NEUROSURGERY NEWS

THE OFFICIAL NEWSMAGAZINE OF THE CONGRESS OF NEUROLOGICAL SURGEONS

INSIDE THIS ISSUE

President's Message: Constant Vigil

Mark N. Hadley, M.D., F.A.C.S.
President, CNS

Despite the recent legislation staving off even more severe cuts in reimbursement for services neurosurgeons provide to Medicare recipients (Omnibus Appropriations package H.J. Res. 2), we cannot rest, relax, or become less vigilant. Several other issues confront our specialty and the procedures we perform. Neurosurgeons who provide pain management services are being challenged in several communities because they do not have "certification" to perform pain therapy procedures. Microvascular neurosurgeons who treat patients with intracranial aneurysms have been challenged by interventional radiologists (and the corporations who supply them), who suggest that endovascular treatment of intracranial aneurysms is superior to craniotomy for clipping. The recently published International Subarachnoid Aneurysm Trial (ISAT) study is being touted as "proof" of the superiority of endovascular therapy. And, on perhaps an even greater scale, operative decompression of lumbar spinal stenosis (one of the most common procedures performed by neurosurgeons) has the potential to cease to be reimbursed by Medicare and other third-party insurers. The Spine Patient Outcome Research Trial (SPORT) study, currently underway at 11 U.S. medical centers, will likely find that surgical treatment of lumbar spinal stenosis is of no benefit.

How do we as neurosurgeons respond to these issues? How does your leadership propose to lead our specialty through these mine fields? What can we do against seemingly insurmountable odds and opposition? Neurosurgeons are credentialed to perform pain procedures–aren't we? Endovascular therapy isn't better treatment for intracranial aneurysms than craniotomy for clipping–isn't it? We all know that lumbar decompression for lumbar spinal stenosis is efficacious–don't we? Our challenge is that no one has definitive answers to these questions. Fortunately, you have a national leadership group (myself, from the CNS, Roberto Heros of the AANS, Jim Bean of the Washington Committee, David Jimenez of the CSNS, and the Section Chairs of the seven AANS/CNS Sections) that recognizes that different challenges require multiple, but not necessarily exclusive, approaches and initiatives.

On the pain management issue we asked Jaimie Henderson, M.D., the talented and energetic chairman of the AANS/CNS Section on Pain, to investigate the issue and devise a responsive strategy. We sought the opinions of neurosurgical leaders in the Senior Society and the American Board of Neurological Surgery (ABNS). Dr. Henderson discovered that, while not a widespread practice, several instances existed, primarily in the Northwest, in which neurosurgical members were being denied pain procedure privileges at local hospitals because a hospital's credentialing committees required proof of credentials to perform the procedures in ques-

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Update on Neurosurgery and the War on Terrorism

Ross R. Moquin, M.D., CDR MC USNR, and William T. Monacci, M.D., LTC MC USA

At this hour, neurosurgeons from the Army, Navy, and Air Force are on station, standing ready to care for the brave men and women deployed around the world protecting our nation. As our forces deploy, medical care goes with them. There is a significant number of United States military neurosurgeons currently deployed with our fighting forces away from their homes and families. Operational security prohibits discussion of the names, numbers, or locations of the deployed neurosurgeons; however, a glimpse of cable news will enable one to figure their probable locations.

In scenarios where trauma is a possibility, modern medical treatment facilities accompany the combat forces. The Army and Navy have deployable, expandable hospitals that contain operating rooms that can be set up quickly and are able to function in an area contaminated by chemical or biological warfare. The Army calls these units Combat Support Hospitals (CSH) and the Navy designates these facilities as Fleet Hospitals. Capabilities such as CT scanners, intracranial pressure monitoring, as well as all the surgical tools needed to treat most neurosurgical injuries parallel those available in modern trauma centers.

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Neurosurgery operating room aboard *USNS Comfort*. Notice that all equipment is lashed to the bulkheads and the deck.

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All correspondence on editorial matters should be addressed to:

B. Gregory Thomspon, M.D.
Editor-in-Chief
Univeristy of Michigan
1500 E. Medical Center Drive
Ann Arbor, MI 48109-0338
email: gregthom@umich.edu

President's Message

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tion. Typically, they requested a "certificate," similar to that provided by pain management anesthesiologists. While there are presently one or more (somewhat contentious) requests before the American Board of Medical Specialties to create a separate board of pain management or of pain specialists, to date none exists. The ABNS contends that Board-certified neurological surgeons are trained in the anatomy, physiology, and pathology of pain and painful disorders and are experienced in procedures to treat patients with disabling pain syndromes. Dr. Henderson and the Pain Section took the lead. They prepared a "pain management kit" and forwarded this information to members in need and to the hospitals denying privileges. The "kit" had five components: 1) a restatement of the range and scope of neurosurgical practice by the American Board of Neurological Surgery, 2) a breakdown of "typical" neurosurgical residency time dedicated to the study of pain syndromes and the management of patients who suffer from them, 3) a listing of the spectrum of pain management procedures available to neurosurgeons who provide pain management services, 4) a "how-to guide" to assist the neurosurgeon when interacting with his or her own institution's credentialing committee, and importantly, 5) a consensus neurosurgical "Position Statement" ratified by the Pain Section Executive Committee, the AANS Board of Directors, and the CNS Executive Committee. To date, two of four neurosurgeons, who previously had experienced credentialing difficulties and thereafter were provided these pain management support materials, have been granted privileges. Others will follow.

The ISAT study was recently published in *The Lancet* [360(9342):1267–1274, 2002]. It has been heralded by interventional radiologists, industry, and the media as proof that endovascular treatment of ruptured intracranial aneurysms is superior to craniotomy performed by neurosurgeons for microvascular dissection and clipping. The ISAT study reported a 22.6% risk reduction for patients who underwent endovascular therapy compared with craniotomy for clipping. Intracranial aneurysms and patients who harbor them have traditionally been the primary responsibility of neurosurgeons. Their treatment, often multifaceted and intensive (not just operative), has been the domain of microvascular neurosurgeons. In recent years, neurosurgeons and interventional radiologists have worked collaboratively to optimally treat these patients. Neurosurgeons are now trained in endovascular techniques. A direct challenge appears to have been issued by a subset of interventional radiologists. Your neurosurgical leadership has adopted a multifaceted, unified approach on this issue. First and foremost, we wish to maintain collegial, functional, and professional relationships with our colleagues in interventional radiology. We created a consensus "official response" to the ISAT study investigators and to the editor of *The Lancet*. We carefully reviewed and interpreted the data offered from the ISAT authors and have published a thoughtful and respectful critique. (Recall that the results published by the ISAT investigators referred to only 2,143 randomized patients of 9,278 eligible study patients. Randomized patients were those who had aneurysms felt to be difficult and challenging for treatment by craniotomy and endovascular therapy. In these randomized patients the absolute risk reduction of endovascular therapy compared with craniotomy for clipping was 6.9% [not 22.6%], yet the endovascular therapy patients had a 2.6% rebleed rate at 1 year and required four times as many "posttreatment" procedures as did patients treated with craniotomy for clipping.)

Although it was originally rejected, we pressed hard to get the views of North American neurosurgery published as a formal response in *The Lancet* [361(9359):783, 2003]. Simultaneously, the leadership of the AANS/CNS Section on Cerebrovascular Surgery, led by Chairman Robert Harbaugh, M.D., has reviewed multiple comparative trials examining the efficacy of craniotomy for clipping versus endovascular therapy for the treatment of intracranial aneurysms. The Section advocates neurosurgical support for and participation in the North American Trial for Unruptured and Ruptured Aneurysms (NATURE), jointly developed by the AANS/CNS CV Section, the American Society of Interventional and Therapeutic Neuroradiology (ASITN), and the American Academy of Neurology, due to be submitted to the NIH NINDS in the summer of 2003. Finally, Section leadership and Marc R. Mayberg, M.D., the Chairman-Elect of the Stroke Council, the scientific arm of the American Stroke Association (a division of the American Heart Association), have been able to add neurosurgeon participants to the writing group of the American Stroke Association effort to create "Recommendations for Interventional Neuroradiology Procedures." This latter initiative is essentially a "Guidelines" development process that will define and rank the medical evidence in the world's literature on these important topics. These efforts by neurosurgeons will bring about more accurate, generalizable data on the treatment of intracranial aneurysms and will further refine our specialty and how we practice. Finally, it will help to further define our roles as essential providers of comprehensive, contemporary care to patients who suffer from aneurysmal subarachnoid hemorrhage.

On an even greater scale is the issue of lumbar spinal stenosis. Lumbar laminectomy for decompression of symptomatic lumbar spinal stenosis is a common procedure performed by spinal surgeons in the United States. Primarily a process affecting older patients, the majority of patients treated for spinal stenosis are insured under the federal Medicare system. In 2001, CMS allowed 87,566 claims for CPT code 63047 and 137,138 claims for CPT code 63048, for a total allowed Medicare reimbursement of $86,943,439. Neurosurgeons performed 50% of these procedures and received 50% of the total reimbursement. In 2002, a medical evidenced-based summary on the topic of lumbar spinal stenosis was published by the Agency for Healthcare and Quality (AHRQ). Their review concluded that there is no convincing evidence that surgery for lumbar spinal stenosis provides benefit. It cited a lack of medical evidence for either conservative or surgical treatment of patients with mild, moderate, or severe lumbar stenosis. Unfortunately, no surgical subspecialty has provided Class I or Class II medical evidence on this important issue, despite the great number of patients treated and procedures performed annually.

In an attempt to gain convincing, weighted medical evidence on this issue (and two others, herniated lumbar disc and degenerative spondylolithesis), the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) has funded a 5-year, $13.5-million multicenter study designed and orchestrated by orthopedic surgeons. While scientifically rigid and epidemiologically sound, the study design will bias the results against surgical therapy. For a variety of reasons, including 1) too lenient patient selection criteria, 2) lack of agreement to participation and randomization by patients most likely to benefit from surgery, 3) limited surgical treatment options, 4) inappropriate categorization of patients who crossover (patients who crossover from conservative treatment to surgery and benefit from surgery will be categorized as a "success" of conservative treatment, not surgery), 5) methods of data analysis, and 6) inadequate power for the population of patients entered for study, as well as other reasons, the consensus opinion is that the study will demonstrate that there is "no benefit" from surgery (likely for all three disorders of the lumbar spine, but particularly for patients with lumbar spinal stenosis). A lack of evidence of benefit from a randomized clinical trial of this stature, it is feared, will be interpreted by Medicare and other third-party payers that there truly is "no benefit" from surgery and may lead to reductions or restrictions in insurance coverage for these procedures.

To combat this threat, a consensus strategy was developed by your neurosurgical leadership. In 2001, Paul C. McCormick, M.D., the Chairman of AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, and

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the AANS and CNS leadership met with the SPORT investigators and discussed the above concerns of organized neurosurgery. SPORT investigators refused to modify their study to address these concerns. The AANS, CNS, and the Spine Section have gone on record and provided a preliminary critique of the SPORT study and its potential results. Stewart Dunsker, M.D., chairman of the SPORT Task Force of the AANS/CNS Washington Committee, has submitted this critique for potential publication in our organization-specific journals. The Spine Section, under present chairman Nevan Baldwin, M.D., has gone further. Rather than sit on the sidelines and wait for the SPORT study results and then complain, Spine Section leadership has sponsored a neurosurgery-led spinal Stenosis Outcomes Study (SOS). This study, developed and designed by Paul McCormick and myself, will attempt to provide meaningful outcomes data over an 18-month accrual period of time to combat the results of the SPORT study. We propose a prospective, randomized, two-center study to examine the efficacy of surgical versus nonsurgical treatments in a population of selected "ideal" patients diagnosed with lumbar spinal stenosis. We seek to answer these two questions: 1) Does surgery produce better outcomes than nonsurgical treatment in a patient population with a diagnosis of severe lumbar spinal stenosis? And, 2) what is the rate of patients willing to be randomized to surgical versus nonsurgical treatments? The specific aims of the study are: 1) to test the null hypothesis of no difference in patient-reported outcomes between surgical versus nonsurgical treatments in patients with severe symptoms of lumbar spinal stenosis, 2) demonstrate the feasibility of randomizing ideal patients to a nonoperative treatment arm for a period of up to 3 months, 3) develop a set of standardized management algorithms for the surgical and nonsurgical study arms, and 4) develop an electronic data collection and management system that may be expanded into a multicenter trial. The Spine Section has contributed $40,000 to this important effort and the AANS and the CNS $20,000 each. At the time of this publication both investigators and centers are working through their respective institutional review boards. We expect this initiative to demonstrate that, at least in the subgroup of "ideal" patients with lumbar spinal stenosis, surgical treatment does have merit.

These are but a few of the challenges facing contemporary neurosurgery, neurosurgeons, and our practices. Thoughtful, collaborative, and multifaceted efforts have been designed to address them. Time will tell whether we will be successful. Yet, without these efforts we are doomed to failure and may then lose important aspects of the spectrum of treatments offered by clinicians trained in our specialty. We must maintain constant vigil. □

Terrorism

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Air evacuation capability is an important fixture in combat trauma care. Injured service members are sent to the next echelon of care for either definitive treatment or evacuation back home for rehabilitation. It is important to clear the forward deployed facilities as soon as possible to be able to handle the next wave of injured.

The highest echelon of care facility that is being deployed now is the hospital ship *USNS Comfort* (T-AH 20). She is a reconfigured supertanker that has a 1,000-bed tertiary care Medical Treatment Facility (MTF) built into her. The US Navy hospital ships are truly a marvel and should be considered national treasures. Deploying the hospital ships can be considered repositioning a university hospital wherever you need it. The medical crew is basically made up of the teaching faculty, nursing, and support staff of the National Naval Medical Center, Bethesda, Maryland (one of the three large teaching hospitals run by the US Navy).

Photograph, taken by author, of *USNS Comfort* off the coast of Haiti in 1994 as seen from a US Army Black Hawk medivac helicopter on final approach for landing on her flight deck.

