administrative services contract. Some neurosurgeons are uninterested in this area of neurosurgery, others are ill-equipped, and still others simply are unsuited for business development and management. Like any corporation, each specializes, and one must lead. That one is the CEO. **NS**

James R. Bean, MD, is president and managing director of Neurosurgical Associates PSC, a private neurosurgical group practice in Lexington, Ky. He is AANS 2007–2008 president-elect.

Neurosurgeons at the Top Discuss Leading a Practice

AANS Neurosurgeon

asked neurosurgeons “at the top” in private practice and in academic practice to share their experiences as business administrators.

Panelists are Patrick J. Kelly, MD, FACS, Joseph Ransohoff Professor of Neurosurgery and chair of the Department of Neurological Surgery at New York University Medical Center, New York, N.Y.; Troy D. Payner, MD, president and managing partner of Indianapolis Neurosurgical Group, Indianapolis, Ind.; A. John Popp, MD, FACS, professor, Henry and Sally Schaffer Chair of Surgery, co-director of the Neurosciences Institute and head of the Division of Neurosurgery at Albany Medical Center, Albany, N.Y.; and Richard N.W. Wohns, MD, MBA, founder and president of South Sound Neurosurgery and chairman of the board of NeoSpine, Puyallap, Wash.

QUESTIONS ARE:

- Which practice management pearl do you most wish you had known when you finished your residency?
- What was the hardest lesson to learn during the course of your career with regard to practice management?
- What in your experience is the most effective management strategy for your type of practice?
- What in your experience is the greatest error you have seen in management of your type of practice?
- What advice would you offer to neurosurgeons beginning their careers on how to plan for success in neurosurgery?

Readers are invited to add to this dialogue on success in the business of neurosurgery. Responses and comments sent with the author's full name and title to aansneurosurgeon@aans.org will be selected for publication in the next issue.

1) Which practice management pearl do you most wish you had known when you finished your residency?

DR. KELLY: That they (institutions) need us more than we need them. We have something that no hospital administrator can ever have or easily replace.

DR. PAYNER: Create positive relationships with those people who make your day efficient. This applies to the office and to the hospital. The business of medicine is all about people management. Staff members who understand they are making a positive difference in the situation and are recognized

for their efforts will continue to do that consistently. I have also learned that the staff and managers of a successful employer feel like they are part of the team, able to recommend changes and new ideas. Try to recognize that some people are suited for certain tasks and put them to work at those tasks. This helps keep a stable workforce and lessens the disruption of constantly hiring and training new people.

DR. POPP: That management is a team sport, and it is valuable to understand each player's role. When I finished my training, I knew nothing about the business aspects of neurosurgery. As a junior faculty member in a neurosurgery department I was somewhat insulated, but when I became chair I felt that I was in a maelstrom and knew I had to educate myself in this area. I became a member of the American College of Physician Executives, and I took a two-week total immersion business course.

DR. WOHS: That you must be a savvy businessperson. In my own training, there was no discussion of anything related to practice or running a business. In those days, circa 1983, you could go out, set up shop and do well. I worked 24/7 building a practice and managing the workload and didn't think of the business. By the early 1990s, it was clear that the environment had changed and that you had to pay attention to business. This led me to business school in 1995, where I learned all of the business basics and wrote a business plan with other doctors. I eventually reinvented myself and my practice with a focus on outpatient spine surgery and have really enjoyed my career ever since.

Continues ►

2) What was the hardest lesson to learn during the course of your career with regard to practice management?

DR. KELLY: To understand what your time is worth and that Medicare, Medicaid, many HMOs and insurance companies are screwing us. It's really simple: (1) Add up all of your expenses (malpractice insurance premium, office rent, secretarial salaries and benefits, etc.) (2) Determine your costs per hour by dividing your annual office costs by the number of hours your office stays open per year. (3) Drop any third-party payer that pays less for a time-consuming service than your per hour costs for doing business. If you actually think that your own personal time is worth something, add in what you think your time per hour is worth.



PATRICK J. KELLY, MD
"Hire good people and let them do their jobs. Cut loose incompetent and lazy people early on. Most importantly, define priorities."

DR. PAYNER: There is never enough time to spend on managing the practice. It is very difficult to give up clinical time or personal time to manage a large neurosurgery group. One must commit to dedicating an appropriate amount of time to spend with administrators and physicians within the group as well as keeping in regular contact with hospital administration. Managing a neurosurgery group is very complex today. The pressure from declining reimbursement, rising costs, and government regulation should be the motivation for carving out time to manage the practice.

DR. POPP: I recognized very quickly that it was hard to "do management" at the beginning or at the end of the day because the necessary people simply weren't around. It's hard to intersperse management activities with clinical responsibilities, so it is important to schedule dedicated time to bring together various team members.

DR. WOHNIS: The realization that you can't be everything to everyone in neurosurgery can free you to be self-directed and proactively choose a career path that suits you. In management of a practice, this realization helps you to keep your focus on neurosurgery and patient care and allows you to hire skilled others to handle the day-to-day particulars of the business.



TROY D. PAYNER, MD
"Create positive relationships with those people who make your day efficient. This applies to the office and to the hospital."

3) What in your experience is the most effective management strategy for your type of practice?

DR. KELLY: Hire good people and let them do their jobs. Cut loose incompetent and lazy people early on. Most importantly, define priorities. Mine are the following: (1) Almighty God; (2) the patient on the operating table; (3) my family; (4) my residents; (5) my neurosurgery colleagues; (6) the nurses who work with me; (7) referral sources; ... and (15) hospital and medical school administrations.

DR. PAYNER: Building consensus to implement change. It is best to discuss an idea first with the people who you think might oppose your plan. By listening to their concerns you can address those issues before they become deal breakers. Once you reach a compromise with them, gaining acceptance from everyone else is easy.

DR. POPP: There are several elements, but all center on people. You need "face time" with faculty members on a regular basis to develop close working relationships, as well as regular meetings with those to whom you report—the dean, hospital director—to effectively represent the faculty to them and to convey hospital policy to the faculty. Training exposes residents to organizational dynamics, and chief residents have a lot of administrative responsibilities. Developing a matrixed way of making it all work is a key to success.

DR. WOHNIS: I've learned to be an enabler and big-picture guru of the practice rather than the person who is doing it all. After I began delegating to skilled others, the practice grew from three to 45 employees.

4) What in your experience is the greatest error you have seen in management of your type of practice?

DR. KELLY: Micromanaging and believing that institutions that demanded your loyalty would actually be loyal to you when push comes to shove.

DR. PAYNER: Waiting too long to deal with a tough situation. I have found time and again after finally dealing with a tough situation that it probably would

have been better to have dealt with it much sooner. Whether it is a behavioral issue or a poor business decision, try to resolve the issue quickly. Often, people want to wait to see if the situation will “work itself out.” This rarely happens in a good way. It’s better to come up with a plan, put it into action and move on. Right and wrong is sometimes a gray area in these situations. I have found that just doing something usually makes the situation more tolerable and generally resolves the issue.

DR. POPP: I get the sense that in some institutions, physicians are perceived as a necessary evil—a pain in the neck and not important to the institution. But there is no example of a hospital administrator who has ever admitted a patient to the hospital. As the business of medicine grows more complicated, decision-makers in medicine frequently are not physicians. Nobody knows more about delivering excellent patient care, however, than a doctor or a nurse. To decipher the insanity that surrounds us, medical professionals who also are educated in and knowledgeable about business are essential.

DR. WOHNS: Micromanagement doesn’t work. I learned the business of neurosurgery—microeconomics, marketing, strategy, management concepts, human resources, accounting, efficient scheduling,



RICHARD N.W. WOHS, MD
“Join a practice that is successful, with good business practices in place and with a vision and business objectives consistent with your own.”

etc.—and was able to micromanage, then realized that doing so would take all my time. I was in neurosurgery to help patients, and to do that I would need to give up micromanagement of the practice. Now my management style is that I understand what everyone’s task is and, while I oversee everyone, I don’t get in their way.

5) What advice would you offer to neurosurgeons beginning their careers on how to plan for success in neurosurgery?

DR. KELLY: Three points:

1. Avoid the big cities initially. Go to places that really need neurosurgeons. Do a bunch of cases. Develop an interest in a part of neurosurgery that few people want (i.e. don’t jump on the bandwagon du jour). Write a bunch of papers. Give a bunch of talks. Become

famous. Then move to the big city.

2. If you take a university job or a job at a large institution, take it with the understanding that they are using you. So you use them to build up a huge case volume at their expense, become famous and then move on.

3. Never make a lateral move (for example from assistant professor at one institution to assistant professor at another institution) unless it’s for one heck of a lot more money or opportunity.



A. JOHN POPP, MD
“To decipher the insanity that surrounds us, medical professionals who also are educated in and knowledgeable about business are essential.”

DR. PAYNER: I feel very fortunate that I have such a strong passion for neurosurgery and that I get to do it almost every day. However, this can make me vulnerable to those who may try to capitalize on my dedication. To be successful, neurosurgeons must leverage their expertise and value. Most neurosurgeons have significant leverage to negotiate with hospital partners, payers, vendors, and other third parties. Always be willing to evaluate and investigate opportunities to enhance market share. Do a thorough analysis of the opportunity. Have a realistic bottom line and walk away if you do not get it. This is sometimes difficult to do, but it is the only way to get the best deal for whatever you are negotiating.

DR. POPP: I would encourage residents to educate themselves on practice management topics and to avail themselves of courses that help them prepare for the real world—which can be a cold, cruel one for those who are unprepared. Socioeconomic courses are offered increasingly by training programs and by organized neurosurgery, including the AANS. Part of the change in the neurosurgical education paradigm is to help residents better prepare for the business of neurosurgery.

DR. WOHNS: Take a practice management course and learn about coding, billing, and financial management. I would not recommend starting out on your own. Join a practice that is successful, with good business practices in place and with a vision and business objectives consistent with your own. You should gauge how well you will get along with potential colleagues on a clinical and on a personal plane. Also, the only thing constant in our specialty is continual change. A formula that works today may not work next year, so you must stay current, be vigilant, and try to do the things you enjoy in large volume. **NS**



Alternative or Better Approach?

Posterior Lumbar Motion Preservation Surgery

The recent announcement of the first posterior total disc arthroplasty in the lumbar spine is sure to shift attention from the anterior lumbar approach for motion preservation to the posterior approach.

In March, a posterior lumbar disc replacement device, the Secure-P (recently renamed Triumph Lumbar Disc, Globus Medical Inc.) was implanted in a 47-year-old woman with chronic degenerative disc disease at L4–L5. The two-piece implant is made of cobalt chrome and ultra-high-molecular-weight polyethylene. The device was implanted after a standard posterior approach and lumbar decompression.

The interview on the next page with Paul McAfee, MD, who participated in the surgery in São Paulo, Brazil, addresses several questions about this type of surgery.

Posterior total disc arthroplasty adds to the growing body of posterior solutions for achieving the goal of lumbar motion preservation, segmental load sharing and effective axial pain relief in those patients who traditionally would be treated with segmental fusions. Competing concepts include preservation of the annulus with nucleus replacements, and lumbar facet replacement technology.

Preservation of the Annulus With Nucleus Replacements

This category includes hydrogels, polycarbonate coiling spirals and metallic devices. Case series of hydrogel implants such as the PDN device (Prosthetic Disc Nucleus, Raymedica) have been reported. A polymer device designed to replace the nucleus in single-level lumbar spine degenerative disc disease (DASCOR Disc Arthroplasty System, Disc Dynamics) is currently in a prospective, multicenter pilot study. A spherical implant available in cobalt chromium or PEEK-Optima polymer (Satellite Spinal System, Medtronic Sofamor Danek) is cleared for use in the United States based on a 510(k) exemption, and its safety and efficacy have not yet been established by prospective, randomized trial data.

Lumbar Facet Replacement Technology

This category includes pedicle screw based implants such as TOPS (Impliant Ltd.), which contains two articulating titanium components connected by a polycarbonate urethane sleeve. The device constrains segmental motion to the neutral zone and thus maintains normative segmental load displacement, presumably diminishing segmental pain generation. TOPS currently is being subjected to a multicenter, double-armed, randomized trial in the United States, and it was approved by the European Commission this summer for use as a motion-preserving alternative to fusion in the treatment of spinal stenosis with or without degenerative facet arthrosis, and spondylolisthesis.

Total Facet Arthroplasty System (Archus Orthopedics) is conceptually similar to the TOPS system. It is based on a pedicle fixation design and constrains segmental motion. In this system, however, pedicle fixation is accomplished with polymethylmethacrylate, PMMA, cement. A prospective randomized trial is currently enrolling patients in more than 20 centers.