The crew is divided in two parts. Because she is a noncombatant, the ship is run by a civilian master commanding the 63 civilian mariners driving the ship. The MTF has 1,214 crew members who are all active duty and commanded by a senior medical officer.

The ship is 894 feet long and displaces 69,360 tons when fully loaded. Though she is not fast (with a top speed of 17.5 knots), she does have an endurance of 13,420 nautical miles because of her large fuel capacity. As with most of the US Navy fleet, the ship is capable of underway replenishment by air and surface. Her crew life sustaining capabilities are huge. She has four salt-water distillers, each with a capability of making 75,000 gallons of fresh water each day and the ability to store 350,180 gallons of fresh water. There are four very large capacity air conditioners and two oxygen-producing plants.

The ship's MTF is self-contained and functions either pier side or while underway steaming. Patients can be brought aboard via the helicopter flight deck or from other surface vessels coming along side. Patient can also be transferred directly from pier side when the ship is in port. It has 14 operating rooms that are designed to be split in two for simultaneous operation if needed. There are 80 intensive care beds, 400 intermediate care beds, 500 minimal care beds, and a 50-bed Casualty Receiving station. All major medical and surgical specialties are available. All clinical support services found in a major teaching hospital are also available on the ship. There is a very large blood bank with intraoperative cell salvage machines.

Neurosurgeons are aboard *USNS Comfort*, and have the capabilities to perform complex cranial procedures and spinal surgery of all types including instrumentation. The ship is equipped with a state of the art spiral CT scanner, angiography equipment for endovascular procedures, operative microscope, and microsurgical neurosurgical instruments. The ship is also equipped with broadband satellite connections for communication through direct military channels and the Internet. Telemedicine is a way of life in the military and is practiced extensively aboard *USNS Comfort*. Real time and delayed consults can be done with colleagues at home. Images from the ship's radiology equipment can be sent back to NNMC Bethesda for rendering and then returned to the ship for utilization by the ship's crew for diagnosis and treatment planning.

In the past, the crew of *USNS Comfort* and her sister ship, *USNS Mercy*, have performed many neurosurgical procedures, including clipping of an anterior communication artery aneurysm, resection of a large posterior fossa myeloencephalocele (by the author), repairs of multiple penetrating injuries to the brain, and routine spinal surgery. Shipboard surgery is really no different than operating in any neurosurgical operating room, with a few exceptions. On entering the operating room, one quickly sees that all of the equipment is secured to either the bulkheads (walls) or the deck. The reason for this is that even though it is a large ship, it does roll at sea. It is a unique neurosurgical experience to time critical movements of a delicate operation to the rolls of the ship. Because of the movement of the operating room, one must also plan elective procedures according to what sea conditions allow.

We are confident that the US military members have at their disposal state of the art facilities and equipment, as far forward as possible, ready to care for them if the need arises. Most importantly, our fighting forces have their medical brothers and sisters in arms, also in harm's way, dedicated to support them however, whenever, and wherever needed. Please keep all of our deployed forces in your thoughts and prayers, especially the brave and dedicated neurosurgeons who are performing our most important mission. □

Important Note to All CNS Members

An important opportunity is immediately before us. Finally, after months (years) of debate, federal legislation for professional medical liability reform may become a reality. Very soon the United States Senate will consider a bill to cap the noneconomic damages component (pain and suffering) of a medical liability lawsuit at $250,000. The House of Representatives passed similar legislation recently.

The Senate vote is predicted to be very close. The AANS/CNS Washington Committee has urged organized neurosurgery to consider immediate financial support of a grassroots, public relations campaign to educate the public about the medical liability crisis and its devastating impact on neurosurgeons and our patients. The Congress of Neurological Surgeons Executive Committee has unanimously approved a commitment of $100,000 to this effort. The CNS will work with physician alliance members, the AANS, and other organizations to make professional liability reform a reality. PLEASE contact your Senators today and encourage support for this legislation. This is but one important initial step in a multifaceted process to bring lasting, sensible reform to physicians. Stay involved in this important and ongoing process.

Mark N. Hadley, M.D., F.A.C.S.
President, Congress of Neurological Surgeons

The Medical Student Curriculum in Neurosurgery

Christopher Wolfla, M.D.
Co-Chairman, Education Committee of the CNS

The Education Committee of the Congress of Neurological Surgeons reviews or initiates all of the educational activities of the Congress. These activities include the Annual Meeting, undergraduate neurosurgical education, resident education, postgraduate education, and education to non-neurosurgeons and the public. The Medical Student Curriculum in Neurosurgery was developed in order to fulfill one these core missions.

Development of the Medical Student Curriculum in Neurosurgery began in 1996. At that time, the leaders of organized neurosurgery acted on the growing concern that graduating medical studies had little exposure to the field of neurosurgery and little exposure to the range of diseases that neurosurgeons treat. Many of these diseases are life threatening and require rapid recognition and urgent or emergent treatment. It was agreed on that there must be minimal standards for recognizing the presenting symptoms of neurosurgical disease, understanding initial management principles and diagnostic pathways, and a reliable threshold for referral to specialized expertise.

It was felt that this problem should be addressed in two ways. First, individual neurosurgeons should stress to local medical school curriculum committees the importance of neurosurgical education. Second, a core set of neurosurgical knowledge objectives, endorsed by the leaders of organized neurosurgery, should be developed. These objectives would be distributed to all medical school curriculum committees. In 1997, the Education Committee of the Congress of Neurological Surgeons was called upon to develop this core set of objectives. Incorporating the expertise of numerous neurosurgical educators, an outline of topics representing the areas judged to be important to all medical students in their future practice, was prepared. This document was reviewed and approved by the Congress of Neurological Surgeons, as well as the American Association of Neurological Surgeons, and was widely distributed.

It was also felt, however, that incorporation of these core objectives into medical school curricula would be facilitated by the development of an accompanying study guide or primer in neurosurgery. The purpose of this primer would be twofold. It would assist medical students in the completion of their core knowledge objectives as well as be a reference for further study. In 2001, the Education Committee released this 130-page primer for medical students studying neurosurgery. Again, this document was reviewed, approved, and endorsed by the Congress of Neurological Surgeons Executive Committee.

Currently, the Medical Student Curriculum in Neurosurgery consists of two

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LETTERS TO THE EDITOR

To the Editor:

Kudos to our President and colleague Mark Hadley for his message in the Winter 2003 edition of *Neurosurgery News*. His appeal to our professionalism and altruism in facing the "myriad of obstructions and restrictions on our neurosurgical practices" reflects well on the CNS and our subspecialty.

Political correctness aside, there are many of us who respectfully disagree with Dr. Hadley's opinion that "a confrontational stance...in which patient access is restricted [through] work slowdowns or strikes...is simply not a viable solution." Most of us who have practiced for the last 10 or 20 years are not just now "attempting to understand and address these complex issues"; we have witnessed firsthand the Hydra of declining reimbursements and increasing overhead that have eroded the ability of physicians in general and neurosurgeons in particular to maintain viable practices. For our specialty, skyrocketing malpractice premiums are forcing many of us to consider eliminating our cranial practice and focusing on spinal and peripheral nerve surgery (which constitutes over 95% of our reimbursement) to reduce our premiums to the level of our orthopedic colleagues. Despite the occasional state (e.g., California) that has passed meaningful tort reform, it has been the recent spate of neurosurgeons and other trauma surgeons who have taken a proactive stance, including resigning from ER call rosters, that has begun the most serious national debates over malpractice reform in the last 20 years.

Unfortunately, payers (i.e., the federal government) and the public take for granted that we will be available at 2 am to attempt lifesaving heroics for the neurologically injured patient, counting on our history of altruism (as eloquently described by Dr. Hadley and others), regardless of such issues as reimbursement and liability exposure. To the extent that we behave like cattle and meekly accept this treatment, we do nothing to change our situation. One need only witness the collective sigh of relief that medicine (including the AANS and the CNS) uttered over the legislative decision to forestall further draconian Medicare cuts this year (totally ignoring the fact that Medicare's meager reimbursement has already forced many physicians to ration or eliminate services to Medicare beneficiaries) to understand just how passive our profession and specialty have become. Ironically, our society views our services more and more as just another trade (like plumbing or auto repair), and yet we balk at availing ourselves of basic labor rights such as strikes and/or work slowdowns to highlight and negotiate our concerns.

One of our original 13 colonies expressed its aversion to oppression and desire for autonomy by adopting the slogan "Don't Tread on Me." When will we as a profession and specialty come to the conclusion that we are tired of being tread upon?

David B. Kee, Jr., M.D.
Ocean Spine and
Neurologic Institute
Myrtle Beach, SC

In Response:

I appreciate Dr. Kee's thoughtful remarks on the topic of my recent Presidential Message entitled, "Patients: Our Greatest Priority" published in the Winter 2003 edition of *Neurosurgery News*. I appreciate that our opinions may respectfully differ. We seem to agree that physicians (neurosurgeons) and the services we provide are being viewed and treated as "commodities" which can be offered "wholesale" by the government, insurers, and other third-party providers. This notion is not new but is becoming more pervasive. The public view of us, in my view, is not enhanced by actions (slowdowns or strikes) that distance us from our patients and their important neurosurgical needs.

I have been in practice since June 1988, originally in California (1988–1991) subsequently in Alabama (1991 to present). I (and others) have long been "attempting to understand and address these complex issues." I too have witnessed and experienced firsthand the Hydra Dr. Kee refers to. I remind our members that these are complex issues. They are difficult to understand and even more challenging to get our arms around. They are multifaceted moving targets and the rules change regularly.

I am not happy with the "state of health" of our nation's health care. I cannot be comfortable with neurosurgery's present circumstance and have great concern for our future (on a variety of fronts). While not delighted with the passage of Omnibus Appropriations Package H.J.Res.2 curtailing anticipated further "draconian Medicare cuts," I am grateful that this legislation appears to improve our collective circumstance at present rather than worsen it (as originally scheduled).

I am tired of Medicare and neurosurgery being regulated, restricted, and "tread upon." I am committed to reasonable, effective, and enduring relief. Dr. Kee and I appear to have different views (albeit equal passion) about how to most effectively accomplish our goals and represent all of the best interests of our neurosurgical colleagues.

Mark N. Hadley, M.D., F.A.C.S.
President, Congress of Neurological Surgeons

To the Editor:

I am writing in response to Dr. Jack Wilberger's commentary, "Neurosurgeons and Their Responsibilities to Trauma Centers," in the Fall 2002 issue of *Neurosurgery News*. After reading his opinion, I cannot help but think that he does not understand what is going on in the "real world" of private practice neurosurgery and it's relationship to a Level I trauma center.

Dr. Wilberger conducted a "survey" of 150 centers and found that "in those centers providing reimbursement, neurosurgical commitment was substantially less compared to those centers not providing reimbursement... ." What does this mean? He offered no real evidence for such a statement and only mentioned the need for neurosurgeons to support the accreditation and verification process.

I suspect that Dr. Wilberger works in an academic setting and has neurosurgical residents available to see patients when he is on call. In my community, neurosurgeons have no neurosurgical residents to take call as do orthopedics, general surgery, internal and family medicine, pediatrics, and OB/GYN. Our neurosurgeons recently came to an agreement that allowed the local Level I and Level II hospitals to keep their trauma center designations. This agreement involved the payment of a fair stripend for the "availability" of neurosurgical consultants for emergencies (traumatic and nontraumatic). The contract came after the hospital system tried and failed to hire their own neurosurgeons to take Level I trauma call.

The nature of Level I trauma centers is such that other, "nontraumatic" neurosurgical patients are also referred there simply because neurosurgeons are available. This accounts for a large volume of nontraumatic intracranial hemorrhages, minor nonvehicular head trauma, spinal emergencies, etc. These patients take time and effort and the volume of these cases is not part of trauma centers are paying for. Dr. Wilberger's feeble attempt to correlate the value of neurosurgeons stipend to operate production is simplistic and inaccurate. It has nothing to do with the number of actual surgeries done. Most neurosurgical trauma seen at our facility (like many Level I centers) does not require an emergent operation. This does not mean that we don't spend many hours leaving the office or home to evaluate and reevaluate patients, review scans, talk to families and consultants, answer calls about ICP, changing neuro, status, etc. This takes time away for elective office practice. In our practice, we cannot schedule surgery after a night on call (too tired from being up all night) and can't schedule a heavy office day on a call day (too often called away during the day for emergencies). Are we wrong to ask to be paid for this service? In addition, when the liability risk and the number of uninsured patients in Level I trauma centers are considered, it is no surprise that neurosurgeons have sought reimbursement for their "availability" and service to the community.

For 11 years I took call at my local Level I and II hospitals with no reimbursement. I was actively involved in neruotrauma and was and continue to be a certified ATLS instructor. The volume of neurosurgical emergencies increased to the point that I could not adequately devote myself to my elective neurosurgical practice. When my requests for a fair call stipend were refused, I moved to a smaller nearby medical center where I could perform all of my elective neurosurgery without "Level I interruptions." Though I was on call one in three nights at the community hospital, the call burden was reasonable and I could function during the day. Recently, my partner and I have returned to the Level I and II hospitals because they have now recognized the value of our service and "availability" and are reimbursing us appropriately. It is true that I might feel differently if I had residents to see these consultations for me in the middle of the night.

Dr. Wilberger contends that "most trauma centers operate on a limited margin and many are unprofitable." If so, then maybe we can't afford them. The fact that society has not figured out a way to pay for trauma centers is not the neurosurgeons burden. Dr. Wilberger is concerned that "such stipends are being used to cover other practice losses." I say "So what!" Dr. Wilberger clearly does not appreciate the fact that devastating malpractice premium increases, rock bottom Medicare fees, and continuously declining insurance reimbursements are driving neurosurgeons out of business! "Out of business" translates to "not able to take Level I trauma call!"