Dynamic Stabilization Systems

Dynamic stabilization systems are becoming increasingly available and compete in the same market as the above devices by constraining segmental motion at abnormal, pain generating spinal segments rather than using traditional rigid fixation and segmental arthrodesis. These systems include the Graf ligament, Dynesys Dynamic Stabilization System (Zimmer Spine), Isobar TTL (Scient'x), and Stabilimax NZ Dynamic Spine Stabilization System (Applied Spine Technologies).

Despite the resources being devoted to the development of posterior lumbar motion preservation technology and its clinical trials, it remains uncertain whether this is just an alternative to the standard segmental lumbar fusion with similar patient clinical outcomes or whether this is a superior approach to the treatment of segmental lumbar disease by virtue

of motion preservation. In large part this answer depends on two factors:

■ whether the premature failure of a motion segment adjacent to a fusion is a consequence of rigid arthrodesis or if it represents the natural history of lumbar degenerative disease; and

■ whether the natural history of premature adjacent motion segment failure, regardless of etiology, is corrected by motion preservation surgery. **NS**

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A Surgeon's Experience With Posterior Total Disc Arthroplasty

In this interview, Patrick McCormick, MD, questions Paul McAfee, MD, a surgeon who participated in the first posterior total disc arthroplasty in the lumbar spine using the Secure-P device. Dr. McAfee is a consultant with and receives research funding from Globus Medical Inc.

What is the degree of difficulty in placing the implant? Is it comparable to the time and effort required for a posterior lumbar interbody fusion with fixation?

DR. MCAFEE: It is actually easier. One requires good anteroposterior and lateral fluoroscopy because the final position of the implant needs to be accurately placed in the center of rotation for the motion segment. The other requirement is that the disc can be restored to normal height to get the full range of motion. On only our second case in Brazil, Luiz Pimenta was able to insert the posterior TLIF [transforaminal lumbar interbody fusion] disc replacement through a minimally invasive approach.

Are precise positioning and sizing of the implant critical to the success of the surgery, or is the implant designed to be more forgiving in this regard?

DR. MCAFEE: It is about as forgiving as any other total disc replacement with a floating center of rotation. It would be best to get it within 3 mm of the ideal axis in both anteroposterior and lateral planes. Most surgeons should be able to accomplish this 95 percent of the time.

How does this implant stack up against the anterior lumbar disc prostheses that are currently approved or under trial in the United States?

DR. MCAFEE: This is the most interesting of all of the newest, cutting-edge technologies that were pre-

sented at Robin Young's course at the Spine Arthroplasty Society meeting in Berlin. Of all of Globus' new products, this is the one that most surgeons inquire about because we are all more familiar and comfortable with posterior and posterolateral approaches, away from the friable great veins from the front to the spine.



Secure-P (now Triumph Lumbar Disc, Globus Medical Inc.)

What additional insights and thoughts do you have regarding the prospects for a posterior total disc replacement system becoming a routine option for surgical treatment of lumbar disc disease?

DR. MCAFEE: In my experience the best preview we can really get is to see how well the device takes off in Europe. It will take three to five years to gain FDA IDE-PMA [investigational device exemption-premarket approval] in the United States. In this sorting-out period the spine community can get a preview of how well the prosthesis will perform in the general spine surgeon's hands by seeing how rapid the adoption is in European spine centers in the next three years. As an example, look at how the Bryan cervical disc replacement faded in use in Europe—the lower profile cervical total disc replacement, which did not require a stereotactic frame, rapidly replaced the Bryan in Europe. The lower profile prostheses such as the ProDisc-C [Synthes], PCM [Porous Coated Motion, Cervitech Inc.], and Prestige-LP [Medtronic] took off, whereas the Bryan languished due to its complex instrumentation and the fact that it was not amenable to multiple-level application. This all sorted out in Europe before these devices were formally approved by the FDA for use in the United States.

Effect of a Novel Patient Information Management System on Resident Work Hour Compliance

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Steven C. Fulop, MD

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Abbreviations:

VBA, Visual Basic
for Applications 6.3
(Microsoft); SQL,
Structured Query
Language

Introduction

Compliance with recent restrictions on resident work hours translates to the performance of clinical duties in much less time so that a reduction in operative surgical experience is prevented. The requirement that residents sign out early after taking call necessitates multiple transfers every day of patient information from one resident to another. To accomplish these transfers, large amounts of data must be collected several times per day, concisely summarized for many patients, and efficiently communicated among the residents. Legible and thorough documentation must be maintained

for all patients on the service even though the process can be tedious and time-consuming. Residents are often faced with the distressing choice of prioritizing clinical duties, work hour compliance, or adequate training.

A survey of on-service junior and senior residents at our program revealed that nearly 25 percent of each resident's time is spent acquiring, processing, and disseminating patient information (Figure 1). We believe that this is likely to be true of many residency programs. Streamlined information management therefore should prove to be a powerful tool for residents to maximize efficiency. Most hospitals have mainframe computer systems that store much of the information residents need to access. Laboratory data, microbiology results, cerebrospinal fluid analysis, medications, discharge summaries, radiology and pathology reports, operative dictations, medical history, clinic notes, consultation reports, and much more are freely available to any physician with a sign-on code. However, this information is rarely presented in a form that is easy to access and manipulate for our purposes.

Using VBA subroutines and a series of Microsoft Excel and Microsoft Access databases, we have produced a comprehensive, computerized patient data management system that allows for automatic acquisition and organization of patient information, production of daily progress notes, and maintenance of a long-term database. The time saved by the system in automation coupled with better organization has led to improved efficiency at all levels.

Materials and Methods

Prior to implementation of this system, maintenance of patient information required a user to manually log into the

ABSTRACT

In the era of severe resident work hour restrictions, residents must work with greater efficiency in order to maximize operative training and clinical education. To accomplish this, we created an automated, computerized system to monitor patient information and assist in clinical duties.

We developed a VBA subroutine that allows a microcomputer to act as a hospital mainframe user by simulating keystrokes that would be pressed while looking up patient information. Each screen displayed by the hospital system is copied to a temporary worksheet. The program alters keystrokes based on output just as a human user would, so its operation is completely automated. Relevant data (such as medications and analysis of laboratory, cerebrospinal fluid, and microbiology) of patients on the service are imported into a list that is distributed among the residents. Progress notes are produced using this information. Patients also automatically are added to a long-term database.

Over 12 months, the system accessed the hospital computer 873 times, and 16,305 daily progress notes were generated on 3,468 patients. Resident surveys revealed that time spent daily on checking patient information and documentation decreased from two hours for each activity to 15 minutes and 20 minutes, respectively. All residents surveyed reported improvement in work hour compliance, and a majority reported more time for educational activities and OR participation. Attending physicians also noted improved legibility of documentation and residents' improved knowledge and communication of patient information.

This system allows a large academic neurosurgery service to run more efficiently, with improved communication and work hour compliance.

hospital mainframe and individually access patient records, then produce progress notes and sign-out sheets by hand (Figure 2A). This system automates all these activities using Microsoft VBA, a simplified programming language bundled with Microsoft Office and accessible by pressing alt-F11 from any Office application (Figure 2B). We produced a set of VBA subroutines that allows the desktop computer to act as a hospital mainframe user, enabling a dynamic exchange of information so that the computer can look up patient information without the intervention of a human user.

The program uses a list, arranged on a Microsoft Excel spreadsheet, of medical record numbers of patients for whom information is desired. When a user activates the program, it asks for the user name and password, and from there the process is completely automatic. The "Shell" command is used to open the program that is normally used to access the patient data server, then the VBA command "Sendkeys" is used to simulate

keystrokes that would be pressed in the process of logging into the server and performing appropriate queries for each patient. Each screen displayed by the server is copied to the Windows clipboard using a screen copy command and is sequentially pasted to a temporary Microsoft Excel worksheet. The "Do...Loop Until" command is used to repeat this process until the last screen of patient data is reached. Since the program is able to read what is pasted, a series of "If...Then" sequences can be used to alter keystrokes based on mainframe output, just like a human user would. Once all data is present, the program extracts the requested information, which will be on a predictable location on each screen. This information is pasted onto another worksheet, the temporary worksheet is cleared, and the process is repeated for the next patient using a "For...Next" loop until the end of the list of patients is reached. If the institution has multiple servers managing patient data, several subroutines can be used to access each server individually to extract

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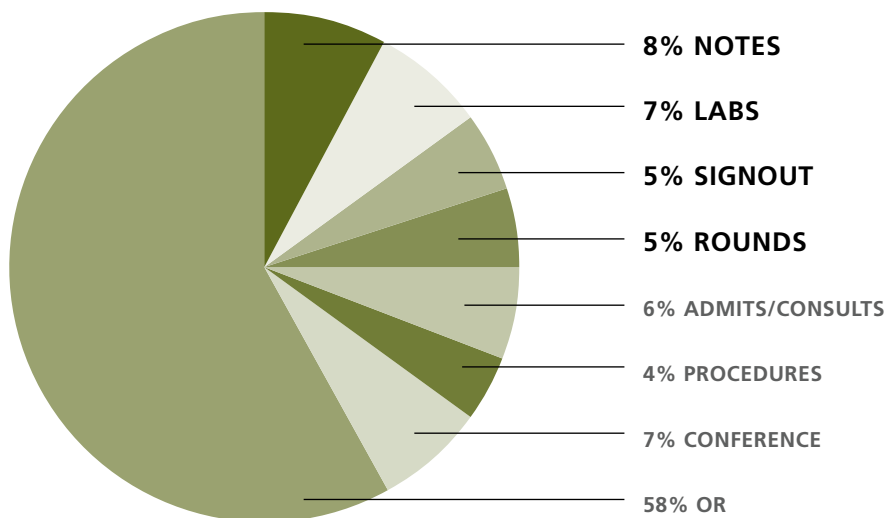
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Key Words:
resident work hours,
electronic medical
record, patient data
management, information technology

FIGURE 1

Initial Resident Survey: How Was Time Spent?



Initial resident survey of time allocation (exclusive of on-call time). Patient information management consumed one quarter of each resident's time.

PEER-REVIEWED RESEARCH

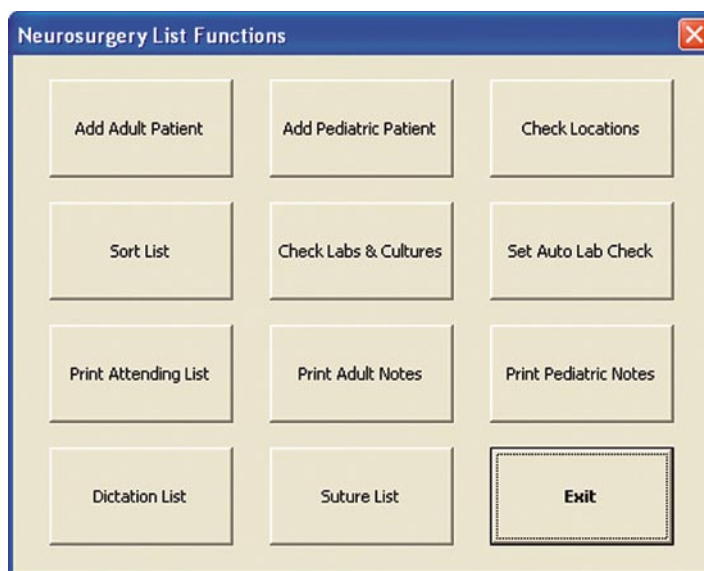


FIGURE 3

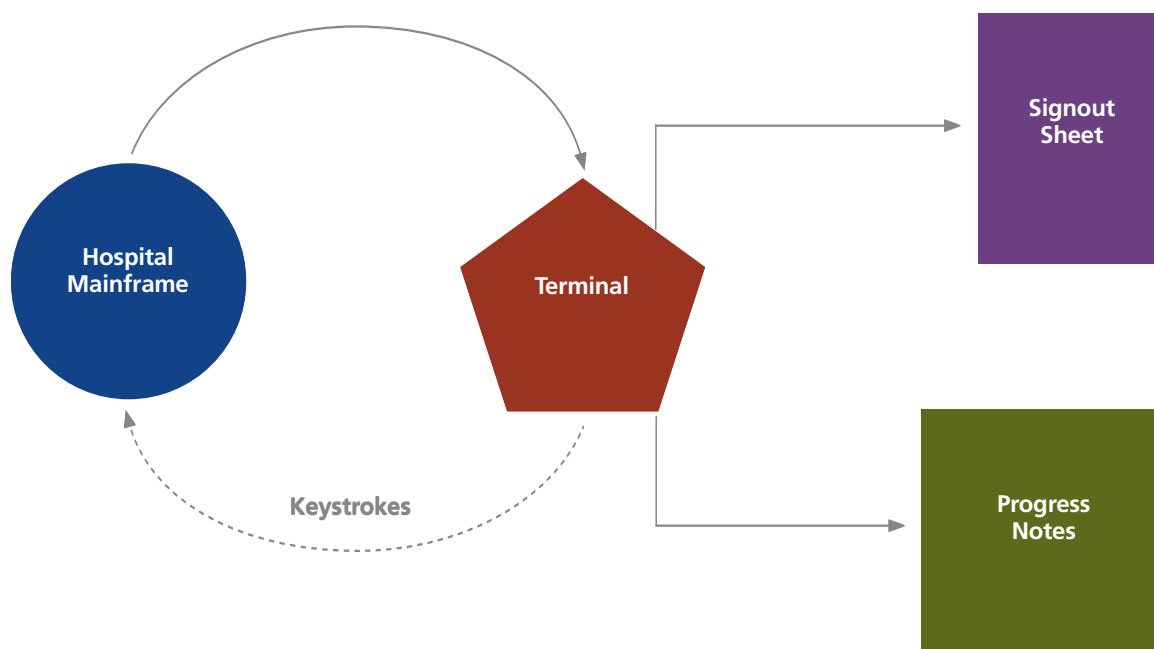
List interface. Each button automatically performs a task that was previously performed manually.

information from each one. This paradigm can be used to retrieve any information on a hospital mainframe that would ordinarily be available to an end user, including laboratory values, culture results, current patient location, medications, radiology reports, pathology reports, discharge summaries, operative dictations, and so forth.

Using Microsoft Excel, we developed a single page, self-updating, automated master list that contains information in tabular format about all patients on the service. The list reports every patient's name, location, medical record number, age, attending

FIGURE 2

Schematic of Information Management Techniques



2A. The traditional method requires manual data entry and processing.

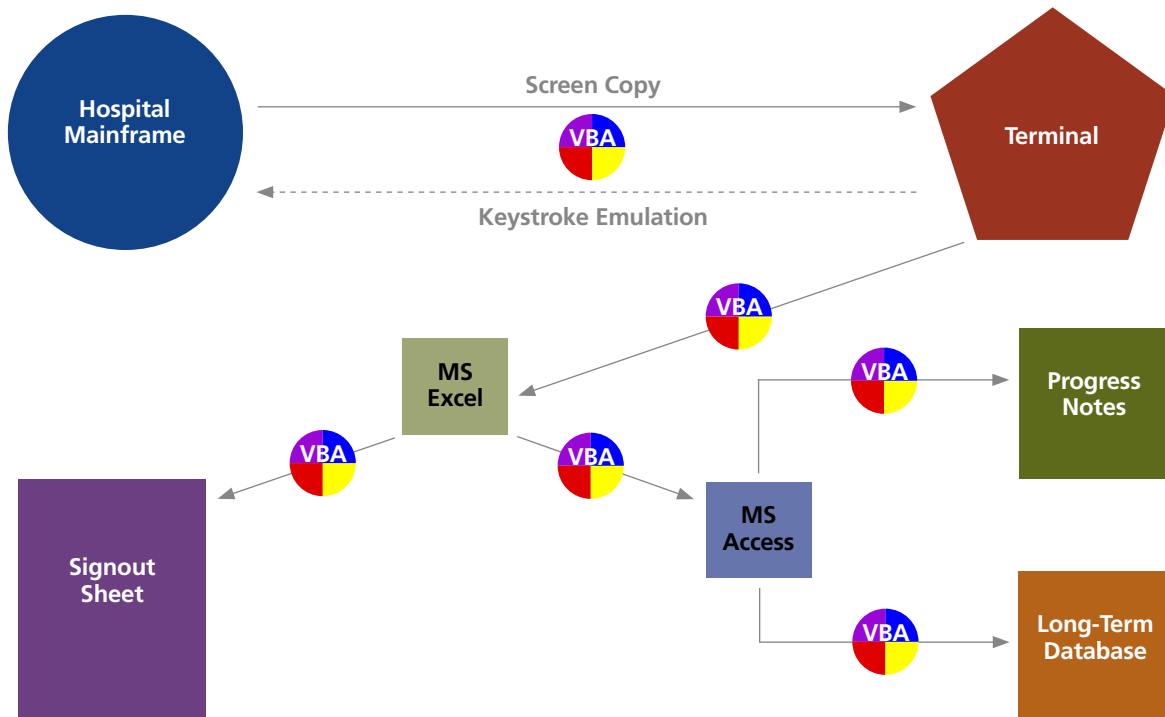
physician, dates of admission and surgery, brief assessment of clinical history, current medications, culture results, and recent laboratory values, including cerebrospinal fluid analysis. The list automatically updates all information available from the hospital computer at least once a day (automatically before rounds) or by pressing a button. At typical system speeds, the automated interface is able to process data for approximately 900 patients per hour, which allows complete update of a census of 50 patients in less than five minutes. The list provides a concise, single-page report about the entire service that can be used as a pocket reference and as a basis for transfer of service responsibility, reducing errors of communication at handoff points. Other subroutines allow printing of specialized reports, such as patient summaries that contain only information that is of inter-

est to a specific attending physician.

Daily progress notes are produced using a Microsoft Access report that extracts information from a table imported from the master list. These progress notes include all pertinent information from the list as well as blank spaces where subjective patient information, vital signs, physical examination and plan can be hand-written. A single keystroke is all that is required to print all of the progress notes in order, sorted by location. The master list also is used to automatically maintain a long-term Microsoft Access relational database of patients discharged from the service. Every day an SQL query that tracks the master list automatically runs and adds to the database any patients that have been removed from the list since the previous day. All of these functions are controlled by a master interface that runs within Microsoft Excel

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PEER-REVIEWED
RESEARCH

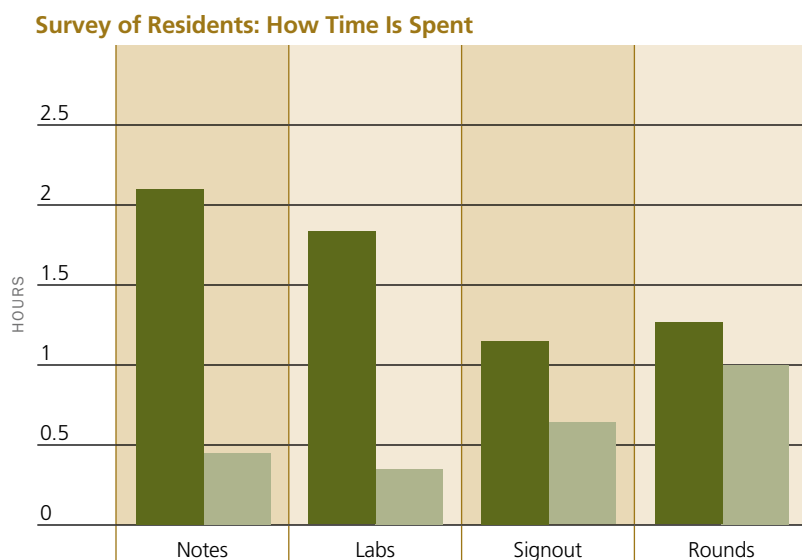


2B. The VBA paradigm is completely automatic.

PEER-REVIEWED
RESEARCH

FIGURE 4

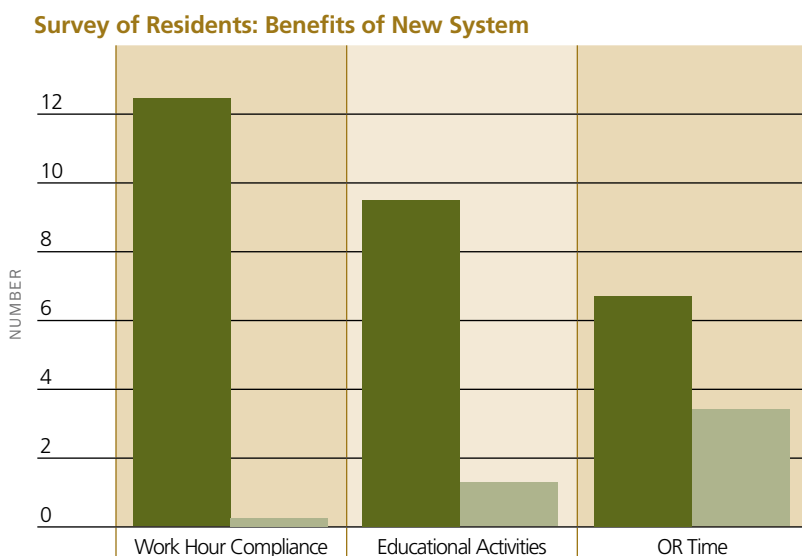
BEFORE AFTER



Residents were asked how much time they spent on various activities before and after implementation of this system.

FIGURE 5

YES NO



Residents were asked whether the new system helped with work hour compliance, educational activities, and OR time.

(Figure 3). One keystroke adds or removes patients, updates admission status and patient location, checks laboratory and culture results, prints notes, and so on.

Results

During the first 12 months after implementation, the system accessed the hospital computer 873 times to ensure that information on the master patient list was always accurate. Over the same period, 16,305 daily progress notes were automatically generated on 3,468 patients. A survey of junior and senior residents on the service revealed that average time spent checking patient information decreased to 15 minutes from nearly two hours per day, and time spent with documentation decreased to 20 minutes from over two hours per day (Figure 4). Time spent on rounds and signing out also decreased, largely because of better organization. All residents surveyed reported that work hour compliance improved as a direct result of this system, and a majority felt that operative and educational experience was enhanced as well (Figure 5). A survey of attending physicians revealed that all felt communication had improved, and a majority noted an increase in legibility of documentation and knowledge and communication of patient information among the residents (Figure 6).

Data for thousands of patients has been added to the long-term database, allowing us to search for previous admissions, summarize patient characteristics, and statistically analyze operative case-load, length of stay, patient outcomes, and other information. We have also been able to process very long lists of patients obtained from other databases to screen discharge summaries, operative dictations, clinic notes, and radiology and pathology reports for research purposes. Operative experience for individual residents has been assessed by searching for assistant surgeons in operative dictations. Long-term analysis of patient characteristics has been accomplished by searching for final diagnoses on discharge summaries. All of these functions are managed

by the computer with minimal need for manual data entry or manipulation, so there has been significant savings of time and effort.

Discussion

As neurosurgical training practices continue to evolve, residents must work with ever-increasing efficiency to prevent a tradeoff of education for work hour compliance. This novel computerized patient management system has been an effective tool to accomplish that goal at our institution. Accurate patient data is now readily available and easy to communicate, and every resident on the service has access to a large amount of timely information without having to gather it manually. Improved information management has led to better task organization and has streamlined the process of rounding and signing out. As a result, compliance with mandated resident work hours has been greatly facilitated.

There has been a significant improvement in the quality of documentation since this system was implemented. Each resident now can write several dozen comprehensive and legible progress notes in a very short period of time, and since all information is centralized and coordinated to the master list, there is minimal risk of error by miscopying or omission. Furthermore, since the note template has been approved by attending physicians and case managers, notes generated by even the most inexperienced residents are more legally sound, facilitate more accurate coding, and are more helpful during emergencies, when the chart particularly is an important source of patient data. Chart review also has become much easier because each patient's hospital chart now contains reports of daily assessments that are consistently systematic, legible, and thorough.

The ability to integrate mainframe data with local relational databases has proven to be a powerful data gathering tool for other purposes, such as determining the number and types of operations performed and providing a backup for other systems that track operative

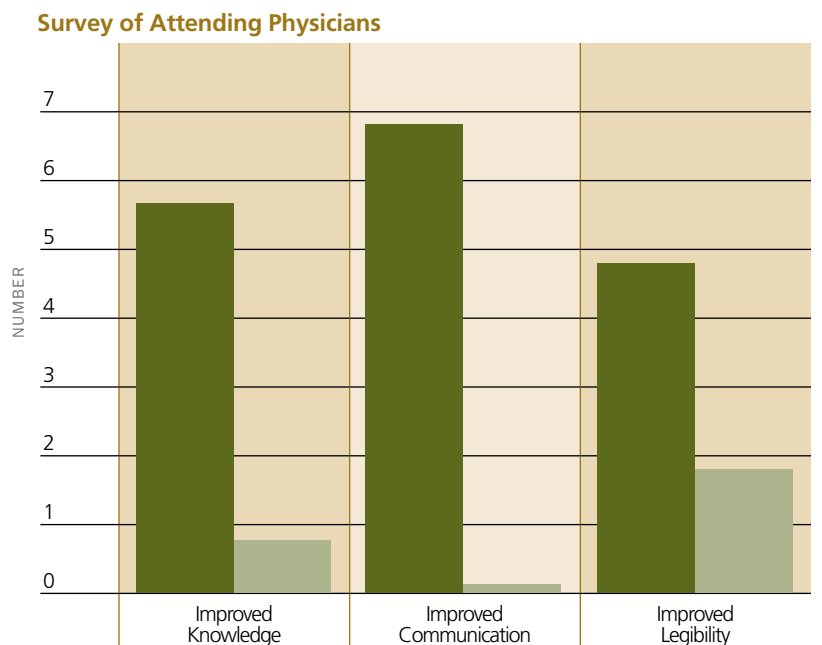
data. We also have been able to access large numbers of operative reports and discharge summaries going back several years for statistical analysis of patient characteristics and outcomes. This system costs no money to implement and can be integrated with almost any hospital computer interface as long as the information is accessed via keystrokes and displayed on the screen.