Contrary to Dr. Wilberger's opinion, I feel that the Neurotrauma Section has done a great service to neurosurgeons in the real world who are struggling to survive in a medical environment that asks more and more of them and gives less and less. Dr. Wilberger, the Section has taken a "strong stance" and it's the correct one. It supports the neurosurgeon. □

John A. Feldenzer, M.D., F.A.C.S.
Roanoke, VA

WINS–Women in Neurosurgery: Is There a Need to Stand Apart?

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Board of Directors, WINS

We are often asked if the time has come to abandon WINS because neurosurgery has sufficient numbers of women within its ranks to make such a distinction unnecessary. Others point to the fact that there are many other "minority" groups, who could justly state that they too should have their own organization within organized national neurosurgery. As each generation of women goes forth in neurosurgical careers the question again arises: Is WINS relevant or necessary?

WINS started as a small group of women commiserating and sharing their experiences about training, professional development, and the art of leading a balanced life while still being a consummate neurosurgeon. From this early casual interaction over coffee, arose a more structured organization, which now has ties to both of our major national organizations (AANS and CNS). We have representation on the Executive Board of the AANS as well as the Congress of State Neurosurgical Societies (CSNS). More recently we have been invited to the Executive Committee of the CNS. Since our founding, we have maintained strong connections with international groups such as the Pan Asian Neurosurgeons and the World Federation of Neurological Surgeons, with regular exchange and participation with these groups.

Early meetings focused on the development of young careers. We focused on networking and mentoring. We organized rapidly, trying to develop a way of mentoring our members as well building bridges within organized neurosurgery. Founding members were all at the earliest stages of their careers, many still in residency. We were looking for role models and found few that were easily available to us. This is not to say that we did not recognize the contributions of our elder ground-breaking sisters. Rather this was statement as to our belief that there was more we could do and more we could offer to neurosurgery. Many us felt the need to identify our career goals and discuss their feasibility with our mentors, who were for the most part men.

It has long been recognized that like attracts like and though many of our most esteemed mentors were men, there was still some uneasiness about our roles as women and surgeons. The fellowship, camaraderie, and advice of our fellow women were reassuring. It was familiar in the way that like experiences foster friendship and trust. It was also enlightening to see the variety of ways problems could be solved. By sharing our experiences, we increased our own experience and our own coping skills. Most residents have a point somewhere during their residency when they question if it is all worth it? Was this the right career choice? Many of us were the only female residents in our individual programs and asking such a question seemed a sign of weakness. Through WINS we could not only ask the question, but also hear a cacophony of responses as to the merits and failings of a neurosurgical career.

As the organization grew in numbers and age, different questions were addressed. We now had regular programs about career development, achieving academic success, creating a successful practice, and most importantly for many of us, a chance to understand how best to become involved in the national organized neurosurgical scene. Whether we were in an academic practice, a group practice, or a solo practice, such seminars and lectures helped us to understand what we aspired to be and how we could get there in one piece.

We relied heavily on models created by other women's professional organizations, relying on their speaker lists for our choices. This proved helpful, because many of the questions we were asking had already been addressed through these organizations. We developed a more formal leadership and created more balanced presentations. No longer was this a social club but rather a means of learning about career development. The focus shifted from commiserating about our individual circumstances to understanding corporate structure and organizational dynamics. In this search for a better organization, we learned about important concepts to improve our lives and our practices.

The maturation of the organization has continued. We now sponsor two traveling awards for residents, as well a lectureship. We have provided leaders to both the AANS and the CNS and continue to act as a resource of willing labor to organized national neurosurgery. By maturing into an organization with educational as well as advisory goals, we now act to improve neurosurgery not just for women but for all neurosurgeons. The WINS-sponsored pamphlet "So you want to be a neurosurgeon" is now widely distributed to medical students seeking or thinking about a career in neurosurgery. Our recently developed Career Development seminar had more male neurosurgeons in attendance than female neurosurgeons.

Clearly our focus remains on the unique circumstances of women in neurosurgery. We remain a small and somewhat unique minority. Rather than acting as a source of isolation from the main body of neurosurgery, WINS has in fact reinforced the ties of female neurosurgeons to national organized neurosurgery. It has been called upon repeatedly to help broaden the horizons and opportunities for participation of women within organized neurosurgery.

As we continue to mature, our relevance and significance will best be judged by our productivity and output. By offering quality lectures, providing resources for career counseling, and presenting programs to assist with professional development, WINS will remain vital. Like our two parent organizations, that strength will come from a strong spirit of volunteerism. The ensuing generations of women will continue to create new areas of opportunity, in which women will be able to uniquely bond and learn from shared experiences while continuing to provide service and leadership to the greater neurosurgery community. Rather than standing alone, we stand as an integral part of the circle that is neurosurgery. In our strength and resolve, assured in our own identities as women and neurosurgeons, we have an outstanding opportunity to build on our 12-year history of service and growth.

And so we would answer those who ask: Why WINS? Because we are an important part of the fabric of neurosurgery. In improving ourselves individually and collectively, we strengthen the whole. We recognize and celebrate our differences and feel compelled to help each other in the pursuit of our goals and the development of our careers. The networking established through WINS acts as an important mentoring resource for young women contemplating or beginning a career in neurosurgery. It also acts to develop programs of career development, which help not only women but men as well. By asking unique questions, we help explore what is important in neurosurgery, defining our own role and also that of our colleagues.

Women are here to stay in neurosurgery. The future of neurosurgery depends on attracting the best and brightest in medical school today. With more than 50% of medical school class seats now occupied by women, we are likely to see an increasing number of women enter neurosurgery. WINS will help to make certain that each woman has an opportunity to question, to grow, and to learn in a supportive environment, while reaching out to the greater community in a collaborative fashion. Such networking is a lifelong resource for members of WINS and encourages its growth in the future. Future generations of women in neurosurgery will be well served by a balanced, mature, and open WINS and should be encouraged to celebrate their diversity within the tapestry that is neurosurgery. □

Medical Student Curriculum

Continued from page 5

parts. The first part consists of the original core set of knowledge objectives, in outline format. This document, just under two pages in length, is a concise listing of the areas judged to be important to all medical students in their future practice. It is intended to be used by medical school curriculum committees. The second part consists of the primer in neurosurgery. The primer follows and expands on the core objectives. It is intended to be used by medical students studying neurosurgery or engaged in neurosurgical rotations. The primer, like the core objectives, consists of five sections, covering general skills topics, intracranial disease topics, spinal disease, peripheral nerve disease, and other common neurosurgical problems. In addition, review questions and review question answers are provided. Appropriate references are listed for each section.

Both parts of the Medical Student Curriculum in Neurosurgery exists in two complimentary formats. The first format, an online, Web-based format, is available via the Internet at: *http://www.neurosurgery.org/cns/meetings/curriculum/index.html*.

The second format, developed to facilitate more widespread use of the curriculum by medical students during their clinical years, is a stand-alone Palm™ OS-based program. This small program can be downloaded free of charge and runs on most PDAs running Palm™ OS. It has been optimized for use on the Palm™, with removal of the references and review questions. It is understood that these portions of the document can be reviewed online. This version is also available via the Internet at the site listed above.

In July of 2002, a copy of the Medical Student Curriculum in Neurosurgery, both a Microsoft Word™ version and Palm™ OS version, was distributed to all medical school deans in the United States and Canada. The accompanying letter stressed the importance of undergraduate neurosurgical education and asked that the Curriculum be forwarded to institutional Curriculum Committees. Through the development, distribution, and promotion of the Medical Student Curriculum in Neurosurgery, it is the sincere hope of the Education Committee that undergraduate medical education will be enhanced by the resulting universal incorporation of these knowledge objectives into medical school curricula. □

Recommended Bylaws Changes

P. David Adelson, M.D.
Chairman, Bylaws Committee
Congress of Neurological Surgeons

Editor's Note: The following is an updated version of the bylaws changes published in the Winter 2003 issue of Neurosurgery News.

The following Bylaws changes are being submitted by the Bylaws Committee for publication in Neurosurgery News in advance of the Annual Business Meeting.

1. Article VII, Section I, Committees K. Strategic Planning Committee

The Strategic Planning Committee shall consist of 7 members, the Past President, the President, the President-Elect, Secretary, Treasurer, Chairman of the CNS Education Committee, and the Chairman of the Joint Council of State Neurosurgical Societies. In the event that one of these individuals shall hold more than one of the above mentioned positions, the President shall appoint alternate members to the Committee. This Committee shall regularly meet to make recommendations relative to strategic planning of the Congress.

Recommended Change

The Strategic Planning Committee shall consist of the individuals holding the following positions: the Past-President, the President, the President-Elect, Secretary, Treasurer, the Chairman of the CNS Education Committee, the Annual Meeting Chairman, and the Scientific Program Chairman. The President-Elect shall be the Chairman of the Committee and shall also have the authority to appoint additional members to the Committee, which authority shall be exercised in his or her sole discretion. This Committee shall regularly meet to make recommendations relative to the strategic planning of the Congress of Neurological Surgeons.

Rationale

The change in the bylaw is indicated to more accurately reflect the members involved in the strategic planning process. Past, present and future officers work in concert with the CNS Education Committee Chairman, the Annual Meeting Chairman and the Scientific Program Chairman to develop the strategic plan for the CNS.

2. Article VII, Section I, Subsection M. Newsletter

The Newsletter Editor shall be appointed by the President, shall prepare editions of the Newsletter as directed by the Executive Committee.

Recommended Change

Article VII, Section I, Subsection M. *Neurosurgery News*

The Neurosurgery News *Editor(s) shall be appointed for a 3 year term which is renewable by the CNS President. The editor(s) shall appoint an editorial board and prepare editions of the* Neurosurgery News *as directed by the Executive Committee.*

Rationale

Since the CNS Newsletter no longer exists, the change in the bylaw reflects the formation of *Neurosurgery News* as the regular periodical updating the membership of the CNS.

3. Article VII, Section I, Subsection L. Membership Committee

The Membership Committee shall consist of 7 members and shall review and vote on all the pre-applicants and applications for membership. Appointment to the Membership Committee shall be made by the President with the approval of the Executive Committee. Three members shall be appointed every other year, and 3 members plus the Chair shall be appointed on alternate years. The Chair shall be selected from among the members of the Executive Committee who are not officers, and shall serve a 2-year term, renewable by the CNS President.

Recommended Change

The Membership Committee shall consist of up to 7 members and shall review and vote on all the ~~pre-applicants and~~ applicants for membership. *The Chair shall be selected from among the members of the Executive Committee who are not officers, and shall serve a 2-year term which is renewable by the CNS President. Appointment to the Membership Committee shall be made by the President in conjunction with the Chair of the Membership Committee and with the approval of the Executive Committee. Members of the Committee shall be appointed for a 2-year term.*

Rationale

This change more accurately defines the structure of the committee and the terms of its members.

4. Article VII, Section I, Subsection O. Publications Committee

The Publications Committee shall promote the educational goals of the Congress and provide educational information in written form for CNS members. The Committee shall provide direction and vision for new forms of educational communication.

Recommended Change

The Publications Committee shall promote the educational goals of the Congress and provide educational information in written *and/or electronic format* for CNS members. The Committee shall provide direction and vision for new forms of educational communication.

Rationale

This change reflects the use of both printed and electronic forms of publications by the CNS.

5. Article VII, Section IX, Publications

Publications and official information, proceedings, and papers presented at annual meeting and committee investigations must be approved by the Executive Committee before publication. The Congress Newsletter may be published after approval by the President and the Secretary.

Recommended Change

Publications and official information, proceedings, and papers presented at the Annual Meeting and committee investigations must be approved by the Executive Committee before publication. *Neurosurgery News may be published after approval by the President and the Secretary.*

Rationale

The Congress Newsletter no longer exists and has been replaced with *Neurosurgery News*. The change in the bylaw reflects the formation of *Neurosurgery News* as the regular periodical used to update the membership of the CNS

6. Article VIII, Representatives

Recommended addition to the bylaws

F. Think First/ National Injury Prevention Foundation – 2 representatives with terms of 3 years renewable by the CNS President.

Rationale

Since the CNS has an ongoing representative liaison to the Think First/ National Injury Prevention Foundation, the change reflects present practice.

7. Article VII. Section 1. Committees

In this section, the naming and organization of the listings are inconsistent. Changes in wording and naming of committees are suggested to maintain consistency throughout this section.

A. The Annual Meeting Committee *changed to* The CNS Annual Meeting Committee
B. The Bylaws Committee *changed to* The CNS Bylaws Committee
F. The Distinguished Service Award Committee *changed to* The CNS Distinguished Service Award Committee.
H. The Finance Committee *changed to*The CNS Finance Committee.
I. The Historian and Archive Committee *changed to* The CNS Historian and Archive Committee.
K. The Strategic Planning Committee *changed to* The CNS Strategic Planning Committee
L. The Membership Committee *changed to* The CNS Membership Committee
N. The Nominations Committee *changed to* The CNS Nominations Committee
O. The Publications Committee *changed to* The CNS Publications Committee
P. The Professional Conduct Committee *changed to* The CNS Professional Conduct Committee
Q. The Resident Committee *changed to*The CNS Resident Committee
S. The Committee for Military Neurosurgeons *changed to* The CNS Committee for Military Neurosurgeons
T. The International Committee *changed to* The CNS International Committee
W. The Committee for Neurosurgical Fellowships *changed to* The CNS Fellowships Committee
Y. The Public Relations Committee *changed to* The CNS Public Relations Committee

8. Article VII. Section 1. C. Certification Committee

Recommended Change

It is recommended that the Certification Committee, a standing committee, be eliminated from the Bylaws as a standing committee and moved such that in **Article VII. Section 1. G. The CNS Education Committee**, following the description and role of the Education Committee, a second paragraph shall read:

The CNS Certification Sub-Committee shall consist of a Chair and its members whose duties shall be to encourage completion of the certification process by all eligible neurosurgeons, to conduct programs to attain this goal, and to maintain a liaison with the uncertified neurosurgeon and the Congress.