Conclusions

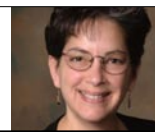
We have shown that a series of relatively simple programs written using widely available software can eliminate the redundancy of data entry, enhance speed of patient data acquisition, and improve the content and legibility of patient notes. Properly implemented, this new computerized patient information management system has the potential to allow a large academic neurosurgical service to run more efficiently, with improved communication and work hour compliance. **NS**

PEER-REVIEWED RESEARCH

FIGURE 6



Attending physicians were asked whether the new system improved residents' knowledge, communication and legibility of documentation.



Postoperative Anticoagulation

Toward Consensus: Case Presentation

The following case presentation is the first in a series designed to build consensus on everyday neurosurgical challenges in which class I evidence is not available and may never be available.

After reading the scenario, please submit comments to aansneurosurgeon@aans.org with Gray Matters: Postoperative Anticoagulation in the subject line. A synopsis of all responses will be published in the next issue. If you also would like your individual comments to be considered for publication, please include your full name, city and state in the body of the e-mail message.

Postoperative Anticoagulation for a Patient with Surgically Treated SDH and Intermittent Atrial Fibrillation

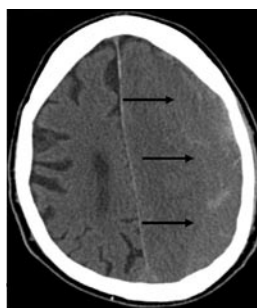
The patient is a 77-year-old male on warfarin treatment with a history of symptomatic, intermittent atrial fibrillation who had fallen out of bed several weeks prior. He presented to the ER with worsening headaches. While driving he had experienced several near-accidents, and he had been involved in a fender-bender the day before admission. In the ER he was awake but intermittently inappropriate.

Neurological examination revealed a right-sided drift in both the upper and lower extremities. He also had a mild expressive aphasia and a right-sided neglect. The CT scan showed a large left-sided isodense and hyperdense subdural hematoma with significant mass effect. The effect of his warfarin was reversed prior to surgical evacuation of his subdural hematoma. The patient did well postoperatively, returning to his normal neurological status within 48 hours of surgery. The postoperative CT scan showed good evacuation of his hematoma.

QUESTION: When and how should anticoagulation be restarted postoperatively in a patient with a surgically treated subdural hematoma and a symptomatic condition (intermittent atrial fibrillation) requiring this treatment?

Considerations

No class I evidence exists to fully answer this question. The risks of thromboembolic complications related to atrial fibrillation are well documented (5).



Significant work has been done documenting the use of anticoagulation as prophylaxis for deep venous thrombosis after cranial surgery (1, 2). In addition, there are many studies on full-dose anticoagulation after orthopedic procedures such as implantation of a hip prosthesis (4, 7), though clearly the consequences of postoperative bleeding are different than those after cranial surgery. Two studies in rats directly studied this question and reached different conclusions regarding safety and the number of days after surgery to begin anticoagulation treatment (3, 6). **NS**

Deborah L. Benzil, MD, is associate professor at New York Medical College and a neurosurgeon at Westchester Spine and Brain Surgery PLLC, Hartsdale, N.Y.

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SEND YOUR COMMENTS

- E-mail Address: aansneurosurgeon@aans.org
- Subject: Gray Matters: Postoperative Anticoagulation
- A synopsis of all responses will be published in the next issue. If you also would like your individual comments to be considered for publication, please include your full name, city and state in the body of the e-mail message.

INSIDE Neurosurgeon

News of Neurosurgical Organizations

Inside Neurosurgeon focuses on the news and views of the AANS and other neurosurgical organizations. A sampling of this section's contents is listed below. AANS Neurosurgeon invites submissions of news briefs and bylined articles (please include author's full name and brief biographical information) to aansneurosurgeon@aans.org.

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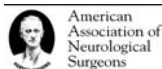
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AANS President's Perspective



The Business of Education

Jon H. Robertson, MD

The core mission of the AANS is to provide the highest level of educational opportunity for its membership. The educational experience may range from insight into the molecular basis of a neurological disease to mastering the complex business aspects of neurosurgical practice. The educational needs must be addressed for all categories of membership, and for neurosurgeons the educational offerings must meet the requirements of the Accreditation Council for Continuing Medical Education and of the American Board of Neurological Surgery for its Maintenance of Certification program.

The process by which AANS educational products are developed and delivered to our members is of great importance. Yet the average member will attend the *AANS Annual Meeting* without any concept of the year-long organizational effort that must take place to have a successful meeting. Similarly, many readers enjoy the outstanding quality of the *AANS Journal of Neurosurgery* with little thought of the enormous amount of time devoted by the volunteer editorial board members and the devoted professionals in the *JNS* editorial office.

An understanding of the process required to produce successful medical educational products is sure to spark increased appreciation for them as well as for the volunteer AANS members and professional staff that develop and produce them. The proposal for a new educational product may originate from an individual AANS member or committee. The capital required to support the process is derived from the finances of the organization and the collective value of the time contributed by physician volunteers. Production of the new medical educational offering at the hands of AANS professional staff follows a business plan with oversight from our organization's leadership. The measure of the educational product's success will not be determined primarily by its profit margin, but instead will be gauged by the level of satisfaction of our valued members for the high standard of quality that the product embodies.

Because of the strong AANS infrastructure for education, our organization is able to provide educational experiences all year long. A selection of our educational products includes the *AANS Annual Meeting*, the *Journal of Neurosurgery*, *Neurosurgical Focus*, *AANS Neurosurgeon*, preparation courses for ABNS Oral Board Examination and MOC, socioeconomic courses, neurosurgical resident hands-on educational courses, and joint sponsorship of many neurosurgical meetings for continuing medical education credit.

In fiscal 2008 the AANS will directly sponsor no less than 22 educational meetings and courses with a budget of \$4.5 million and expected net revenue of \$2.2 million. In addition, the AANS will produce online CME courses, including the learning modules and CME for *Neurosurgical Focus*, and will jointly sponsor a multitude of meetings and courses.

Several of our educational offerings require the financial support of industry.

Continues ►

Jon H. Robertson, MD is the 2007–2008 AANS president. He is a practicing member of the Semmes-Murphey Neurologic and Spine Institute in Memphis, Tenn.

► Continued

To address concerns regarding conflict of interest, the AANS Guidelines for Corporate Relations were developed in 2004. These guidelines specify complete control by the AANS of all aspects of an educational product when industry sponsorship is involved.

An example of what is involved in the production of a successful AANS educational program is the recently developed group of hands-on educational courses for neurosurgical residents. With the financial support of corporations through the AANS Pinnacle Partner Program, AANS resident members are able to experience outstanding educational experiences with all expenses paid. Before the first three courses were held in 2006, the AANS Development Committee in a three-year process built the appropriate relationship between the AANS and

industry sponsors. The process included establishing the AANS Guidelines for Corporate Relations, holding numerous meetings to identify potential industry sponsors, planning and developing the educational courses, determining course budgets, and informing AANS resident members of the educational opportunity. Including the five resident courses completed in 2007, over the past two years approximately 250 neurosurgical residents have participated in these educational activities, and the cost of nearly \$750,000 was paid entirely through industry sponsorship.

The quality, variety, and timely production of AANS educational programs reflect a dynamic organizational effort to address the ever-changing needs of today's members to their satisfaction. This is a business that cannot fail. **NS**

AANS Policy Statement Neurosurgeons and Industry

(Approved by the AANS Executive Committee on July 13, 2007)

Background Facts

Industry and medicine have long worked hand-in-hand toward the advancement of technology. In 1926, Harvey Cushing, the founding father of neurosurgery, collaborated on development of the monopolar cautery, known as "the Bovie," with W.T. Bovie, a professor of biophysics at Harvard University. Many of contemporary neurosurgery's technological breakthroughs have come about as a result of the neurosurgeon-industry relationship. Neurosurgeons by themselves simply do not have the resources or capability to develop the devices, take them through the regulatory process, and bring them to widespread commercial use.

The numerous neurosurgical innovations over the last century have improved treatment efficacy and patient outcomes for many neurological conditions and diseases. Today, these medical advances are recognized as lifesaving interventions that have positively impacted thousands of patients. Some of the neurosurgical advances that have been made possible through the surgeon-industry collaboration include:

- Stereotactic radiosurgery (gamma knife, LINAC)
- Minimally invasive spine surgery
- Endovascular therapy
- Carotid angioplasty and stenting

- Deep brain stimulation and vagus nerve stimulation
- Imaging technology (MRI and image-guided surgery)
- Computer-assisted surgery
- Cortical language mapping

Policy

1. The AANS believes that the ethical care of patients is the highest priority for neurosurgeons and embraces this philosophy through its leadership and its public/professional programs.
2. The AANS understands that there may be contractual relationships between physicians and device manufacturers, and that these relationships have a potential for creating bias.
3. Those members who have payment or contractual relationships with industry are required to disclose the relationship prior to any educational presentation.
4. The AANS has taken deliberate steps to prevent industry from unethical influence within the organization, its sponsored educational meetings, and its patient and public education initiatives, precluding biased promotion or support of medical devices, procedures or practice recommendations. The AANS has formulated guidelines that regulate the relationship between the organization, its members, and the medical industry.

This statement can be accessed online at www.aans.org, article ID 45795. **NS**

AANS Answers



AANS Corporate/Leadership Council Fosters Collaboration

July Meeting Represents Dual Milestone

Thomas A. Marshall

The evolution of the relationship between the AANS and its corporate partners reached a critical milestone this past July with the first formal meeting of the AANS Corporate/Leadership Council. This inaugural meeting, held in Chicago, heralded a new dimension in identifying equal needs by both groups and the willingness to explore methods to proactively address those needs.

The recognition of how industry support of neurosurgery helps to satisfy the AANS mission has always been in evidence, most visibly in the exhibit halls of annual meetings and at AANS educational courses as well as other offerings throughout the year. However, this recognition occasionally has been obscured by more immediate organizational priorities that may have made the gratitude the AANS has always had for the support of its corporate partners more difficult for them to recognize.

Such was the case in the first years of this decade when the AANS undertook a complete reinvention of itself that addressed its physical infrastructure (moving its Executive Office from Park Ridge, Ill., to Rolling Meadows, Ill., in spring of 2000 and radically downsizing the organization to eliminate 10 percent of its operating expenses within the next year), its strategic vision (inaugurating a new dedication to and methodology of strategic planning in 2003), the manner in which member services were generated (instituting a revised biannual member needs assessment in 2001), and the resources to deliver those services to its members (via cutting edge technology and in the most cost-effective manner).

While never losing focus of the critical role played by its industry partners, the AANS corporate relations program seemed largely off the radar in the early years of this decade. It wasn't. But the urgent priorities under way then were seen by the AANS as vital to its own transformation into an equally desirable partner that industry could find value in and rely upon. As a flight attendant invokes at the beginning of every flight, "Secure your own oxygen mask before assisting others." Essentially, the AANS needed to make sure that it was a dynamic, stable organization with a vision—in theory and in practicality—before it could expect in-

dustry partners to increase their AANS participation.

Beginning in 2002, the combined efforts of the AANS Development Committee, Long Range Planning Committee, Board of Directors, and AANS leadership and management began the long journey of many small steps of reaching out to partners with a renewed vision of a truly mutually collaborative partnership. The establishment of the AANS Pinnacle Partners program signaled that a key milestone had been reached, and heralded a new recognition by the AANS that its industry partners had needs, beyond recognition of their participation as exhibitors at its annual meetings, which the AANS could address.

AANS leaders visited corporate partners to assess, identify and implement concepts of cooperation and mutual interests. Input gleaned from these visits generated not only a better understanding of each partner's unique needs, business environment and niche, but also pointed to a consistent desire expressed by virtually everyone with whom we met: a more consistent and formal opportunity to interact with AANS leadership.

The most critical step of the AANS corporate partnership program occurred last year: AANS leadership approved the establishment of the Corporate/Leadership Council. The goal was to take what had been learned over the past several years and create a collaborative summit that would address the needs of both AANS member surgeons and the corporate community. Topics to explore for collaboration would run the gamut from current and future trends in neurosurgery to the evolution and future direction of AANS educational offerings.

The significance of the inaugural Corporate/Leadership Council meeting is therefore twofold. It is a milestone in the renewed recognition of the mutual partnership between the AANS and industry, and it marks the "end of the beginning" for the AANS reengineering process which created a dynamic, stable organization with a clear vision. In so doing, the AANS entered into a new realm of effectiveness and advocacy for its members that existed only on flip charts in a hotel meeting room at the beginning of this decade. **NS**

Thomas A. Marshall is AANS executive director.

AANS ANNUAL MEETING

Focus on Learning April 26–May 1, 2008

Patty L. Anderson

The AANS is gearing up for an educational experience that is not to be missed. The 2008 AANS Annual Meeting will take place in the heart of the United States, Chicago, a city rich in architecture, museums, cultural activities, sporting events, shopping and nightlife.

The Annual Meeting Planning Committee, chaired by Timothy B. Mapstone, MD, has developed a memorable program that taps into the cultural wealth that Chicago has to offer. The Grand Ballroom at historical Navy Pier, the most visited attraction in Illinois, provides a dramatic backdrop for the opening reception. In addition, the Chicago Historical Museum and the Metropolitan Club on the 67th floor of the Sears Tower are among the sites that meeting attendees will have the opportunity to enjoy.

The Scientific Program Committee and its chair,



A view of the spectacular Chicago skyline from Navy Pier, where the 2008 AANS Annual Meeting opening reception will be held.

E. Sander Connolly, MD, have worked diligently to energize this year's program with new offerings, and will introduce all poster presentations in electronic format. As an added benefit, any meeting attendee who registers for a practical clinic or breakfast seminar will receive a CD-ROM of all handouts for all of the practical clinics and breakfast seminars. While the special lecturers are being finalized, the committee has selected several new topics to be offered during the convention week.

New Breakfast Seminars

- 101 Quality and Efficiency Measures in an Action Plan
- 106 Epilepsy: New Surgical Treatment and Management Approaches
- 204 History of Neurosurgery and Neurosciences in Chicago
- 308 A History of Pre-Cushing Era Neurosurgery in North America

New Practical Clinics

- 028 Decision Making and the Spine Patient for Nurses, APRNs and PAs
- 035 Medical Certainty and the Medical Expert Witness
- 040 Transfacet Technology: An Alternative to Pedicle Screw Fixation With Interbody Techniques

2008 Cushing Orator

Douglas Brinkley, PhD, the 2008 Cushing orator, is director of the Theodore Roosevelt Center for American Civilization and professor of history at Tulane University.



2008 Cushing
Orator: Douglas
Brinkley, PhD

IMPORTANT DATES

- General meeting registration and housing reservations open Nov. 1 exclusively to AANS members.
- On Nov. 19, general meeting registration and housing open for everyone.
- The advance registration and housing deadline is Monday, March 24, 2008.
- Additional information regarding the 2008 AANS Annual Meeting, including registration and housing reservations, is available at www.aans.org/annual/2008.

D-Day and the U.S. Army 2nd Ranger Battalion (2005), Tour of Duty: John Kerry and the Vietnam War (2004) and Voices of Valor: D-Day: June 6, 1944 with Ronald J. Drez (2004). Most recently, Dr. Brinkley edited and compiled into one volume The Reagan Diaries, which provides striking insight into one of the nation's most important presidencies and sheds new light on the character of a true American leader.

Before coming to Tulane, Dr. Brinkley served as Stephen E. Ambrose Professor of History and director of the Eisenhower Center for American Studies at the University of New Orleans. During his tenure there he wrote two books with the late Professor Ambrose: Rise to Globalism: American Foreign Policy Since 1938 (1997) and The Mississippi and the Making of a Nation: From the Louisiana Purchase to Today (2002). On the literary front, Dr. Brinkley has edited Jack Kerouac's diaries, Hunter S. Thompson's letters and Theodore Dreiser's travelogue. His work on civil rights includes Rosa Parks (2000) and the forthcoming Portable Civil Rights Reader.

He won the Benjamin Franklin Award for The American Heritage History of the United States (1998) and the Theodore and Franklin Roosevelt Naval History Prize for Driven Patriot (1993). He was honored with the Business Week Book of the Year Award for Wheels for the World and was also named 2004 Humanist of the Year by the Louisiana Endowment for the Humanities.

Dr. Brinkley is contributing editor for Vanity Fair, Los Angeles Times Book Review and American Heritage, and a frequent contributor to the New York Times, The New Yorker, and The Atlantic Monthly. **NS**

He received his bachelor's degree from Ohio State University, followed by his doctorate in U.S. diplomatic history from Georgetown University in 1989. He then spent a year teaching history at the U.S. Naval Academy and Princeton University.

Four of Dr. Brinkley's recent publications have become New York Times best sellers: The Great Deluge (2006), The Boys of Pointe du Hoc: Ronald Reagan,

Weekend Update New Course Supports Maintenance of Certification

Vanessa Garlisch

A new AANS course, *Weekend Update: Interactive Review of Clinical Neurosurgery by Case Management*, provides a comprehensive and interactive one-weekend review in support of the American Board of Neurological Surgery's Maintenance of Certification program. Held for the first time in February, *Weekend Update* was well received by the 48 attendees, some of whom were planning to take the first recertification examination in March.

"During this course I learned several very useful items that will impact my patients immediately," commented course participant John Robinson, MD.

Course Features

The course's unique design allows participants to make the most of one weekend's time. *Weekend Update* offers:

- 18.5 continuing medical education credits;
- an entirely interactive format using an electronic audience response system;
- on-the-spot confidential self-assessment;
- broad review and update of clinical neurosurgery using actual clinical cases;
- practice for those preparing for the recertification exam;
- an educational opportunity for those not required to take the recertification exam; and
- an enjoyable weekend for neurosurgeons who like to see interesting cases.

Tumors, vascular, trauma, critical care, pain, spine and pertinent neurology cases were shown by the faculty.

To maximize each attendee's participation in diagnosing and deciding management of the cases presented, a handheld audience response system, sponsored by Codman, a Johnson and Johnson Company, was utilized.

"The audience response system worked out great," commented Julius Goodman, MD, course director. "The participants remained attentive and involved the entire time and, as the faculty gains experience with the method, the result will even be better."

Exhibitors participating in the course included Codman, ALOKA, Lippincott Williams and Wilkins, Micrus Endovascular, and PMT Corp.

Continues ►

Patty L. Anderson is AANS director of meetings.

► Continued

The second *Weekend Update* will be held Feb. 23–24, 2008, in Houston, Texas. Additional details are available at www.aans.org/education/educational/weekend_update_course%2008.asp.

In addition to courses and meetings, the AANS offers several products and services that support the commitment to lifelong learning, and many of them offer continuing medical education credit. The Home Study section of the AANS Web site, www.aans.org/education/home_study_cme_act.asp, provides a current list of these resources. **NS**

Vanessa Garlich is AANS education manager.

Online CME AANS Introduces Four New Online Sessions

Four new continuing medical education courses are available to AANS members through www.MyAANS.org. Each presentation features audio narrative synchronized to the presenter's slides or visual presentation. Available 24/7, these online presentations debate strategies and discuss the latest expert opinions. To access the sessions, log onto www.MyAANS.org and select "online courses/seminars." These courses are free for AANS members; a \$30 CME processing fee applies for those claiming CME. Brief descriptions follow, and complete descriptions are available at www.aans.org/education/home_study_cme_act.asp.

Controversies in the Management of Intracerebral Hematomas

The pathophysiology of spontaneous intracerebral hemorrhage and current treatment options are described. Presenters also discuss ongoing clinical trials for treatment of ICH patients. The session is moderated by Neil D. Kitchen, MD, and features Geoffrey T. Manley, MD, Alexander David Mendelow, and Mario Zuccarello, MD.

Socioeconomic Session: Medicare and Pay for Performance

Presenters provide a Medicare overview as well as the neurosurgeon's perspective, an update on pay for performance, views of Medicare from Congress and the Bush administration, and a question and answer portion. The session is moderated by James R. Bean, MD, and Troy M. Tippet, MD, and features Robert E. Harbaugh, MD, Thomas B. Valuck,

MD, (medical officer and senior adviser, Center for Medicare Management), and Nancey K. McCann (co-chair, Medicare Committee, Alliance of Specialty Medicine).

Socioeconomic Session: EMTALA, Legislative and Regulatory

During this session presenters cover: improving the system of emergency care delivery; the role of the Emergency Medical Treatment and Labor Act in emergency care delivery; neurosurgical emergency coverage in private practice; neurosurgical emergency coverage in academics; fixing the emergency medical system; and legislative and regulatory solutions. Question-and-answer sessions are included. The session is moderated by John A. Kusske, MD, and Alex B. Valadka, MD, and features Deborah L. Benzil, MD, Domenic P. Esposito, MD, Shelly D. Timmons, MD, and Katie Orrico, JD.

Socioeconomic Session: Practice Management Enhancements

Presenters discuss patient-centered paradigms for practice enhancements; building a patient-centered multispecialty neuroscience practice; the benefits of hiring a practice manager; the benefits of adding an imaging center to one's practice; and owning an ambulatory surgery center. A point-counterpoint presentation on physician-owned hospitals and question-and-answer sessions are included. This session is moderated by Gary M. Bloomgarden, MD, and Troy D. Payner, MD, and features Barbara Hurlbert, CMPE, Thomas A. Kopitnik Jr., MD, Craig A. Van der Veer, MD, Stan Pelofsky, MD, and Robert A. Ratcheson, MD. **NS**

New Residents' Web Page Important Information, Deadlines, Now at AANS.org

Time-sensitive information including deadlines for abstracts, fellowships and grants, courses, and more is now aggregated in one place for residents: the Residents area of www.aans.org. The page also details benefits of North American residents' complimentary membership in the AANS and acts as a gateway to Web content such as interactive Online Case Studies and job postings in the Online Career Center.

The direct link to the new Residents page is www.aans.org/residents. **NS**

ADVANCING NEURORESEARCH

Investing in the Future Is a Business Imperative

Please Support the NREF

Griffith R. Harsh IV, MD

Two of the most important considerations of strategic planning for a business are human resources and research and development. Talent and technology are almost always critical determinants of the success of an enterprise. A CEO must attract, nurture, empower and retain talented individuals capable of leading the business in the future. And these individuals must develop the technology required for the company to fulfill its mission.

The leadership of the AANS has long realized the importance of both human resources and R&D. It actively seeks to identify and encourage future leaders of the specialty and it invests heavily in education. The Neurosurgery and Research Foundation, NREF, is one component of the strategic plan of the AANS that addresses both human resource and R&D needs. By providing support to neurosurgeons doing research early in their careers, the NREF attracts, nurtures, empowers and retains promising young scientists with the capacity to develop new technologies that will improve and expand the specialty.

NREF grants to Research Fellows and Young Clinician Scientists encourage pursuit of research in three ways: They diminish the financial imperative for clinical activity, they facilitate acquisition of research training, and they validate the recipient's commitment to research. As a result, neurosurgeons with high potential for research receive opportunity, training, and encouragement.

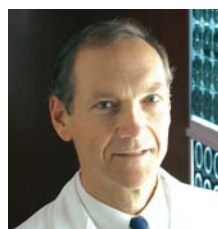
The NREF's superb Scientific Advisory Committee, led by Robert Grossman, MD, rigorously analyzes the attributes and achievements of potential Research Fellows and Young Clinician Scientists, just as would a human resources department of a major corporation conducting a search, to identify those individuals with the greatest promise.

This committee, composed of highly knowledgeable senior neurosurgical scientific experts, also carefully analyzes the scientific merit of each proposed research plan. It draws on vast experience in neurosurgery, science, and objective criticism to select the most promising proposals. Realizing that the future of neurosurgery is dependent upon our ability to advance our understanding of nervous system disease and to develop the technical tools for combating

neurological disorders, it seeks truly innovative projects. Just as a good CEO would, the NREF Scientific Advisory Committee very carefully chooses projects to which to allocate its R&D budget.

Unfortunately, the NREF's budget for investing in human resources and R&D is limited. Although all of the net funds raised goes to Research Fellowships and Young Clinician Investigator Awards, the NREF can sponsor only half of the candidates whose proposals the Scientific Committee considers meritorious. The importance of such investments makes it incumbent on neurosurgeons to provide more funding. It is not uncommon for rapidly growing technological companies to invest more than 50 percent of annual revenues in R&D. Although the NREF aggressively pursues support from partners in industry, it is reliant on gifts from individual neurosurgeons for the majority of its funding.