Rationale

The Certification Committee has been a standing committee of the CNS. The Certification Committee has been involved in the education of the board eligible neurosurgeon. Since education of neurosurgeons seeking recertification will be a goal of the CNS Education Committee, it is recommended that the Certification Committee become a sub-committee of the CNS Education Committee. □

CNS Membership: Applications in Progress

The following individuals have applied for Membership to the Congress of Neurological Surgeons. Commentary or questions should be directed to Christopher Getch, M.D., Chairman Membership Committee, phone: 847-240-2500, fax: 847-240-0804; e-mail: info@1cns.org.

Kenan Arnavidvic
Jonathan J. Baskin
Bernard Bendok
Joe D. Bernard
Harjinder S. Bhatoe
Kimberly Bingaman
Richard W. Broderick
Gregory J. Castiglia
Steven D. Chang
Leon G. Danaila
John Dobrasz Jr.
James R. Hirsch
Langston Holly
John Honeycutt
Sivakumar (Jay) Jaikumar
Michael G. Kaplitt
Andrew Law
Jae Whan Lee
P. Mark Li
Kimberly Livingston
Jaime H. Nieto
Joseph K. Preston
Ellen G. Shaver
Diane K. Sierens
Christopher D. Sturm
Sagun Tuli
Neill M. Wright
Do Heum Yoon

JOINT SECTION ON CEREBROVASCULAR SURGERY

Chairman's Message

Robert E. Harbaugh, M.D., M.A.

As we are all well aware, the International Subarachnoid Aneurysm Trial (ISAT) was recently published in the Lancet1. ISAT, a prospective, randomized trial comparing the functional outcomes of patients with ruptured intracranial aneurysms treated either with clipping or coiling, has been trumpeted as the definitive article on the safety of clipping versus coiling for ruptured intracranial aneurysms. The following message summarizes a letter to the editor of the Lancet and a position statement on ISAT from the AANS, CNS and the AANS/CNS Section on Cerebrovascular Surgery.

The results published in the Lancet article demonstrate that, for this particular subset of aneurysm patients cared for in these particular centers, patients treated with coiling fared better at one year than those treated with clipping based on an evaluation using one specific outcomes measure. The purpose of our letter, our position statement and this Chairman's Message is to indicate points that we believe warrant additional emphasis and clarification.

First, the investigators decided to evaluate the functional status of patients using a modified Rankin Scale score. It is important to keep in mind the rather subtle differences that exist between adjacent scores (Table 1). Of greater concern, the ISAT investigators analyzed the outcomes in two groups; scores of 0-2 and scores of 3-6. They only reported the statistical analysis comparing clipped versus coiled patients for scores of 3-6. For this group of patients, a statistically significant difference between clipping and coiling was seen at one year. If the ISAT investigators had analyzed the outcomes by looking at groups 0-1 or 0-3, no statistically significant difference between clipping and coiling would have been found. In fact, if we designate the groups as was done in ISAT (0-2 and 3-6) but subject the 0-2 group rather than the 3-6 group to statistical analysis, no statistically significant difference is found. It is only by doing the statistical analysis on the group of patients with scores of

Table 1: Functional Health Status Outcomes at One Year in the ISAT Report

MRS Score	Questionnaire Response	Coiling (N=801)	Clipping (N=793)	P value
0	I have no symptoms and I cope well with life.	207	152	.0123
1	I have a few symptoms but these do not interfere with my everyday life.	217	220	.8421
2	I have symptoms which have changed my life but I am still able to look after myself.	187	178	.7596
3	I have symptoms which have significantly changed my life and prevent me from coping fully, and I need some help looking after myself.	80	106	.0745
4	I have quite severe symptoms which mean I need to have help from other people but I am not so bad as to need attention day and night.	24	32	.3392
5	I have major symptoms which severely handicap me and I need constant attention day and night.	21	25	.6320
6 (Dead)		65	80	.2485
Summary				
0-1		424	372	.1791
0-2		611	550	.2361
0-3		691	656	.5892
3-6		190	243	.0199

MRS = Modified Rankin Scale
Statistical analysis - chi-square with Yates continuity correction

[1] International Subarachnoid Aneurysm Trial (ISAT) of neurosurgical clipping versus endovascular coiling in 2,143 patients with ruptured intracranial aneurysms: a randomised trial. Lancet. 2002 Oct 26;360(9342):1267-74.

3-6 that one can find a significant difference between clipping and coiling in this study. This is a pretty shaky foundation on which to build a revolution in the treatment of ruptured aneurysms.

It should also be noted that most ISAT centers were located in Europe (particularly England), Australia and Canada. Only two patients were entered into the study from a single U.S. center. The results from ISAT may not be applicable to patients in the United States where practice patterns, particularly in reference to the degree of subspecialization of neurovascular surgeons in major centers, are different. We believe that a carefully planned and executed randomized trial in the United States would be of value.

Another important but unreported piece of information is how many practitioners in the ISAT performed craniotomies for aneurysm clipping and how many practitioners performed endovascular procedures for aneurysm coiling. The absolute risk reduction for coiling compared to clipping at one-year follow-up is only 6.9 percent. If the number of coiling cases per endovascular practitioner is significantly greater than the number of clipping cases per neurosurgical practitioner, better outcomes in the coiled patients could be completely explained by a difference in practitioner experience and expertise. The number of neurosurgical and endovascular practitioners in the study and the number of procedures each performed should be published.

Physicians and surgeons involved in the ISAT felt that one form of treatment was preferred in almost 80 percent of patients for whom records are available. Of 9,559 patients with ruptured intracranial aneurysms assessed for eligibility, only 2,143 were randomized. In those not randomized, more patients underwent clipping than coiling as treatment for their ruptured aneurysms. In other words, over the course of this trial, neurovascular teams in the participating centers felt that surgery was the best option for a majority of patients with ruptured aneurysms who were not randomized. Therefore, if an experienced vascular neurosurgeon recommends clipping as the best option for a patient, that patient should continue to be offered surgery as the treatment of choice. The results of ISAT do not apply to such patients, as they were not evaluated in the randomized trial.

We also await with interest the long-term follow-up data on these patients. It is crucial to determine whether or not coiling will be as effective as clipping in preventing re-bleeding over each patient's lifetime. During the relatively short follow-up of the interim ISAT report, 2.6 percent of endovascular patients suffered a hemorrhage following treatment compared to 0.9 percent of surgical patients. In addition, 139 patients treated by coiling required further treatment compared to 31 patients treated by clipping. Although re-bleeding rates more than one year after treatment have been low in both groups, if a differential rate of re-bleeding persists over time, the modest 6.9 percent absolute risk reduction with coiling at one year will disappear. As the authors note, these patients need to be followed for many years before legitimate conclusions can be drawn about whether coiling or clipping is the safer treatment for patients with ruptured intracranial aneurysms.

The ISAT report is an important step in defining the roles of endovascular and microsurgical treatment of patients with ruptured intracranial aneurysms. The concerns noted above are raised to remind all of us that much more study is needed to develop definitive medical evidence on this issue. To extrapolate the early results of this study to all patients with ruptured aneurysms would be a misinterpretation of the ISAT data and a serious disservice to our patients and our profession.

What Would You Do?

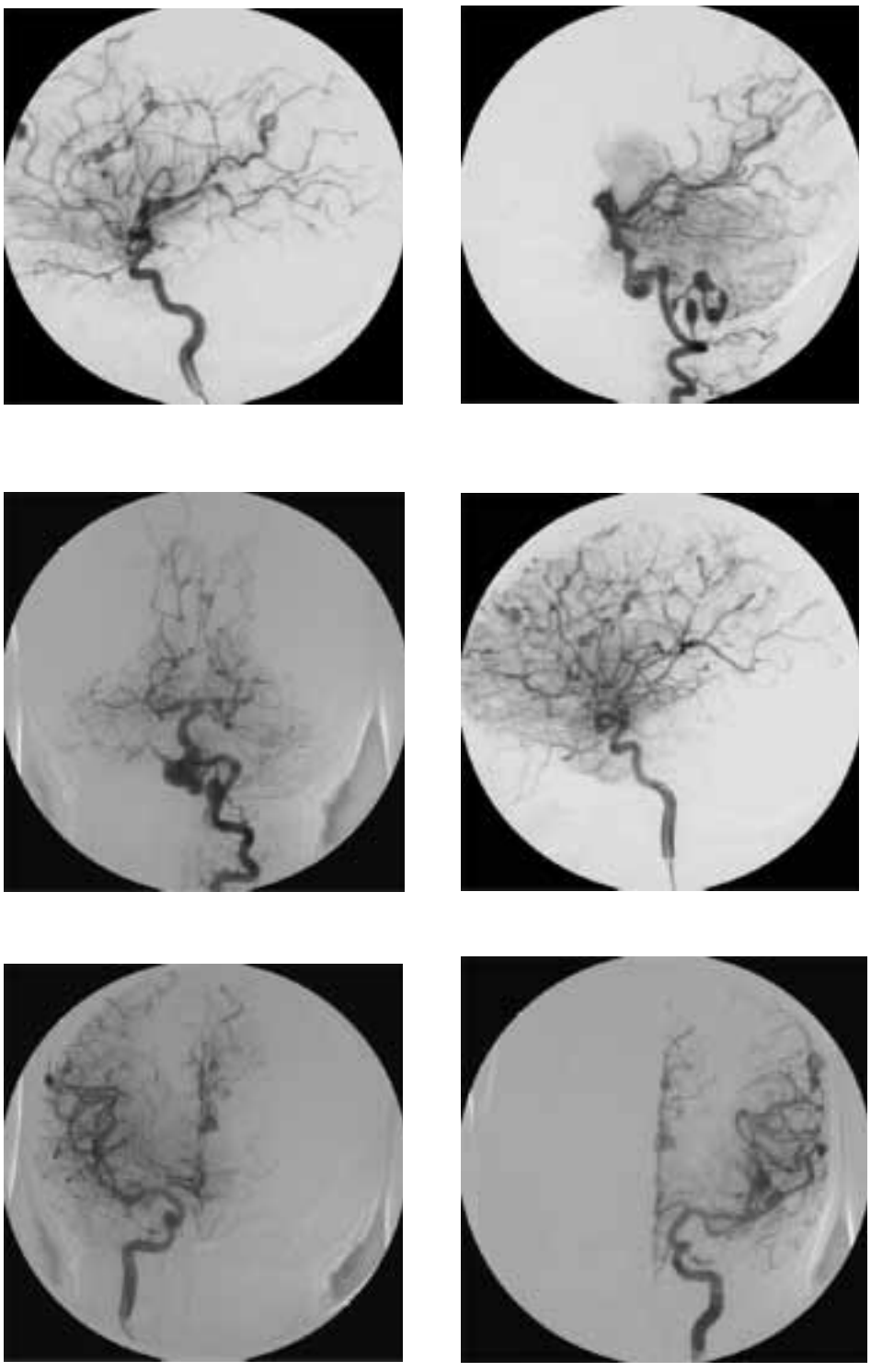
Contributed by M. Ross Bullock, M.D., Ph.D.

The patient is a 7-year-old African-American male. He first presented to medical care eight months ago with a mild right hemiparesis. A computed tomography scan revealed no abnormalities. Magnetic resonance imaging showed a small left internal capsular/thalamic lacunar infarct, without hemorrhage. The MR angiogram showed multiple aneurysms, and cerebral angiography was done. Approximately 23 fusiform intracranial aneurysms were demonstrated, ranging in size from 2 mm to 15 mm. In addition, there were angiographic stigmata consistent with "arteritis" with beading, and zones of mild focal stenosis.

He has no family history of intracranial aneurysms, polycystic renal disease, or other cardiovascular disorders.

Investigations reveal no abnormality of his systemic circulation or heart or great vessels. He does not have polycystic disease. He is small for his age -- in the third percentile for height. Skin biopsy reveals no abnormality of collagen synthesis, and a procoagulant screen was negative. He tested negative for HIV, and has no other systemic illness. A cerebral angiogram repeated five months after the first reveals approximately 50 percent enlargement of the aneurysms of the basilar trunk and pica.

What would you do?



1. What are possible causes for these multiple intracranial aneurysms in this 7-year-old patient?

_____

Which of the following management options would you choose for patients age 7, 20, 40, 60 or 80?

	7	20	40	60	80	Not Indicated
1. Excise a peripheral aneurysm for histology.	❑	❑	❑	❑	❑	❑
2. Insert a stent for the vertebral artery aneurysms.	❑	❑	❑	❑	❑	❑
3. Clip the pica aneurysm.	❑	❑	❑	❑	❑	❑
5. Antihypertensive therapy only.	❑	❑	❑	❑	❑	❑
6. Antiplatelet agent only.	❑	❑	❑	❑	❑	❑

For an online discussion of this case and to submit your answers electronically go to *www.neurosurgery.org*.

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Joint Cerebrovascular

Continued from page 11

What Would You Do? Results and Expert Opinions

Malini Narayanan, M.D., M.S. and Robert M. Friedlander, M.D., M.A.

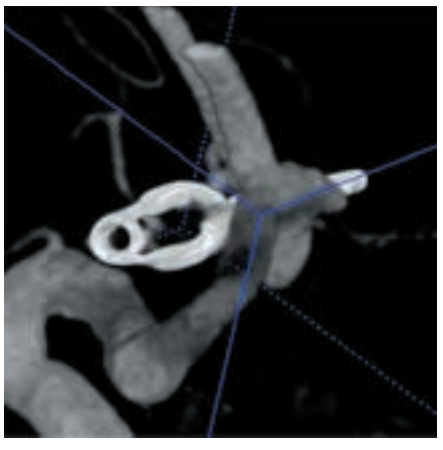
Please note that the discussion of the results to this and all "What Would You Do" cases does not represent the opinion of the AANS/CNS Section on Cerebrovascular Surgery nor does it represent standard of care. No formal medical recommendation regarding any specific case can be provided by the below summary of opinions.

The Case

This case was presented in the Fall 2002 issue of Cerebrovascular News, available at *http://www.neurosurgery.org/cv/newsletter/fall02/whatwouldyoudo. html.*

A patient is referred to your office for a consultation. Seven months prior to this visit, the patient suffered a Hunt and Hess Grade III subarachnoid hemorrhage (SAH) from a ruptured anterior communicating artery aneurysm. He was operated on at another institution and the procedure was described as uneventful. He was discharged on post-SAH day 12 to a rehabilitation facility for short stay. He has completely recovered and has returned to his previous occupation as an attorney (or college student).

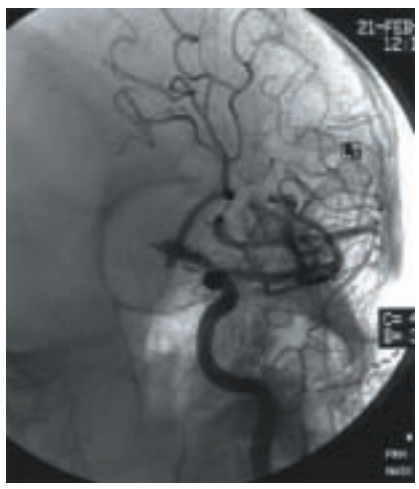
A first postoperative angiogram obtained six months after the presentation revealed a residual versus new lesion at the left A1-A2 junction. Of note, the patient has a hypoplastic right

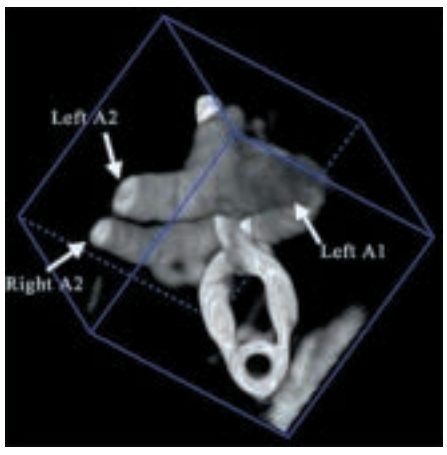


A1. No other vascular abnormalities were noted. The preoperative angiogram is not available. The patient does not smoke, is not hypertensive and is otherwise in good health.

What would you do for a patient age 20, 40, 60 or 80?

1. No follow-up needed.
2. Imaging at regular intervals (angiogram, MRI/MRA, and/or CTA).
3. Treat now.
4. Treat only of it grows.
5. Clip.
6. Coil.

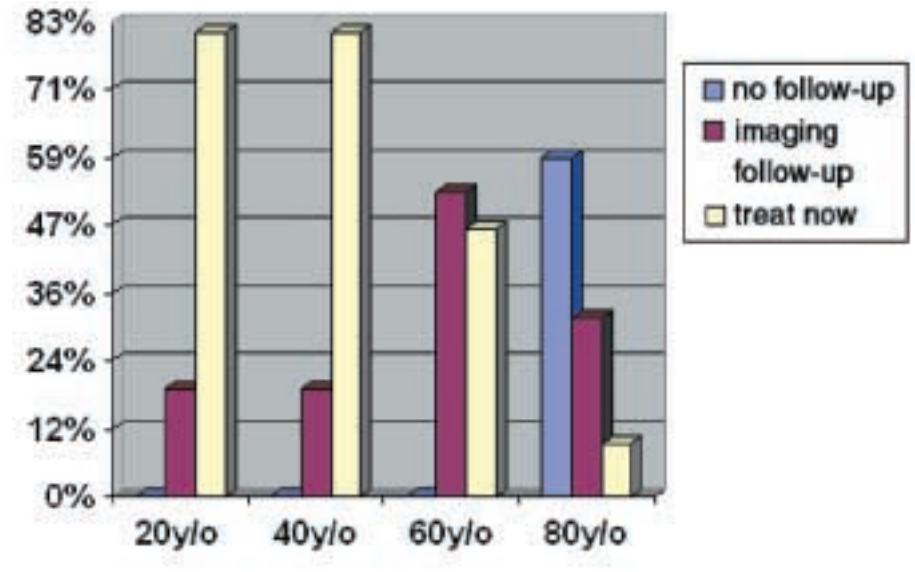




The Results

Results for this "What Would You Do?" case were generated from the survey's new online interactive format. Of the complete respondents, 59.5 percent identified themselves as general neurosurgeons, followed by equal numbers (12.5 percent) of the following groups: primary vascular neurosurgeons; vascular neurosurgeons also trained in interventional neuroradiology; and neurosurgical residents.

For patients age 60 and younger, all survey respondents chose either imaging follow-up or immediate treatment. For patients age 40 and younger, less than 80 percent chose to treat now and less than 20 percent chose imaging follow-up. For those in the 60-year-old group, there was a more even split between imaging follow-up (53.2 percent) and



treatment (46.8 percent). In the 80-year-old group, the predominant choice was no follow-up (59.3 percent) followed by imaging follow-up (31.2 percent).

If imaging follow-up was chosen and the residual aneurysm was noted to increase in size, all (100 percent) respondents would treat patients age 60 and younger, and most (80 percent) would treat patients in the 80-year-old group. Treatment of choice for patients age 40 and younger was to clip (greater than 80 percent). For patients in the 60-year-old group, clipping and coiling were equally chosen (50 percent), and for the 80-year-old group, the predominant choice was coiling (67 percent).

Expert Opinions

Opinions on the management of this case have been provided by the following experts: Daniel L. Barrow, M.D.; Hunt Batjer, M.D.; Jacques Morcos, M.D.; and Howard A. Riina, M.D.

Through his extensive experience and careful clinical follow-up, the late Charles Drake, M.D., demonstrated that incompletely clipped intracranial aneurysms are not fully protected from future subarachnoid hemorrhage. In my opinion, the decision for the 20- or 40-year-old patient is relatively straightforward. With a life expectancy measured in decades, I believe this imperfect surgical result presents the patient with an unacceptably high risk of future subarachnoid hemorrhage and would recommend re-treatment. Because the patient has undergone a previous craniotomy, I would prefer to avoid reoperation and would initially consider endovascular therapy. Unfortunately, this residual aneurysm is very likely unsuitable for current endovascular techniques and reoperation would be necessary.

My colleagues and I have recently reviewed our experience over the past six years in the reoperative management of 72 aneurysms that were incompletely occluded by an initial endovascular or surgical procedure. Thirty-five of these aneurysms had undergone attempts at surgical treatment and were known to have been incompletely clipped, presented with recurrent subarachnoid hemorrhage, or on follow-up imaging studies were discovered to have residual sac. Based upon that experience, I believe the residual aneurysm in this patient could be treated with a risk that is significantly less than the risk of future subarachnoid hemorrhage over the course of the patient's life. Several months after a craniotomy the approach will be more complicated and the surgeon must be prepared to encounter adhesions and scarring that disrupt the normal anatomic planes. However, with some patience and caution, this aneurysm could be adequately re-exposed and the residual aneurysm clipped.

I believe the decision for management of this residual aneurysm in an 80-year-old patient is even more straightforward. Having occluded the majority of the aneurysm and, very likely, the dome of the aneurysm at the site of rupture, I believe risk of this small residual aneurysm causing a subarachnoid hemorrhage within the typical life expectancy of an 80-year-old individual is less than the risks of reoperation. I would provide no specific follow-up for this patient.

The 60-year-old individual is the most difficult in terms of clinical decision-making. For the typical 60-year-old patient I would most likely recommend imaging at regular intervals beginning with a baseline computed tomography (CT) angiogram to be compared with the postoperative angiogram to determine if the residual aneurysm could be accurately identified. If so, I would follow up with CT angiogram on an annual basis and consider reoperation given any evidence of enlargement. If the residual aneurysm could not be adequately evaluated by this method, I would follow up with serial catheter angiography.

As with most surgical complications, the incomplete clipping of an intracranial aneurysm is a complication that is better avoided than managed. This represents one of the strongest arguments for the use of intraoperative angiography as it is much more desirable to identify the residual aneurysm at the time of the initial operation and not seven months later. With current high-quality intraoperative angiography, this residual aneurysm could almost certainly have been identified intraoperatively and corrected at that time. My colleagues and I recently published a

prospective study in which we performed intraoperative angiography on 517 consecutive patients regardless of the size or site of their aneurysm. In this study, intraoperative angiography provided information that changed the operation in 12.4 percent of cases. Residual aneurysm (47 percent) was the most frequent finding leading to clip revision. Although the highest revision rates were identified on the proximal internal carotid artery, intraoperative angiography was able to identify a less-than-perfect result in any location. For the anterior communicating artery, 9.5 percent underwent some type of revision based upon the intraoperative angiogram.

Daniel L. Barrow, M.D.
Atlanta, GA

The dilemma posed by this case is likely one that will be seen increasingly in our practices based on the extremely low incidence of aneurysm recurrence following surgical clipping. Together with the demand by our hospitals and payers for cost containment, many practices simply do not repeat neuroimaging studies on aneurysms that intraoperatively are known to be well-clipped. The development of endovascular techniques has prompted a critical review of such new practices. Following coiling with a Guglielmi detachable coil, the frequency of residual aneurysm neck and subsequent aneurysm regrowth is strikingly different from that following open surgery. Clearly, patients must be followed after coiling with subsequent diagnostic imaging studies for at least five years and possibly forever.

The possibility of constructing an appropriate prospective trial looking at specific scenarios gives us the opportunity to more clearly define the issue of residual aneurysm, as this case clearly highlights. We have a fairly clear idea that the incidence of symptomatic recurrence following surgical clipping is extremely low and that the time period for recurrence typically is between seven and 30 years. However, we know little about the issue of asymptomatic recurrence.

In this particular case, two possibilities exist: The recurring aneurysm is proximal to the aneurysm clip or a residual lobe of the aneurysm, a situation that was not recognized at the time of the initial surgery. In the anterior communicating area, it is not uncommon to see a remaining lobe of aneurysm projecting posteriorly and inferiorly, which is the most difficult area to expose surgically. In my review of this set of six-month postoperative images, I am a bit on the fence regarding this issue. Nevertheless, for the purpose of discussion I will consider both options. In my view the treatment is the same regardless of which situation we are faced with. I am presuming also that the ruptured portion of the sac was successfully ligated at the time of the original surgery. The successful outcome and lack of rebleeding over the past six months would certainly argue in favor of that scenario.

My perspective is colored by having had the opportunity to re-explore a number of previously coiled patients. These reoperative procedures are more difficult than the initial ones and potentially are associated with higher surgical morbidity.

If this lesion in question is a residual neck of a successfully clipped aneurysm fundus, I would advise the patient and family that while there is a structural defect in the clip reconstruction, the lesion is low risk based on existing data. I would recommend a follow-up angiogram in six months and if the lesion is stable, the next follow-up study would be in approximately two years. Using noncatheter angiography for the study of this particular problem with surgical clip or clips in place has been relatively nonproductive. It is likely that computed tomography angiogram will become a good way to follow these patients, but at the present moment it is not because clip artifact obscures the critical anatomy.

If one hypothesizes that we are dealing with a secondary sac from the anterior communicating complex, my recommendation would be exactly the same in terms of follow-up imaging. I would, however, advise the patient and family that we are dealing with an asymptomatic unruptured aneurysm with a yearly risk of hemorrhage that is quite low, and in this case 1 percent or less per year. Should the lesion change angiographically during follow-up, a repeat operation would be recommended at that time.

Hunt Batjer, M.D.
Chicago, IL

This is a male patient with no known cerebrovascular risk factors and with a history of a ruptured anterior communicating artery aneurysm, originally Hunt and Hess Grade III, who underwent clipping. At six months after surgery he is normal, and a routine angiogram shows what is most likely a residual aneurysmal sac at the left A1-A2 junction, pointing posteriorly. It would appear from the clip size that the original aneurysm must have been small. Although theoretically we cannot rule out a de novo aneurysm formation, it is unlikely in view of the short interval, the absence of vasculopathic factors, and mostly in view of the well-known predisposition of anterior communicating aneurysms to be more often than not an ectatic formation at an H-shaped quadrifurcation, rather than a well-defined berry formation with a narrow neck. The original aneurysm clearly had both an anterior and posterior representation and the surgeon only addressed the anterior bulge. The residual lesion arises from the posterior surface of the left A1-A2 junction.

Management options have to depend in part on the natural history of aneurysms after hemorrhage and incomplete clipping. The first potential conceptual error is to equate these lesions to unruptured "whole" aneurysms of the same size, extrapolate the results of the International Study on Unruptured Aneurysms to them, and erroneously conclude that their bleeding rate is minuscule and does not warrant treatment. Clearly, we are dealing with two very different lesions with very different growth patterns and time evolutions. Several studies have addressed the incidence and bleeding risks of residual aneurysms and some have attempted to differentiate "dog ears" from "residual dome-filling." This is clearly an artificial distinction as, particularly for the anterior communicating complex, the weakest point of the lesion may not be necessarily the tip of the dome, but often a small translucent blister at the base. I would therefore consider, in our particular example, the natural history risks as continued growth and rerupture. The rupture rate is most likely considerably higher than that of a previously unruptured small aneurysm, and yet lower than that of an unsecured previously ruptured small lesion. One has to also factor in the added hemodynamic stress and impetus for continued growth posed by the atretic right A1, placing higher flow demands on the dominant left A1. In addition, the residual aneurysmal sac seems to be at the "hemodynamic inflow zone" of that sac.

The three treatment options are observation, coil or reclip. The case of an 80-year-old individual is straightforward as far as I am concerned. The natural history risks, beyond the first six months after incomplete clipping, are probably far exceeded by the risks of treatment. No treatment is recommended.

For the 20- and 40-year-old individuals, I strongly favor reclipping. I would do it from the side of the dominant A1 (left), to both better see the residual aneurysm and manipulate and possibly replace the old clip. In redo cases, unless the residual lesion has an extremely favorable configuration, it is often easier to start from scratch, reshape the aneurysm with judicious low current coagulation, and attempt to clip with the least number of clips under temporary occlusion of the A1. Our example may well be best suited—after removing the old clip—to a single curved clip with slimline blades, the concavity of which hugs the posterior surface of the left A1-A2 junction (placed behind, not in front of, the left A2, after a thorough preservation of hypothalamic perforators).