You will soon be asked, in a letter sent to you or in an addendum to your AANS dues, to voluntarily contribute to the NREF. As you decide to participate, as the CEO of your business, please consider the importance of the investments in neurosurgical human resources and R&D in your specialty that your contribution will allow. We neurosurgeons know better than anyone else how important to our patients and to the future of our profession are continued discovery and innovation. Please give wisely and generously. **NS**



Griffith R. Harsh IV, MD, FACS, MBA, NREF chair and 1986 NREF Research Fellow, is professor, program director and vice-chair of neurosurgery at Stanford University.

Summer Research

2008 Applications Now Available

Applications for the 2008 AANS Medical Student Summer Research Fellowship, offered through the NREF, are being accepted until Feb. 1, 2008. The fellowship is open to medical students in the United States or Canada who have completed one or two years of medical school and wish to spend a summer working in a neurosurgical laboratory, mentored by a neurosurgical investigator who is a member of the AANS and who will sponsor the student. Fifteen Medical Student Summer Research Fellowships, with awards of \$2,500 each, are available. The 2008 application can be downloaded from www.aans.org/otherresearch/med_student_research.asp. **NS**

Meeting of the Minds AANS Corporate/Leadership Council Constitutes "The Team"

Michele S. Gregory

The AANS has worked closely with its corporate partners for years on initiatives related to education and research. Corporate partners have supported practical clinics, breakfast seminars and meeting-related promotional items at AANS annual meetings, while committing financial resources to clinical and practice management courses. The Neurosurgery Research and Education Foundation, NREF, has benefited from corporate partners' generosity in the form of cosponsored research grants since the 1990s.

The relationship between the AANS and its corporate partners has been steady and constant, but something was missing. The AANS Pinnacle Partners in Neurosurgery corporate giving program began in 2004 as a way for these companies to further develop the future of neurosurgical research and education, beyond their typical support. Through their participation in this program, the AANS' vision of offering resident education courses became reality in 2006 with the investment of Pinnacle Partners in these much needed, highly desired educational offerings for neurosurgeons-in-training.

When the AANS Pinnacle Partners in Neurosurgery program began in 2004, AANS leadership had envisioned a forum for the exchange of ideas and open discussion. This idea came to fruition in July, when the AANS Corporate/Leadership Council was formed and held its first meeting. The companies represented at the meeting included Boston Scientific; Carl Zeiss Meditec; Codman, a Johnson & Johnson company; DePuy Spine, a Johnson & Johnson company; Globus Medical; Integra Foundation; Kyphon; Medtronic; Micrus Endovascular Corporation; and Stryker. Representatives from Cordis Neurovascular Inc., a Johnson & Johnson company, and Synthes Spine were unable to attend.

The AANS Corporate/Leadership Council is composed of the AANS president, treasurer, development committee chair and various other members of the association's volunteer leadership as well as top leadership from all 12 of the Pinnacle Partners in Neurosurgery participating companies. They met in Chicago in July with the goal of creating a collaborative environment that responds to the needs of neurosurgeons and the corporate community through discussion of neurosurgical education, research, ad-



vocacy and patient care. The agenda was designed to give participants an overview of the corporate visit program, and the agenda for the first annual meeting

covered current and future developments in medicine and neurosurgery, key success and growth opportunities in the area of education, and current and future directions of neuroresearch.

"The AANS Corporate/Leadership Council is vital to the success of our corporate relations program, and it will play a key role in the future of the AANS' educational and research-related initiatives," stated William T. Couldwell, MD, chair of the AANS Development Committee. "The first meeting of this group provided the foundation for future meetings, which will offer open dialogue, group discussions and one-on-one interactions."

The day-long meeting concluded with meetings between individual AANS leaders and corporate partners. Because the corporate partners and neurosurgeons participating represented nearly all of the neurosurgical subspecialties, these afternoon sessions were informative, generating ideas ripe for implementation. One corporate representative felt the sessions enabled him to "establish a personal relationship with the members of the AANS leadership and better understand their willingness to work closely with corporate partners."

The AANS and its corporate partners are committed to working together to advance patient care and the profession of neurosurgery. This commitment will continue throughout the fall and winter months as AANS leadership and staff visit each company's headquarters, meeting individually with their executives to better understand their specific strategic needs and priorities. Gathering this information will only benefit the group in the future, and we expect this group to be an important part of the AANS corporate relations plan henceforth.

Vince Lombardi once said, "The price of success is hard work, dedication to the job at hand, and the determination that whether we win or lose, we have applied the best of ourselves to the task at hand." The AANS Corporate/Leadership Council is a team poised in its first "season" to succeed in accomplishing great things for neurosurgery. **NS**

Michele S. Gregory is AANS director of development.

AANS General Counsel Retires

Russell M. Pelton Served AANS for 24 Years

After 24 years as AANS general counsel and a career that spanned 44 years, Russell M. Pelton, JD, a partner in McGuire Woods LLP, retired in July. He was a driving force behind the initial development in 1983 of the AANS Professional Conduct Program, which adjudicates ethics complaints involving AANS members and which has been cited by the American Medical Association as an exemplary program.

During his tenure, a case that challenged the AANS program as a conspiracy against plaintiffs' experts resulted in summary judgment in favor of the AANS. The decision in *Austin v. AANS* was affirmed by the U.S. Court of Appeals for the 7th Circuit, with Chief Justice Posner describing the program as a "public service."

"The creation and development of the AANS Professional Conduct Program and the recent adoption of similar programs by many other medical professional societies are among the most satisfying aspects of my professional career," said Pelton.

He is continuing in his role of legal counsel for the AANS Professional Conduct Program, while Michael A. Chabreja, JD, also a partner in McGuire Woods, has assumed the mantle of AANS general counsel.

"For nearly a quarter of a century, Russ Pelton steered a clear course for the AANS through sometimes roiling legal waters," said Thomas A. Marshall, AANS executive director. "While most legal matters now will be in the very capable hands of Mike Chabreja, we are extremely pleased that Russ has agreed to continue lending his considerable expertise to the AANS Professional Conduct Program."

As a senior corporate litigator, Russell Pelton tried more than 150 cases to verdict, representing a variety of corporations, professional associations and insurance carriers. He amassed considerable experience in representing medical professional associations, both in litigation and in a counseling capacity. He is a member of the bar of Illinois and of the U.S. Supreme Court as well as of the Chicago Bar Association, the Illinois State Bar Association, the American Bar



Association, the Illinois Society of Trial Lawyers, in which membership is limited to 250 lawyers, and the American Society of Medical Association Counsel.

He is a graduate of DePauw University in Greencastle, Ind., and the University of Chicago Law School in Chicago, Ill. After law school he served as a judge advocate general officer in the U.S. Air Force, leaving active duty with the rank of captain.

His record of community involvement is no less impressive. **NS**

GOVERNANCE

AANS Disciplines Three Members

At its meeting April 13 in Washington, D.C., the AANS Board of Directors approved the recommendations of the Professional Conduct Committee that three members be disciplined for unprofessional conduct while appearing as expert witnesses in medical malpractice lawsuits. The three disciplinary actions, two censures (reduced from the PCC-recommended six-month suspensions) and a three-year membership suspension, are listed below.

■ **Richard M. Bergland, MD—Three-Year Suspension of Membership** The Board of Directors concluded that in his testimony Dr. Bergland demonstrated inadequate subject matter knowledge, testified as an advocate rather than as an unbiased witness, and failed to respond appropriately to legitimate and properly framed attorney questions.

■ **P. Jeffrey Lewis, MD—Censure** The Board of Directors concluded that in his expert opinion report, Dr. Lewis acted as an advocate rather than as an unbiased neurosurgical witness, failed to represent the full range of neurosurgical care, and failed to adequately review a relevant document (the attorney-drafted opinion report) before signing it.

■ **John B. Payne, DO—Censure** The Board of Directors concluded that Dr. Payne had violated section B-2 of the Rules for Neurosurgical Medical/Legal Expert Opinion Services when, without having seen all of the relevant imaging studies, he wrote an attorney that a prior physician's surgery had been unindicated and at the wrong level. **NS**

FOR MORE INFORMATION

- AANS Code of Ethics, www.aans.org/about/aanscodeofethics.pdf
- Rules for Neurosurgical Medical/Legal Expert Opinion Services, www.aans.org/about/membership/Rulesfor_LegalExpertOpinionServices.pdf

Mentoring Program AANS Matches Residents with Seasoned Neurosurgeons

The AANS Mentoring Program matches a seasoned neurosurgeon mentor with a resident, complementing what the resident's program director is currently providing to the resident with an additional perspective. The match is based upon the most important criteria deemed by the resident, such as type of practice—private, academic, military—geographic location, and subspecialty.

More information for residents is available at www.aans.org/residents/mentoring.asp. Board-certified neurosurgeons who would like to be mentors and are at least five years out of residency can contact Vanessa Garlisch, AANS education manager, at (847) 378-0550 or vlg@aans.org. **NS**

Success Stories A Good Story Helps Patients Understand

Demonstrating to the public how neurosurgeons treat disorders such as aneurysms, spina bifida, Parkinson's disease, craniopharyngioma, trigeminal neuralgia and hydrocephalus is the aim of AANS Neurosurgical Patient Stories. The compelling success stories posted on the AANS Web site help educate the public in a personal and accessible way about a wide range of neurological disorders and the role of the neurosurgeon in treating them. Stories that are submitted are edited and then vetted through the patient's neurosurgeon to ensure medical accuracy. Patients whose stories are posted receive a \$50 honorarium as a small token of appreciation. A promotional flyer can be printed from www.neurosurgerytoday.org/what/patientstory, and stories are published at www.neurosurgerytoday.org/what/neurosurgical_patient_stories.asp. **NS**

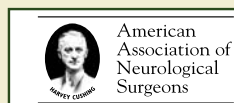
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CSNS REPORT

State Societies Making a Successful Meeting

Mick Perez-Cruet, MD

While neurosurgeons are few in number, neurosurgery represents a vital and extremely important medical resource. A state neurosurgical society strengthens the network of neurosurgical professionals at a grassroots level. High-quality state neurosurgical society meetings can build cohesiveness for neurosurgeons in a community, help to address issues important to those practitioners, and improve their support network. This in turn strengthens the state neurosurgical community and can have a positive effect on a national and even international level.

The Michigan Association of Neurological Surgeons annual meeting in June was successful in large part because it implemented factors that can make any meeting a success: attractive location, interesting and informative program, and inclusiveness. The MANS meeting was held at Mission Point Resort on Mackinac Island, Mich., a beautiful location rated by Conde Nast as one of the top 10 islands in the world. Because neurosurgical practice often limits quality family time, this was a great opportunity for neurosurgeons to earn continuing medical education credits while enjoying the beautiful sites and social events with their families.

An ambience of relaxation and learning was fostered throughout the event. The opening reception site overlooked the famous Mackinac straits, a critical shipping channel connecting Lake Michigan and Lake Huron. The meals during the meeting brought people together, creating opportunities for neurosurgeons to meet and talk with colleagues and find common ground. Meals held near or in the exhibit areas fostered interactions between surgical specialists and industry. Industry sponsorship was critical to the meeting and vendors, who were welcome at every event, could talk to individual surgeons on a one-on-one basis. A golf tournament further fostered this interaction and was tremendous fun.

The academic program was the most important component of the meeting. The theme "Collaborations: Advancing the Neurosciences" represented the meeting's diverse topic matter, the inclusive nature of the meeting, and the development of the state's neurosurgical resources. Neurosurgeons from both academic and private practice were invited to address a range of topics from spine, to skull

base, to endovascular, to pediatrics. The 20-minute talks, plus five minutes for questions and answers, allowed for maximum impact of each topic while holding audience interest. Also invited to speak were surgeons from other specialties that are critical to successful outcomes for neurosurgical patients. These included ear, nose and throat surgeons and plastic surgeons who work in conjunction with neurosurgeons to treat difficult cases. These talks showed the value of collaborative surgical teams in improving patient outcomes. To add to the depth of the program, neuroscience researchers were invited to give talks showing how their collaborations with neurosurgeons could result in groundbreaking neuroscience discoveries.

Out-of-state neurosurgical and medical leaders were invited to participate. Robert Grossman, MD, gave a fascinating personal account of the medical evaluation of JFK following his assassination in Dallas, where at the time Dr. Grossman was practicing at Parkland Hospital. James Bean, MD, gave an eye-opening talk on healthcare expenditures; Stephen Hochschuler, MD, shared his experience with setting up the successful Texas Back Institute, which combines clinical and research excellence; and Rudolf Beisse, MD, from Germany gave a fascinating talk on thoracoscopic surgery. In conjunction with this meeting a meeting of neuroscience nurses was held, and its participants were invited to share in the MANS meeting's receptions, meals, and lectures.