The arguments against coiling are as follows. The configuration has an unfavorable "neck-fundus" ratio. The lesion size is very small, probably less than 3 mm, and optimal coiling at this small size is (counterintuitively) difficult. I have witnessed a few intraprocedural ruptures in such cases, with or without balloon remodeling. The prospect of continued follow-up for possible recanalization exists.

The case of the 60-year-old individual probably calls for a "golden mean" approach where an intermediate posture is taken. I would favor follow-up with a yearly angiogram (3-D rotational, if available) for about three years, and given no visible changes, would recommend no treatment. Any growth of the lesion would warrant reoperation for clipping.

Jacques Morcos, M.D.
Miami, FL

At Weill-Cornell Medical College and New York Presbyterian Hospital, we recommend that all patients undergoing treatment of an intracranial aneurysm have a postoperative angiogram before they are discharged. Many centers routinely perform intraoperative angiography to aid in clip placement. If residual aneurysm is found, appropriate therapy can be considered at that time.

In this case a functional individual has a small aneurysm at the level of the anterior communicating artery. Whether or not this represents residual aneurysm or a new lesion cannot be determined. Treatment options include doing nothing, endovascular therapy and open microneurosurgical clipping.

The findings of the International Study on Unruptured Intracranial Aneurysms (ISUIA) (1) remain controversial, and a considerable body of literature supports treatment of small aneurysms (< 10 mm). One major criticism of this study is that the findings simply do not fit clinical experience. Studies by both Juvela et al. (2) and Tsutsumi et al. (3) document rupture rates of small aneurysms (< 10 mm) that were considerably higher than those observed in the ISUIA cohort.

This patient has previously experienced a subarachnoid hemorrhage and has either a small aneurysm rest or a new aneurismal formation, approximately 2 mm, in the same location. Both situations are essentially unstable. If the lesion represents residual aneurysm, it poses significant risk of hemorrhage to the patient. If the lesion represents a new aneurysm that has appeared and grown 2 mm in 6 months, it also poses significant risk of hemorrhage to the patient.

I would therefore recommend treatment of the lesion. Given the patient's previous craniotomy it would be reasonable to consider endovascular treatment. However, the small aneurysm size, poor morphology and lack of a true neck make it unsuitable for coiling. At the time of this writing the Neuroform stent (Boston Scientific) has become available. It is not clear, based on these images, if this flexible stent could be used to help obliterate this lesion. The coiling of small aneurysms in this location, however, carries with

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Joint Cerebrovascular

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it a significant risk for aneurysm rupture, as there is little room to deliver the coils. It may be difficult to place more than one or two coils into the lesion due to its size. The endovascular option does need to be presented to the patient, but I believe it would carry a greater risk than surgery. If the patient insists on a nonsurgical option, an endovascular approach could be attempted. Prior to either treatment I would obtain a 3-D rotational angiogram to better delineate the local anatomy.

Microneurosurgical clipping would be the treatment algorithm more likely of success. Despite the patient's previous craniotomy, this approach would be of lower risk than the endovascular option and would be the therapy most likely to obliterate the lesion entirely. Surgery is made more difficult by the previous craniotomy, the existing clip and the small size of the aneurysm. However, direct visualization would allow correct clip placement. The basic tenets of aneurysm surgery and those particular to the anterior communicating complex should be strictly adhered to. This should be done without removing or repositioning the original clip, as the events of his previous surgery remain unknown. The presented images suggest that a mini-clip conformation could be applied to this lesion.

Howard A. Riina, M.D.
New York, NY

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Endovascular Corner

Transvenous Obliteration of Traumatic Direct Carotid Cavernous Fistula

Alexander M. Norbash, M.D. and Kai U. Frerichs, M.D.

Most direct traumatic carotid cavernous fistulae can be obliterated via a transarterial approach with detachable silicone balloon embolization. Rarely, if the transarterial route cannot be used because of a small or inaccessible arterial rent, a retrograde transvenous approach may be utilized.

Presenting symptoms ordinarily include ophthalmoplegia and visual decline from malignant intraocular hypertentsion related to retrograde pressurization of the ophthalmic veins. Similarly, in some cases cortical veins may also become passively congested via retrograde filling of the sphenoparietal sinus, resulting in venous hemorrhages, focal motor deficits, or seizures. Urgent treatment may be indicated in the latter cases, and also if vision in the affected eye is threatened.

Figure 1: Preembolization left carotid angiogram in anteroposterior [A] and lateral [B] projections.

The Case

This 25-year-old female was involved in a roll-over motor vehicle accident and sustained fractures of the skull base, including the clivus, temporal bone and clinoids, in addition to a traumatic rupture of the right globe. Proptosis, chemosis and ophthalmoplegia of the left eye was noted. Intraocular pressures were elevated despite a lateral canthotomy.

A cerebral angiogram was performed revealing a direct connection between the left cavernous internal carotid artery and cavernous sinus with retrograde filling of the superior and inferior ophthalmic veins (Figure 1). It also showed brisk outflow from the cavernous sinus into the inferior petrosal sinus.

An initial attempt to engage the fistula transarterially failed due to the inopportune orientation and size of the fistulous communication. Transvenous embolization was then carried out in two stages. In the first stage, the left superior ophthalmic vein and cavernous sinus were superselected via the facial and angular vein using the venous phase of the carotid angiogram for roadmapping. Coil embolization was carried out of the anterior cavernous sinus back into the superior ophthalmic vein with the coil mass also conforming to the distal inferior ophthalmic vein, effectively eliminating retrograde pressurization of the ophthalmic venous complexes. A partial embolization of the cavernous sinus via the inferior petrosal sinus also was carried out and continued during stage two on the following day to complete obliteration of the fistula, while preserving patency of the parent vessel (Figure 2).

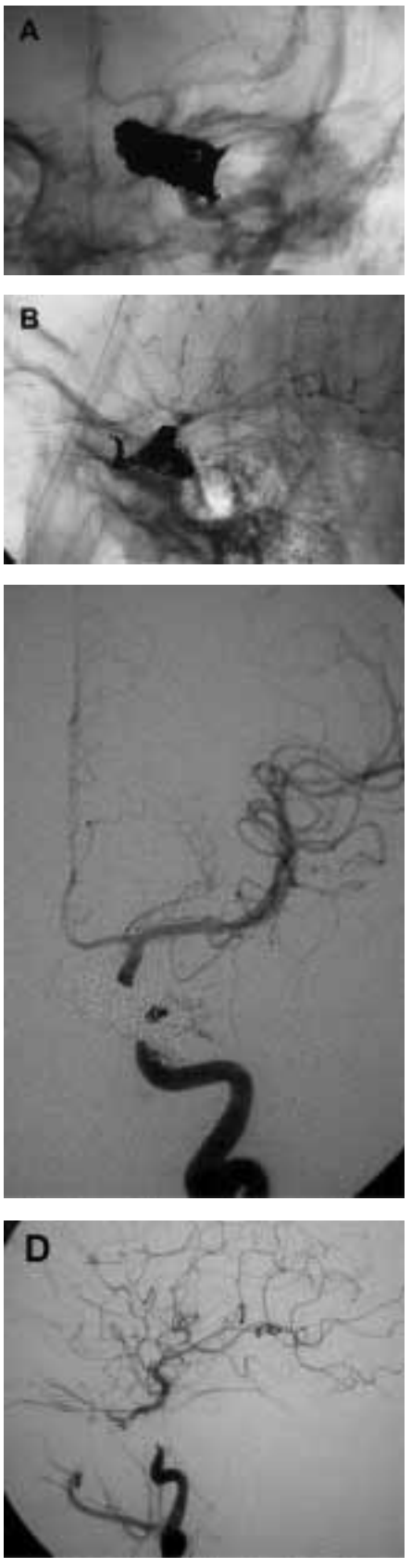

Figure 2: Postembolization left carotid angiogram in unsubtracted anteroposterior [A] and lateral [B] and subtracted anteroposterior [C] and lateral [D] projections. Note also improved filling of the intracranial branches.

Conclusion

This case illustrates that in rare cases, transvenous embolization of direct carotid cavernous fistulas may be feasible. Under certain circumstances this may have to be done urgently.

Technology Report

J. Mocco, M.D., Robert J. Dempsey and E. Sander Connolly, Jr., M.D.

Brain Physiology Monitoring

Recent advances in brain physiology monitoring technologies are bringing previously unattainable physiological parameters and their minute-to-minute changes to the forefront of common neurointensive care unit and OR management. One of the most highly investigated new technologies is the cerebral tissue oxygenation monitor. Numerous recent studies have been performed in an effort to better understand the reliability, clinical utility, and prognostic significance of brain tissue oxygenation ($PtiO_2$).

The human brain comprises 2 percent of the body's weight, yet it utilizes 20 percent of the oxygen consumed by the entire body. Of the brain's cells, neurons are the most sensitive to oxygen deprivation, with oligodendrocytes, astrocytes and microglia following in order of increasing ability to withstand anoxia. Oxygen delivery to the brain is dependent on diffusion down a concentration gradient from air to blood (which is facilitated by the presence of hemoglobin) to tissue. The $PtiO_2$ monitor is helping to provide a better understanding of the normal and ischemic physiology that regulates oxygen delivery and consumption-information that is crucial to our increasing efforts to improve outcomes after brain injury/ischemia.

Early work examining the utility of the $PtiO_2$ monitor has centered on demonstrating the consistency, reliability, and normal ranges for the data generated by monitors. Dings et al. demonstrated the accuracy of this technology, with only a 1 percent error during in vitro testing (1). Animal, and later human, studies have shown that, after an initial 30-minute to 2-hour equilibration period, values are extremely consistent and respond in a reliable manner to various physiological manipulations. This equilibration period has been attributed to microtrauma suffered by the brain when inserting the monitor itself. Interestingly, there is a great deal of variability in the baseline $PtiO_2$ levels from individual to individual. Baseline reported values have ranged from approximately 15 mmHg to 45 mmHg. This data is confounded due to the fact that there is underlying disease in all patients receiving the $PtiO_2$ monitor

and it is therefore difficult to define a true normal level. In swine the baseline $PtiO_2$ was demonstrated to be 41.9 ± 11.3 mmHg (2). It is likely that the variability observed is inherent to the technology. The $PtiO_2$ monitor samples an area on the order of 7 mm^2. $PtiO_2$ varies according to a given area of brain's cellular composition and its relationship to capillary beds. It is probable that much of the variability in the $PtiO_2$ values is due to sampling error depending on the microenvironment in which the monitor is placed. One might predict that in future studies the relative change in $PtiO_2$ may be more important than any absolute number.

Currently, investigators are at work attempting to understand the prognostic significance and possible clinical relevance of the $PtiO_2$ monitor. Questions that have yet to be definitively answered are whether there is a prognostic value to the $PtiO_2$ level or a therapeutic value to maintaining the $PtiO_2$ above a certain threshold. Presently the data is unclear. A rabbit model of ischemia has identified a $PtiO_2$ of < 8 mmHg as the critical threshold for injury (3). Doppenberg et al. found a $PtiO_2$ < 19 mmHg to be correlated with poor outcome in head injured patients, while other investigators have found lower levels necessary to predict poor outcome (4). Further studies are clearly necessary in order to better identify the critical level of $PtiO_2$.

A particularly relevant application of this technology is the intraoperative use of $PtiO_2$ levels to better identify temporary occlusion time thresholds. Two recent papers have already demonstrated the ability to utilize $PtiO_2$ monitors intraoperatively and have providing some interesting preliminary data, although more thorough studies are indicated (5,6). A second exciting application of this technology is in the early detection of vasospasm in poor grade subarachnoid hemorrhage patients. It seems likely that the addition of decreasing $PtiO_2$ levels to the vasospasm detection armamentarium will be invaluable in those patients for whom the clinical exam is an unreliable tool.

As a better understanding of $PtiO_2$ in stroke, trauma, and the perioperative brain is achieved, the use of $PtiO_2$ monitors will likely become instrumental in the care of neurosurgical patients, or at the very least, they will contribute to the advancement of our understanding of the basic physiology upon which our patients' outcomes depend.

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2. Hemphill et al. Carbon dioxide reactivity and pressure autoregulation of brain tissue oxygen. *Neurosurgery* 2001 Feb;48(2):377-83; discussion 383-4.
3. Scheufler et al. Does tissue oxygen-tension reliably reflect cerebral oxygen delivery and consumption. *Anesth Analg* 2002 Oct;95(4):1042-8.
4. Doppenberg et al. Determination of the ischemic threshold for brain oxygen tension. *Acta Neurochir Suppl (Wien)* 1998;71:166-9.
5. Gelabert-Gonzalez et al. Intra-operative monitoring of brain tissue 02 during aneurysm surgery. *Acta Neurochir* 2002 Sep;144(9):863-6; discussion 866-7.
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Resident Research Award in Cerebrovascular Disease*

The AANS/CNS Section on Cerebrovascular Surgery congratulates Malini Narayanan, M.D., Brigham and Women's Hospital, as the 2002 recipient of the Resident Research Award in Cerebrovascular Disease.

Award details include:

- Up to $15,000 Support of Specific Research Proposal
- Residents in North American Training Programs
- Research Related to Cerebrovascular Disease

Application Deadline: March 1, 2003

For information and the online application, go to *http://www.neurosurgery.org/sections/grants/index.asp#residentcv* or contact:

Robert J. Dempsey, M.D.
Chairman and Manucher J. Javid
Professor of Neurological Surgery
Department of Neurological Surgery
University of Wisconsin
600 Highland Ave.
Madison, WI 53792
Phone: (608) 263-9585
Fax: (608) 263-1728
E-mail: *dempsey@neuro-novell.neurosurg.wisc.edu*

*Funded through the AANS/CNS Section on Cerebrovascular Surgery

AANS/CNS Section on Cerebrovascular Surgery Membership Recruitment

Frank Culicchia, M.D.