Other critical components of a successful state society meeting are the opportunity to earn CME credits and publicity. Concerning CME, MANS worked closely with the sponsoring institution's educational department to divide much of the administrative work burden. The event also needs to be publicized well in advance to make sure individuals can make time in their busy schedules. MANS asked Quality Medical Publishing Inc. to design the preliminary program, which was mailed to all neurosurgeons in Michigan. A second mailing was done eight weeks before the meeting to encourage additional attendance.

A successful neurosurgical state society meeting strengthens the state society by improving the awareness of its strengths and assets while fostering collaborations and new friendships among neurosurgeon members. Ultimately, a successful state society meeting can improve involvement in organized neurosurgery on both state and national levels. **NS**

Mick Perez-Cruet, MD, MS, is president of the Michigan Association of Neurological Surgeons.

AANS COURSES

Managing Coding and Reimbursement Challenges in Neurosurgery

Feb. 1–2, 2008
St. Pete Beach, Fla.

March 14–15, 2008
San Diego, Calif.

June 27–28, 2008
Chicago, Ill.

Aug. 22–23, 2008
Boston, Mass.

Goodman Oral Board Preparation: Neurosurgery Review by Case Management

Nov. 4–6, 2007
Houston, Texas

May 25–27, 2008
Houston, Texas

Nov. 9–11, 2008
Houston, Texas

Weekend Update: Interactive Review of Clinical Neurosurgery by Case Management

Feb. 23–24, 2008
Houston, Texas

AANS Practice Management Web Conference

Nov. 7, 2007
Online Web Conference

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

Submit your calendar items at www.aans.org/education/meetings.aspx.

CALENDAR/COURSES

November

12-16

Principles and Practice of Gamma Knife Radiosurgery
Nov. 12–16, 2007, Pittsburgh, Pa.
www.neurosurgery.pitt.edu/training/gamma_knife.html

16-17

Minimally Invasive Surgery of the Spine
Nov. 16–17, 2007, San Diego, Calif.
<http://cme.ucsd.edu/spine>

26-1

2007 AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting

Nov. 26–Dec. 1, 2007, Miami, Fla.
www.neurosurgery.org/sections/section.aspx?Section=PD

28-1

Cervical Spine Research Society 35th Annual Meeting and 12th Instructional Course

Nov. 28–Dec. 1, 2007, San Francisco, Calif.
www.csr.org

December

1-2

Craniofacial Surgery and Transfacial Approaches to the Skull Base
Dec. 1–2, 2007, St. Louis, Mo.
<http://pa.slu.edu>

1-3

American Neurosurgery Update in the State of Kuwait
Dec. 1–3, 2007, Kuwait City, Kuwait
(965) 481-8253

3-7

Gamma Knife Radiosurgery Training Program
Dec. 3–7, 2007, Cleveland, Ohio
<http://cms.clevelandclinic.org/neuroscience/body.cfm?id=727>

4-5

UCLA Shaped Beam Radiosurgery Tutorial Course (Advanced)
Dec. 4–5, 2007, Los Angeles, Calif.
<http://neurosurgery.ucla.edu/ConferencesCourses/Current.asp>

4-7

1st Annual Therapeutic Temperature Congress
Dec. 4–7, 2007, Cancun, Mexico
www.ttmcongress.com

14-15

Mount Sinai School of Medicine VIII Advanced Techniques & Technology in Brain & Spine Surgery

Dec. 14–15, 2007
New York, N.Y.
www.mssm.edu/neurosurgery/imageguided

January

17-19

EuroNeuro 2008
Jan. 17–19, 2008
Maastricht, Netherlands
www.euroneuro.edu

18-20

2008 AAN Winter Conference
Jan. 18–20, 2008
Miami, Fla.
www.aan.com/go/education/conferences

Educational activities shown in red are jointly sponsored by the AANS. More educational activities are shown in the comprehensive and interactive Meetings Calendar at www.aans.org/education/meetings.aspx.

Spinal Surgery Fellowship July 2007 & 2008

Twelve month combined research and clinical fellowship in spinal disorders for individuals completing neurosurgical residency and contemplating academic careers. Exposure to a large volume of tumors and fractures at all levels of the vertebral column, including decompression and fusion techniques and spinal instrumentation. Extensive experience in management of degenerative diseases of the spine.

Research opportunities include biomechanics, neurophysiology of the spinal cord, and spinal cord regeneration. Extensive clinical research opportunities also exist.

Individuals interested in pursuing this fellowship should send inquiries to:

Dennis J. Maiman, MD, PhD, Professor
Department of Neurosurgery
MEDICAL COLLEGE OF WISCONSIN
9200 W. Wisconsin Ave., Milwaukee, WI 53226
414-805-5410
Email: denmaim@mac.com



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Is Fellowship Training for You?

Consider Quality of Life and Financial Factors In Your Decision

One important decision to be made near the end of residency is whether or not to pursue fellowship training. This can be a difficult decision as it involves multiple factors. Written with my own fellowship experience fresh in my mind, this article will address background on fellowship training, job market considerations, and benefits of fellowship training.

Fundamentally, a fellowship is meant to develop a particular skill beyond the skills that typically are obtained through residency alone. In 2001 the Committee on Accreditation of Subspecialty Training was formed under the aegis of the Society of Neurological Surgeons to provide guidelines regarding fellowship training and to accredit fellowship programs. The committee established several principles; among the more important of these is that neurosurgical residency alone is sufficient for the competent practice of neurosurgical care. The committee defined a fellowship as postgraduate training of usually one year in duration. The committee also affirmed that “enfolded subspecialty training,” dedicated subspecialty exposure during residency, may provide sufficient experience to allow a greater level of subspecialty expertise than would ordinarily be obtained during residency.

Currently there are more fellowships available than there are residents to fill the spots. According to the AANS fellowship directory, there are 205 fellowships available. Of these fellowships, the greatest number is in spine (42), endovascular and interventional radiology (36), pediatrics (30) and oncology (22). Although the accreditation process has been in place for six years, only 18 fellowships, 9 percent, are accredited, and most of them are in pediatrics.

Job Market Considerations

Of the 43 positions advertised in the September issue of the *AANS Journal of Neurosurgery*, 13 mention the desirability of some sort of subspecialty training. Of these, only seven (16 percent) mention fellowship training as necessary for consideration, and these

were for endovascular (five), pediatrics (one) and spine (one) positions. Similarly, of the 129 listings in the AANS Online Career Center, 20 (15 percent) mention fellowship training as desirable, but only 5 percent require fellowship training, again for spine (three), endovascular (two), and pediatrics (two) positions, which appear to be the fellowships most commonly in demand. Furthermore, these “fellowship only” listings were for private practices, possibly refuting the perception that a fellowship is more necessary for academic jobs.

There is also an “opportunity cost” associated with a fellowship, namely the loss of a year’s income. For example, assume you finish residency at 35 years of age and that you plan to work 30 years until you are 65. You make \$50,000 as a fellow, and then take a job for \$300,000 for two years, after which you become a partner making \$500,000 a year until you retire. If you invest 10 percent of your income and achieve a 9 percent return, you will save \$5,988,518 before taxes. On the other hand, if you take the same job directly out of residency, you will save \$6,512,350, a difference of \$523,832—one year’s salary plus interest.

The Case for Fellowship Training

There are tangible and intangible benefits to pursuing postgraduate fellowship training. If you are interested in endovascular neurosurgery, which is not part of the core neurosurgical curriculum at most institutions, a fellowship will be necessary. Also, if your skills or exposure during residency to a certain subspecialty is less than you would like, a fellowship might be a good idea, particularly if your weakness involves a skill that you will need to be successful in general practice, such as spine instrumentation. Lastly, despite the job market as a whole, many residents are not looking generally for a job, but rather for a specific position. In that context, a fellowship may be an absolute necessity or it simply may differentiate

Continues on page 44



When M-O-C Means Y-O-U

What You Need to Know About ABNS MOC

Recent graduates of neurosurgery programs no doubt are well aware that since 1999 the American Board of Neurological Surgery has issued 10-year certificates. Presently 35 percent of all diplomates have a time-limited certificate, and by 2027 nearly all diplomates will need to undergo the ABNS Maintenance of Certification process. Furthermore, although MOC is not required for the majority of neurosurgeons who currently are board-certified, it may become mandated by insurance companies, hospital credentialing boards, and state licensing organizations. For those who already know that they will be participating in MOC and for those whose participation may be required in the future, this article will describe the basic MOC components and how they will be evaluated by the ABNS.

There are four basic components to the MOC process:

1. Professionalism
2. Lifelong Learning and Self-Assessment
3. Cognitive Knowledge
4. Performance in Practice

To show professionalism, every three years the diplomate must document an unlimited medical license, admitting privileges to practice neurosurgery, and have a questionnaire filled out by the chief of staff for the diplomate's primary hospital.

Lifelong learning will be measured by documentation of continuing medical education credits on a three-year cycle. The AANS has a convenient feature at www.MyAANS.org that will track and categorize CME credits. Of a total of 150 CME credits needed for each cycle, 60 credits must be in category 1 while 90 credits can be in category 1 or 2. At least 80 percent of the credits must be neurosurgical in nature, and courses attended must not be sponsored by industry.

International meetings will not count toward the CME requirements for MOC, and at least 60 category 1 credits must come from meetings sponsored or endorsed by the AANS or the CNS. In addition, these category 1 credits can come from study of approved enduring materials such as journals and audio and video products. The remaining 90 credits

Continues on page 44

The screenshot shows the MyAANS.ORG website interface. On the left is a navigation menu with links like Home, Comments & Suggestions, Profile, Census, Balloting, CME, CME Affiliations, Self Reporting, Residency Program, Committees, Directory, Disclosure, Exhibitor's Corner, Mailing List Rental, Joint Sponsorship Application, Member Applications, Online Courses/Seminars, Online Payments, Online Case Studies, Submissions, Resources, Member Media Kit, Lumbar Spine Surgery, Int'l Meeting Form, and Speaker's Corner. The main content area is titled 'ABNS/MOC' and shows a progress bar for 'Progress Toward ABNS/MOC CME Requirements' with a total of 107 / 150 credits. It breaks down the progress: Category 1: 107 / 60 and Category 2 & Category 1 remainder: 47 / 90. Below the bar is a 'View Transcript' button. There are also dropdown menus for 'CME Tracking Entity' (set to ABNS/MOC) and date ranges for 'From' (11/1/2007) and 'To' (11/1/2007), with a 'Show List Online' button. A table on the left lists requirements: Required # of CME Hrs/Year (150 (3 yrs)), AMA/AAO/AAP/ACOG Category 1 Hours Required (60), Certificates Accepted as Equivalent (AMA), and State-mandated CME Content/Additional Notes. At the bottom, there are links for 'View Upcoming CME Offerings', 'View Home Study CME Activities', and 'Submit non-verified CME'. A disclaimer and copyright notice for 2002-2007 American Association of Neurological Surgeons are at the very bottom.

A convenient feature at www.MyAANS.org tracks and categorizes continuing education credits earned toward ABNS Maintenance of Certification. Of 150 CME credits needed for each cycle, 60 credits must be in category 1 while 90 credits can be in category 1 or 2.

Continued from page 43

may come from a variety of sources. Other acceptable sources of category 1 credits include courses and opportunities such as Grand Rounds that are approved by the Accreditation Council for Continuing Medical Education, publishing peer-reviewed articles; presentations at meetings; and recertification by the ABNS. Sources of category 2 credits, which are broad in nature, include consultation with colleagues, teaching non-healthcare workers, online learning and research, and attendance at non-ACCME approved meetings. Self-assessment occurs every three years via the SANS test produced by the Congress of Neurological Surgeons.

Every 10 years, diplomates will take a secure, computer-based, cognitive exam that will focus on general neurosurgery, general neurosurgery plus complex spine, or general neurosurgery plus pediatrics. This test may be taken in years eight, nine, or 10 of the recertification process and will closely match the SANS format. The pass rate for this exam is expected to be very high.

The last component of MOC is the evaluation of performance in practice. Every three years, 10 consecutive key cases (from a list of 14 commonly performed neurosurgical procedures) must be submitted. The same type of case (for example, clipping of a supratentorial aneurysm) must be used during the entire 10-year cycle. The chief-of-staff question-

naire is also pertinent in this section as elements of interpersonal skills, communication, and systems-based practice will be evaluated.

The entire MOC process will be completed by year 10. The process then will start anew in January of the following year.