The purpose of the AANS/CNS Section on Cerebrovascular Surgery (SCVS) is to advance education, research, and patient care in the area of cerebrovascular disease. Through its activities and educational programs, the SCVS strives to promote awareness among all neurosurgeons of opportunities for clinical practice and research in the area of cerebrovascular surgery to improve and advance patient care.

The section's leadership has established relationships with other specialties involved in the management of cerebrovascular disease to provide a broad focus in advancing cerebrovascular surgery. This is most evident at the annual meeting of the SCVS. Held in conjunction with the American Society of Interventional and Therapeutic Neuroradiology, the annual meeting focuses upon discussions, presentations, and practical courses of the most advanced methods of treatment, as well as those under development in the specialty of cerebrovascular surgery. Involvement of critical care, cerebrovascular anesthesiology and cerebrovascular neurology brings together an integrated team at our annual meeting, truly advancing education and stimulating research.

Membership allows for discounted registration to the annual meeting, an online newsletter, and e-mail updates on developments within the field of cerebrovascular surgery. The success and the strength of the AANS/CNS Section on Cerebrovascular Surgery to improve care to our patients lies within its membership. Browse the Web page www.neurosurgery.org/cv. Download, complete and return the application at www.neurosurgery.org/cv/cvapp.pdf (PDF 68KB) to become a member. □

JOINT SECTION ON PAIN

Chairman's Message

Jaimie Henderson, M.D.

The field of interventional pain management continues to change and expand at a rapid pace. In the absence of widespread interest among neurosurgeons, anesthesia pain specialists have largely been the driving force behind this expansion. Although there are many examples of collaboration and cooperation between neurosurgery and anesthesia pain management, two separate incidents have come to my attention within the past few months regarding credentialing of neurosurgeons to perform pain procedures. In both cases, anesthesiologists lobbied their hospital credentialing committees to try to prevent neurosurgeons from implanting spinal cord stimulators and intrathecal medication delivery systems, claiming that board certification in pain medicine was a necessary prerequisite. Consequently, the Executive Committee of the Section will meet in Philadelphia to discuss a position statement, which will state in no uncertain terms that neurosurgeons possess the neuroanatomical and physiological knowledge, as well as the technical skills, to perform a wide variety of interventions for pain, which extend far beyond those of which anesthesia pain specialists are capable. Neurosurgeons invented surgical pain management and will maintain a preeminent role for the foreseeable future. Educating hospital credentialing committees to these facts will allow us to protect our members from these attempts at restraint of trade.

The second half of this situation regards the issue of subspecialty certification in pain. At the present time, the only ABMS-recognized certification process for pain medicine belongs to anesthesia. Unfortunately, little has changed in this arena within the past 6 months. Your Section leadership continues to participate in the process of developing broader guidelines for board certification in pain.

Finally, section membership remains stable and the section remains financially solvent. The successful Satellite Symposium in Chicago has allowed us to maintain our budget despite increasing administrative costs. The Pain Section will continue to provide assistance to its membership, maintaining the neurosurgeon's role as the pre-eminent leader in education, patient care, and research in pain.

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JOINT SECTION ON STEREOTACTIC AND FUNCTIONAL NEUROSURGERY

Message From the President

Doug Kondziolka, M.D.
ASSFN President

It has been a great honor to serve as your American Society for Stereotactic and Functional Neurosurgery president. The organization has gone through an intense reevaluation of its mission and programs. Your board has worked hard to improve membership communication, publications, meetings, awards, and scientific programs.

We are planning an exciting meeting May 18-21 in New York at the Plaza Hotel. Andres Lozano, M.D., and his scientific program committee have come up with a superb educational group of topics and speakers. Abstract submission has been excellent. Patrick Kelly, M.D., has ensured that the local arrangements will be the best ever. I had the opportunity to do a site visit at the hotel several weeks ago. The meeting rooms, restaurants, and hotel are vintage New York and of the highest quality. Although New York can be an expensive location for a meeting, we have negotiated a very favorable room rate for such a grand meeting venue, and I encourage you to take full advantage of this opportunity. New York in May should be a wonderful place to bring your spouse for theater, shopping, museums, art, and of course, neurosurgery.

David Roberts, M.D., the new editor of Stereotactic and Functional Neurosurgery, has worked to streamline manuscript review and to help with more timely publication. We hope that the journal will be broader in scope, more efficient, and continue its international flavor. The new journal format will be implemented in 2003. The ASSFN will recognize Philip L. Gildenberg, M.D., and our longtime partner in publishing, Thomas Karger, as recipients of the society's Distinguished Service Award when we meet in New York.

Under the leadership of Michael Schulder, M.D., the ASSFN Web site has remained current and the best way for the society to communicate with its members. Online abstract submission proceeded smoothly, and meeting registration can be performed there as well (*www.assfn.org*). G. Rees Cosgrove, M.D., the ASSFN vice president, has been working with the office of the American Association of Neurological Surgeons (AANS) regarding a proposal for new society administration. As you know, society dues are collected by our publisher, Karger (based in Switzerland), which manages the membership data. We believe that the organization would be better served with administrative assistance closer to home. The question is cost. We are in discussion to see if our needs can be met without incurring extra expenses. The society has no plans for a dues increase.

The ASSFN has been asked to comment on the reimbursement and the present status of deep brain stimulation for movement disorders. We have asked the Centers for Medicare and Medicaid Services to be efficient in its evaluation of data so that a safe and appropriate decision can be made on behalf of patients and neurosurgeons. At the same time we have emphasized the degree of work and effort performed by the neurosurgeon in placing one or two deep brain stimulator systems and that reimbursement should be appropriate, particularly given the fact that many hours are spent in the operating room inserting these systems. Ali Rezai, M.D., Jaime Henderson, M.D., and Michael Dogali, M.D., have worked hard along these lines. Dr. Rezai, with our support and with the support of the Congress of Neurological Surgeons, is beginning an initiative to write guidelines for deep brain stimulation. This document will be created together with neurologists from the movement disorder community. □

CSNS NEWS

Chairman's Corner

David F. Jimenez, M.D., F.A.C.S
Chairman CSNS
Education and Leadership Development

Although advocacy for socioeconomic issues affecting the practice of neurosurgery is one of the main working goals of the Council of State Neurosurgical Societies (CSNS), education of the neurosurgeon of these issues is as equally important. To that effect and to coordinate those important educational efforts, the Council has established a Communications and Educations Committee. Under the skillful and solid leadership of Dr. William Bingaman, several successful programs have been established and are ongoing.

A superb half-day program on Professional Liability Insurance (PLI) crisis was held on Thursday at the CNS meeting in Philadelphia. Evaluations from attendees rated the session highly and very educational. The results of the CSNS PLI survey were presented in detail. Perspectives from the Trial Lawyers Association, The American Tort Reform Association, and the Judiciary Branch were lively and clearly presented. We plan to have a similar session at the upcoming CNS meeting in Denver.

Unfortunately, the PLI crisis continues to haunt neurosurgeons across the United States. To that effect, the CSNS will host on Thursday May 1, 2003, in San Diego, a special course titled "The 2003 Malpractice Crisis: Current Perspectives" under the leadership of the Council's Medicolegal Committee chairman, Stanley Fronzack, M.D., J.D. An update on the status and the scopes of the problem will be presented along with perspectives from the insurance industry, defense attorneys, and the law of property estates and trust. The very important topic of how to protect oneself financially will be detailed. With a question and answer discussion, this promises to be a very informative and timely topic.

Another important program hosted by the Council is an afternoon session at the CNS Scientific Program. Abstracts dealing with socioeconomic issues will be presented. Of note, prizes will be presented in two categories to the best papers. A young neurosurgeon and a neurosurgery resident will each be presented with an Award Certificate and a $1000 check. Submission of abstracts for this session are strongly encouraged.

Effective leadership is extremely important for the future and survival of our specialty. As such, the Council has made every attempt at nurturing and preparing young neurosurgeons to become effective and knowledgeable leaders. A separate resident delegate category has been created that allows neurosurgeons in training to become knowledgeable in obscure and complex socioeconomic topics and to fully participate within the proceedings of the council. This has been an extremely successful and popular program. Through unrestricted educational grants from industry, their travel and lodgings are fully paid to our Spring and Autumn meetings. Residents interested in participating in this program should have their program directors submit a letter of nomination along with a mini-bio sketch to their respective regional quadrant chairman. These are: Northeast, Stephen T. Onesti, M.D.; Northwest, Fernando G. Diaz, M.D.; Southeast, R. Patrick Jacobs, M.D.; Southwest, Phillip J. A. Willman, M.D. The Young Neurosurgeons Committee provides a forum where residents and neurosurgeons early in their practice can become actively involved through the resolution process, and multiple important programs have been instituted in recent years. I have recently appointed Dr. Richard D. Fessler to chair this committee along with Dr. Cheryl Muzynski, who as co-chair will be involved in several critical projects that affect both residents-in-training and recently graduated neurosurgeons.

The Workforce Committee will play a vital role in addressing workforce issues in this country. I have appointed Mick Perez-Cruet, M.D. to chair this committee and Dr. Debra Benzil to co-chair. With the current PLI crisis, neurosurgeons retiring early and many changing their practice pattern and location, workforce issues have never been so important to our specialty. I have charged the committee with surveying and presenting to us the scope and the depth of these problems. The result will be presented in future issues.

With respect to any issues or questions regarding the Council, please contact me at *jimenezd@health.missouri.edu*.

Thoughts and Travels

Lyal G. Leibrock, M.D., F.A.C.S.
Immediate Past Chairman of the CSNS

I recently sustained an interesting experience that significantly limited my travels. I had an acute myasthenic crisis and was in the ICU for 19 days and intubated for 9 of those, and in the hospital 35 days. Then I had a follow-up bout of HIT (heparin-induced thrombocytopenia) and was treated aggressively with the kind help of physicians and nurses at the University of Nebraska, and I have been able to recover nicely.

I was personally humbled by all the calls and letters of concern by colleagues in Nebraska and throughout the country regarding my health. It reinforced for myself the close and enduring concern and friendship of the national neurosurgical community. I wish to thank all of my colleagues for their good wishes and prayers as it has lead to an excellent and rapid recovery.

This is the last article from the Immediate Past Chairman as my place will be taken by the current Chairman of the Council of State Neurosurgical Societies, Dr. David Jimenez. Dr. Jimenez is responsible for the second successful National Leadership Development Conference in Washington, DC in July 2002 and, with the leadership of Greg Przybylski and Mark Lindsey, the establishment of NERVES, the office managers organization affiliated with neurosurgery. NERVES initial meeting took place in Philadelphia, and the more complete organizational meeting will take place in San Diego. The organization is something all neurosurgeons with office managers need to consider joining at this point in time. This is of vital importance to all neurosurgeons. Neurosurgeons need to be aware of this organization, and they need to support their office managers in this effort. It will reward neurosurgeons in return by giving them data and information that can be used to assist them in dealing with governmental, social, insurance, and legal agencies, as well as with many issues dealing with office management, billing, and reimbursement.

I wish to convey to the neurosurgical community at large that the Washington Committee deserves our enduring support and respect for their efforts in dealing with difficult socioeconomic-political issues on a daily basis. Among these are the Medicare conversion factor, and the growing and increasingly severe medical malpractice liability crisis that is jumping from state to state and increasing in a magnitude unheard of in recent years. There are solutions available to organized neurosurgery. A critically important area neurosurgeons need to be concerned with is access to present solutions. The neurosurgical PAC helps gain access to individuals who are dealing with these problems on a day-to-day basis in government. The only way to effectively obtain access, and I think most neurosurgeons are sophisticated to know this, is to have a relationship with their elected representative in the House of Representatives, in the Senate, in the state legislatures, and in the regulatory bodies. If neurosurgeons do not have access, they are then unable to make a point or position known. Neurosurgeons will not be invited to present their position. Then you cannot make your point, you are mute. To stand mute and unable to make any kind of successful effort at trying to communicate with these individuals creates loss. The neurosurgery community cannot be muted by a lack of not enough dollars. This is a plea from myself and other members of the PAC and CSNS for every neurosurgeon to consider contributing to the PAC. I have looked at this and discussed it with the Washington Committee about how much would be required to meet the need. I do not think neurosurgery can compete with General Motors, oil companies, or any large organizations, but if we had at least a half million dollars every election cycle (2 years), that would be sufficient to achieve neurosurgery's goals regarding access. The number of working and practicing neurosurgeons in the United States is approximately 4,000. This fact simply means that every year if every neurosurgeon gives $100 to the PAC, there would be sufficient funds. I think there are sufficient funds from the practice of neurosurgery to afford to give $100 a year to the neurosurgery PAC by every practicing neurosurgeon. More can be given of course, and many do provide more support, as published in the Winter 2002 AANS Bulletin. There may even be some residents that are at the economic level to give $50 a year to support the PAC and protect their future. A plea will be made by your state and regional coordinators that every neurosurgeon join this effort to support the PAC and support membership of the PAC. With this level of contribution into the PAC, neurosurgeons will have the access required to have individuals who will have at least the ear of the health policy staffer, their local congress person, or senator where neurosurgeons can make our position known. I think all of us would agree there is usefulness is this, it will help people, our patients, and it will help neurosurgeons in achieving their goals now and into the future.