The MOC process may change as unforeseen issues impact different parts of the process. For instance, the trend toward recognition of subspecialization by other medical boards will need to be addressed by the ABNS. For some diplomates this may entail collection of additional cases and demonstration of specific competence. A consideration for the ABNS will be ensuring that specialty recognition does not devalue the traditional certificate.

MOC clearly is much more than a test that must be passed once every 10 years. In fact, the cognitive exam may be easiest part of the entire process. For additional information and to stay current with MOC developments, I recommend regularly reviewing MOC information at www.abns.org and www.aans.org. **NS**

Lawrence S. Chin, MD, is chair of the Department of Neurosurgery at Boston University School of Medicine and a member of the AANS Maintenance of Certification Committee. Send topic ideas for this department to Dr. Chin, Education editor, at aansneurosurgeon@aans.org. The author reported no conflicts for disclosure.

The author thanks H. Hunt Batjer, MD, chair of the American Board of Neurological Surgery, for his assistance with this article.

RESIDENTS' FORUM

Continued from page 42

you from other candidates seeking the same job.

There also are intangible benefits to fellowship training. Besides surgical skills, a fellowship gives you a different perspective, usually from an institution or individual who is a leader in the field, on your chosen subspecialty and often on neurosurgery in general. Other intangible benefits include learning different business practices, work habits, and meeting new people, all of which can be helpful in your career.

In conclusion, the decision to pursue a fellowship involves both quality of life and financial factors. As with all important decisions, knowing your own needs and goals, having the correct information,

and understanding the direct or indirect benefits are all necessary for making the decision that will most benefit you. **NS**

K. Michael Webb, MD, is a founding partner with NeuroTexas PLLC in Austin, Texas. Send topic ideas for this department to Dr. Webb, Residents' Forum editor, at aansneurosurgeon@aans.org. The author reported no conflicts for disclosure.

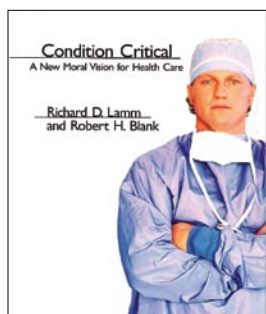
NEW RESIDENTS AREA OF AANS.ORG

Fellowships are among the important and often time-sensitive information now aggregated for residents at www.aans.org/residents. The area offers links to courses, grants, AANS benefits, and other topics of particular interest to residents.



A Vision for U.S. Healthcare

New Book Says Rationing Is Inevitable



Condition Critical: A New Moral Vision for Health Care, Richard D. Lamm and Robert H. Blank, 2007, Fulcrum Publishing, Golden, Colo., 188 pp., \$12.95.

Former Colorado Governor Dick Lamm has produced another book that will make you think. Everyone is talking about healthcare reform but no one should attempt it without reading this book.

Lamm and Blank say that their book is meant to alert America to a coming public policy train wreck. They see three seemingly unstoppable trends on a collision course: (1) the inventiveness of the promoters of medical technology; (2) healthcare providers' allegiance to the Hippocratic

oath; and (3) the healthcare expectations of the American public. A new moral vision is required because taxpayers now fund more than half of healthcare, and resources are limited relative to need. Medicare and Medicaid are not sustainable. Medical science has invested, discovered, and ethically self-imposed more medical care than those who pay for it can afford. Two of the basic foundations of healthcare in the United States—that a patient has a right to expect any and all medicine that is wanted or beneficial to his or her health and that a doctor has the right to prescribe and deliver all the healthcare he or she feels is appropriate—need to be challenged.

Rationing becomes inevitable. Rationing is, of course, already going on in healthcare but the authors do not think that rationing on the basis of insurance coverage or money is an equitable system in our democracy. While other countries have opted to ensure universal coverage but to limit the range of healthcare services, the United States has opted for a system that offers high-technology, comprehensive care that is not guaranteed to all. We should decide on priorities for healthcare spending as compared to education, housing, social welfare, national security, and leisure. The national spending for healthcare has now exceeded \$2 trillion per year and is accelerating rapidly. This is

not sustainable. Eliminating waste, inefficiency and obscene corporate profits will not alone be sufficient to avoid the need for rationing.

Individual behavior and age must be considered in any system of rationing. A vast majority of Americans are responsible for a very small proportion of healthcare spending. Five percent of the population uses 55 percent of the healthcare dollar. One percent of the population spends slightly less than 30 percent of the healthcare dollar. People who engage in high-risk behaviors contribute inequitably to escalating healthcare costs. The authors feel that although people may have a right to design their own lifestyles, if they choose to engage in practices and behaviors that put them at high risk, they should be prepared to relinquish their claim on societal healthcare resources. Eighteen percent of one's lifetime healthcare costs are spent during the last year of life and more than 45 percent of healthcare resources go to the approximately 13 percent of the population that is 65 years of age and older. As financial and ethical pressures mount, the right to die with dignity should be transformed into an expectation and eventually into an obligation.

So, how are we going to accomplish rationing? Lamm and Blank suggest the following seven rules:

1. Healthcare must be universal.
2. The rationing must be transparent and explicit.
3. Assign individual responsibility for ill health due to bad behavior.
4. Assess all new technology.
5. Shift from curative, episodic medicine to education, health promotion, and prevention with emphasis on primary care.
6. Broaden healthcare to include social and economic factors.
7. Dialogue on national goals and future of the republic.

This is not what you want to hear, but don't put your head in the sand. Society does need to talk about these things, and neurosurgeons must lead the way.

Read this book! **NS**

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**Hiroshi Nakano, MBA, Dawn Bisceglia, RN,
and Richard N.W. Wohns, MD**

New Techniques & Technologies in Practice

Ambulatory Surgery Center's Strategies for Success



One of two operating theaters at NeoSpine Microsurgical Spine Center. Teleradiology technology during surgery allows neurosurgeons to consult with radiologists outside the OR while simultaneously viewing the same image.

Minimally invasive techniques and technologically advanced equipment helps neurosurgery patients at the NeoSpine Microsurgical Spine Center to experience shorter recovery times and lower cost surgery than neurosurgery patients who undergo more traditional procedures for the same disorders. This article will discuss some of the surgical techniques, technology, and operating protocols that allow patients to receive spinal surgery and interventional pain procedures safely and economically in this ambulatory surgical center setting.

Everything at the center is directed toward providing the best possible patient care, and those working at the facility are committed to new ideas, tools and techniques. Both neurosurgery and pain management care are offered at the center. While not all pain management patients eventually undergo neurosurgery and not all neurosurgery patients undergo pain management procedures, offering the two services in one place alleviates many concerns for the patients and makes it easier for the staff to coordinate care.

Minimally invasive techniques help patients re-

cover quickly, leading to cost savings that are critical to the overall success of the center. For example, the insertion of percutaneous lumbar pedicle screws and three-level anterior cervical fusions are procedures that have been performed at the center. These procedures can be performed appropriately as outpatient procedures due to the comparatively small incisions and the use of tubular dilators. Use of the dilating tubes enables the neurosurgeons to avoid cutting muscle and nerve tissue that surround the actual site of surgery.

High-Tech Equipment

High-tech equipment at the center includes specialized nerve monitoring equipment that helps to pinpoint precisely the source of a patient's pain. Also, teleradiology technology during surgery allows neurosurgeons to consult with radiologists outside the OR while simultaneously viewing the same image.

A commitment to new technology made in the center's earliest days was the decision to use an electronic medical records system as much as pos-

sible. The EMR documents all phases of the surgery, expedites coding and billing functions, and assists staff in coordinating preoperative and postoperative care when the patient is in the clinic.

Low-Tech Systems That Work

Many of the systems and practices that staff find invaluable as they go about their daily routines are decidedly low-tech. One example is the drug storage system. Developed by staff nurse Angie Parrish, the system effectively tracks drug inventory, usage and control.

To keep the infection rate well under 1.0 percent, the center uses another low-tech technique: vigilance. As at many surgical facilities, an autoclave is used to sterilize all of the instruments, but unlike many such facilities, a biological check, or biocheck, is run on every load. All of the center's instruments also are run through a decontaminator that cleans them using a special enzyme before moving them into the autoclave, and a Bowie-Dick test is conducted each day on the autoclave to ensure that it is working properly.

Overnight Recovery Care

Two recovery care rooms are available for patients, who may remain at the center up to the 23 hours and 59 minutes allowed in Washington state. The rooms are comfortably appointed with wood cabinetry, floor lamps, LCD screens, CD players, books and a Murphy bed that a friend or family member can use to spend the night.

Patients who stay overnight typically remain at the facility when they have undergone a procedure new to the center. The physician who performs the procedure asks the patient to remain overnight just to be certain that any unforeseen complications could be addressed immediately by an experienced healthcare professional. So far, no patient asked to remain at the center for this reason has ever experienced an adverse outcome.

Many other patients who remain at the center overnight stay simply because they have traveled a long way. Out-of-town patients who choose to stay overnight in a hotel rather than at the center are given the beeper number of a physician assistant and

told to use it as needed through the night. Within 24 hours, just like every patient at the center, they receive a postoperative follow-up call from one of the nurses on staff.

Billing and Reimbursement

Approximately 98 percent of the center's patients are covered either by workers' compensation or by private pay agreements. This is because most of the procedures performed at the center treat conditions caused by work-related injuries, repetitive use injuries or congenital disorders. Moreover, most of the procedures performed at ambulatory surgery centers are not reimbursed by Medicare.

Getting insurance providers to pay for procedures performed at the center sometimes has been a struggle. To prove that the procedures could be performed safely and cost-effectively in the ambulatory setting, a few cases were performed without contracts, and the outcomes of those cases along with hundreds of the same type of cases performed in a hospital-based outpatient center were sent to the insurance providers in the region. When insurance providers saw the center's positive patient outcomes and reduced costs, most of them agreed to negotiate contracts. Getting insurance authorizations has gotten easier over time, but even today a staff member occasionally calls an insurance provider to obtain authorization, especially when a procedure is new to the center.

To help demonstrate the center's quality of care to insurance providers, a variety of data are useful. All patients and physicians are asked to provide a wide range of information about their experiences at center, and the data is compiled using a long-term clinical data collection and management tool available from a company in Albuquerque, N.M. Data collection begins when the patient first contacts the center and extends up to two years after the patient's procedure. Benchmarking data also is useful during negotiations with insurance providers. The center benchmarked against national data provided by multispecialty ambulatory surgery centers until its recent merger with NeoSpine and now expects to include specialty-specific indicators that will be even more useful when negotiating with insurance providers and that will help the center better address its own specialized needs.

Neurosurgery is one of the last surgical specialties to move into the ambulatory surgery center setting. Our experience suggests that for many patients, this setting is an excellent option. **NS**



The recovery room has a plasma TV, DVD movies and a built-in Murphy bed for the patient's family member.

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19th Century Doctor Found Proper Time and Place for Profit

Letters to a Young Physician



“If it continues...without alleviation, there is ground to anticipate some more grave disease of the brain.” So wrote James Jackson, MD, regarding patients with headache. His words seem antique and indeed they are, published in 1853 in his book *Letters to a Young Physician Just Entering Upon Practice*.

James Jackson was perhaps the leading doctor in early 19th century Massachusetts. Born in 1777, he became professor of medicine at Harvard Medical School at the age of 35. Together with John Collins Warren he was instrumental in the founding of the Massachusetts General Hospital. Jackson was a prolific writer, including publication in the *New England Journal of Medicine*. In 1836 he published a memoir of his son who had died at the age of 25, on the verge of beginning his own career as a physician. Jackson himself died in 1867 at the age of 90.

While his specific medical recommendations regarding the management of headache, epilepsy, apoplexy, etc. scarcely apply today, much of Dr. Jackson’s advice speaks to us still. He exhorts his “young physician” reader to strive

“for the common good. A desire for profit and reputation might be enough to prompt him to do all this; it would also be good policy. But he will not do it with a full certainty of success if he be not influenced by still higher motives: by a true love of science and humanity.”

Jackson does not insist on saintliness from his physician readers: “We are justified in looking for profit and honor... only we must not be thinking of these when at the bedside. There the welfare of the sick must occupy us entirely... The patient is the central object in the sick-room, or should be so.” (Surgeons might add the OR as well). And as if addressing those who insist that doctors’ fees are the

Massachusetts General Hospital, Bulfinch Building, 1941, Historic American Buildings Survey. Frank O. Branzetti. (Library of Congress)

ruination of our healthcare system, consider that “it is for the public good that [medicine] should hold out due rewards, so as to attract to it young men of talents and sound learning.”

The science of medicine and neurosurgery continues to evolve. We can be sure that in another 150 years most if not all of our current practice will seem as quaint as that of James Jackson appears today. But we can be equally sure that the art of medicine he urged on his readers will remain forever timely. **NS**

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