I have enjoyed the opportunity to work for organized neurosurgery through the Council of State Neurosurgical Societies. I think the Council of State Neurosurgical Society is a talented and useful adjunct that the CNS and AANS established to work through the socioeconomic and political issues impacting neurosurgery on a local, state, regional, and national basis. I think the CSNS development under its leadership over the years of many chairmen, officers, committee chairmen, delegates, appointees, and resident members has been increasingly supportive of national neurosurgical efforts. The CSNS is searching continuously for individuals from each state interested in socioeconomic and political issues to join the Council and become active participating members of the Council. The Council will then have representation and knowledge from each state and will be provided information regarding the various peculiarities to each state and region. Please consider this a call to join with the efforts of the Council and its variety of activities, including the new office manager program and organization. Attend the upcoming NLDC in 2004 so that more individuals can be trained in effective communications with their elected legislators. This is an active ongoing, participatory organization that continually looks for individuals who have expertise in socioeconomic and political areas to help in this component of neurosurgery. This is a useful and rewarding task for individuals. It certainly has been for myself over the years. I will continue to participate, but not at the level I have in the past. Younger and much brighter and talented people are coming along to surpass the accomplishments of my generation.

Medical Liability Crisis

Mick Perez-Cruet, M.D., M.S.
Chairman, Workforce Committee of the CSNS

The current medical liability crisis is making it increasingly more difficult to provide neurosurgical care. Currently, the American Medical Association considers the following states to be in a crisis situation: Washington, Oregon, Nevada, Texas, Mississippi, Georgia, Florida, Ohio, West Virginia, Pennsylvania, New Jersey, and New York. Physicians across the country are making headlines with walkouts, rallies, and demonstrations to protest the current crisis. The President in his State of the Union Address made it clear that the future direction of medicine should be in the patients', nurses', and doctors', hands, not trial lawyers, HMOs, and insurance companies. Yet, trial lawyers are blaming insurance companies for hiking premiums due to lost profits from the current market downturn, and insurance companies are blaming trial lawyers due to very high malpractice judgments, higher settlements, and frivolous suits. However, it is hard to argue when looking at states that have effective liability legislation in place protecting patients and physicians, they also have reasonable liability rates and access to care (Fig. 1). The situation is taking an even more personal and dangerous turn with physicians being sued into bankruptcy to pay for judgments exceeding their insurance coverage. When one cannot perform a vital duty to society out of fear of loosing his or her livelihood, there is a crisis.

Overwhelmed by high malpractice premiums, neurosurgeons are leaving their practices and moving to other states with more desirable rates, or retiring altogether. Some neurosurgeons are even eliminating their cranial privileges to reduce their malpractice premiums. In areas where neurosurgeons are already in demand, this reduction in workforce means patients must be transferred, often times hundreds of miles, to get neurosurgical care. The resulting reduction in access to care could be detrimental to patients, particularly in emergency or trauma situations.

The Illinois State Neurosurgical Society (ISNS) recently met to discuss this issue and how to deal with the current crisis. A survey was conducted of ISNS members to gauge the impact of the current crisis. Table 1 lists the questions asked and the results from the survey. The survey was based on the results of 43 respondents and included neurosurgeons in academic and private practice settings from across the state. Liability insurance premiums in the State of Illinois are approaching and in some case surpassing the $200,000 mark. With reduction in reimbursements some neurosurgeons are finding it impossible to practice in this state. The survey revealed that 74% of ISNS members know of Illinois neurosurgeons leaving their practice area because of insurance or reimbursement issues. Increasingly, neurosurgeons are going to states with effective tort reform legislation such as Indiana and California. A majority of respondents (72%) have considered giving up trauma privileges, and 58% would consider relinquishing privileges, including cranial, to reduce liability cost. This is particularly distressing, since this is a vital part of our training and is the reason why many of us have chosen to practice neurosurgery. Of the respondents, 60% felt they had a moral obligation to cover trauma. An overwhelming 98% felt they should be reimbursed for ER coverage. However, the most alarming result is that of respondents, 88% reported they had been named in a medical legal law suit with 16% named in 4 to 6 cases, 12% in 7 to 10 cases, and 9% in more than 10 cases. Of these, 9% had lost a medical legal law suit. We cannot be expected to have perfect results in all our cases, and there is an inherent and obvious risk involved with our profession.

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CSNS News

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Table 1. Neurosurgical Practice Survey of The Illinois State Neurosurgical Society

Length of time in practice: Number of years	502	
	.5	12
Percentage of practice involved with:		
Spine__%	279	
	5	65%
Intracranial__%	136	
	5	32%
Peripheral__%	141	03%
Cost of Insurance: (Check one)		
_____1-3M	0	0%
_____<50K	3	07%
_____50-100K	7	16%
_____100-150K	19	44%
_____150-200K	12	28%
_____200-250K	1	02%
_____>250K	0	0%
Have you considered limiting your practice to:		
Spine __Yes	20	47%
Spine __No	20	47%
Intracranial __Yes	6	14%
Intracranial __No	28	65%
Peripheral __Yes	6	14%
Peripheral __No	26	60%
Have you considered giving up trauma privileges?		
___Yes	31	72%
___No	11	26%
Would you consider relinquishing privileges (ie: cranial) to reduce liability costs or expenses?		
____Yes	25	58%
____No	17	40%
Do you think we have a moral obligation to cover trauma?		
___ Yes	26	60%
___No	17	40%
Do you think we should be reimbursed for ER Coverage?		
___Yes	42	98%
___No	1	02%
Should neurosurgeons transfer trauma to major trauma centers and why?		
___Yes	31	72%
___No	10	23%
Have you contacted your carrier to see if there are discounts for limiting certain procedures? procedures		
___Yes	12	28%
___No	30	70%
Do you believe there is a liability insurance crisis?		
___Yes	42	98%
___No	0	0%
Do you believe there is a medical reimbursement crisis?		
___Yes	38	88%
___No	4	09%
Do you believe there is a surgical reimbursement crisis?		
___Yes	42	98%
___No	1	02%
Have individuals left your area because of insurance or reimbursement issues?		
___Yes	32	74%
___No	10	23%
Are you considering retirement and what is your age?:		
___Yes	16	37%
___No	27	63%
___Age	42	
Have you considered or are considering moving to another state?		
___Yes	24	56%
___No	19	44%
Percentage of increase in malpractice insurance from last year.		
___10%	2	05%
___20%	11	26%
___30%	24	56%
___50%	1	02%
Do you take Medicare assignment?		
___Yes	42	98%
___No	1	02%
Have you been named in a medical legal law suit?		
___Yes	38	88%
___No	4	09%
If yes,		
___ 1-3 cases	22	51%
___ 4-6 cases	7	16%
___ 7-10 cases	5	12%
___ More than 10 cases	4	09%
Have you lost a medical legal law suit?		
___Yes	4	09%
___No	37	86%

*Based on 43 respondents

This practice environment is making it increasingly more difficult to perform neurosurgery, and grassroots involvement should be encouraged to enact effective tort reform legislation to protect patients and physicians. Patients must be informed of the repercussions of frivolous lawsuits and runaway settlements. The patients must be our advocates in enacting effective and lasting legislative changes. We are all at risk not only for being sued, but also for being sued into bankruptcy. This is an unacceptable environment for those who have endured such an arduous training and practice diligently in an effort to improve the livelihood of our patients and fellow mankind.

The "Catch 22" of Treating Third-Party Liability Patients

Clarence B. Watridge, M.D., F.A.C.S., Tim Roberts, and John Lewis
Department of Neurosurgery, University of Tennessee, and Semmes Murphey-Clinic, Memphis, Tennessee

Patients who have a third-party liability issue who present in a medical office requesting medical treatment pose a particular problem for the physician's reimbursement. If the patient informs their health insurance carrier that they have a liability claim for their injury, the insurance company automatically refuses to be responsible for their coverage. The physician who recognizes this and collects his fees from a patient who happens to be in a health plan he contracts to serve may well be required by that insurance company to refund the payment; yet, the insurance company will still refuse to pay. If the doctor provides services, he is at risk for a long-term settlement in which the patient's attorney pays himself and then asks the doctor to accept some markedly reduced payment for the care rendered. Obviously, this is a problem for rendering medical care and failing to be fairly compensated for it.

Ways to avoid this dilemma include refusing to see patients with liability claims or developing a system to identify and avoid the noted consequences. It is obvious that those responsible for medical coverage would desire that physicians provide this care at the lowest reimbursement. The busy clinician will not realize that a claim for services may be on the accounts receivable for months or years and ultimately be paid a much reduced rate or often not at all.

Develop a plan:

- Discuss this issue with all payers with whom the doctor contracts to provide services and make it a contractual issue.
- Insist that the medical insurance payers provide payment for care rendered to their contracted patients even if they have a liability claim.
- Patients who have an attorney and whose insurance carrier declines to agree to provide for medical services are required to have that attorney sign a lien against any financial judgment for medical services.
- Separate these claims such that they can be readily identified in accounts receivable, evaluate payment history, and assess account aging.

As long as the insurance companies can keep pointing to another source as being responsible for payment of medical care, they are happy to do so. Be aware of the fact that this is the "modus operandi" of the insurance companies, and that it adversely affects the bottom line. Take positive steps to minimize this negative financial impact on medical practice.

State Society Corner

Ann Warbel, R.N.

Tara Morrison, Executive Director, provides the following update: "**The Georgia Neurosurgical Society** will hold its Annual Spring Meeting May 23–25, 2003, at the Cloister, Sea Island, Georgia. Our honored Guest Speaker for the meeting will be Richard D. Bucholz, M.D., F.A.C.S. Additionally, we will be co-hosting a spine course with the Medical College of Georgia's Department of Neurosurgery with a guest lecture by Dr. Kevin Foley. For more information, please contact the Georgia Neurosurgical Society Executive Director, Tara Morrison at (770) 613-0932 or at *tmorrison@assn-mgmt-execs.com*.

The **California Association of Neurological Surgeons** (CANS) had their meeting January 17–19, 2003 in Newport Beach, California. Minutes from this and previous meetings can be found at their Web site, *www.cans1.org* or by e-mailing Janine Tash, Executive Secretary, at *jt4ns@aol.com*.

The **Hawaii Association of Neurological Surgeons** (HANS) had their quarterly meeting September 12, 2002. Dr. Raymond Taniguchi was elected vice-president.

Dr. Thomas Hurley provides an update regarding the Illinois State Neurosurgical Society meeting in Joliet, IL on February 2, 2003. This was an emergency meeting led by Dr. Stephen Ondra outlining the current malpractice crisis in Illinois. He discussed meetings he had with Governor Rod Blagojevich, State Senate Majority Leader Madigan, and U.S. Senate Majority Leader Bill Frist. Specific ideas and possible remedies were discussed. There was confirmation of a neurosurgeon in Illinois who has filed for bankruptcy due to a verdict in excess of their policy limits. Dr. Mick Perez-Cruet circulated a survey at the meeting to obtain an accurate and current view of the effects that the malpractice climate in Illinois is having on neurosurgeons. A follow-up meeting was held on Friday, March 7, 2003 at the end of the Annual Interurban Neurosurgical Society Meeting at the University Club in Chicago.

The **Iowa-Midwest Neurosurgical Society** Meeting will be held June 7, 2003. Keynote speakers will be Dr. Johnny Delashaw from the University of Oregon and Dr. James Bean of the Washington Committee. A resident prize will be awarded for the best paper presented. Please contact Dr. Lyal Leibrock for further information.

The **Louisiana State Neurosurgical Society** has elected new officers. The president is Deepak Awasthi, M.D. Anil Nanda, M.D. is the new secretary/treasurer.

The **New England Neurosurgical Society** held their meeting February 28, 2003 at the Dartmouth Hitchcock Medical center in Lebanon, NH, with dinner following the meeting at the Hanover Inn. Guest speakers included Katie Orrico from the Washington Committee and Ron Snow, attorney, New England Neurosurgeons, who led a panel discussion on medical liability. This was followed by Drs. Adel Malek and Robert Harbaugh discussing the International Subarachnoid Aneurysm Trial. The scientific session included time for discussion of interesting cases. The Donaghy Lecturer was Dr. Arthur Day at dinner at the Hanover Inn. The next meeting is planned for June 6, 2003.

Dr. David Weinsweig reports, "The **West Virginia Neurosurgical Society** has elected new officers: President, Julian E. Bailes; Vice President, Constantino Y. Amores; Secretary, John H. Schmidt III; and Treasurer, David L. Weinsweig. The society has had two recent meetings and has become a more active chapter recently.

Upcoming Meetings

May 2003
Georgia Neurosurgical Society
The Cloister
Sea Island, GA
Guest Speakers: Dr. Richard D. Bucholz and Dr. Kevin Foley
Contact: Tara Morrison
E-mail: *tmorrison@assn-mgmt-execs.com*
Phone: (770) 613-0932

June 2003
6
New England Neurosurgical Society
The Endicott House at MIT
Dedham, MA
Contact: Dr. Robert Harbaugh
E-mail: *robert.e.harbaugh@hitchcock.org*
Phone: (603) 650-8732

7
Iowa-Midwest Neurosurgical Society
Omaha, NE
Guest Speakers: Dr. Johnny Delashaw and Dr. James Bean
Contact: Dr. Lyal Leibrock
E-mail: *lleibroc@unmc.edu*
Phone: (402) 559-4301

January 2004
California Association of Neurological Surgeons
Sutton Place Hotel
Newport Beach, CA
Topics: Socioeconomics
(January 17, 2004)
Pain Management Course Part II
(January 18, 2004)
Contact: Janine Tash
E-mail: *jt4ns@aol.com*
Phone: (916) 457-2267

CSNS CALL FOR ABSTRACTS

William E. Bingaman, M.D.

The Council of State Neurosurgical Societies is calling for abstracts to be presented during the CSNS session at the annual CNS meeting in Denver, 2003. The afternoon session will involve presentation of papers and a panel of speakers presenting timely socioeconomic topics. This year's preliminary topic will involve a discussion of the neurosurgical workforce shortage, including the effect of recent changes in resident work hour restrictions. During the session, two annual monetary awards will be presented to the best abstracts.

Submitted abstracts should relate to socioeconomic neurosurgical or medical topics. These might include specific outcome or economic studies related to a particular neurosurgical procedure, Medicare issues, resident workforce issues, HIPAA, professional liability, etc. Please contribute to this important aspect of neurosurgery and help make the Denver CNS meeting an exciting one! Please visit NEUROSURGERY://ON-CALL® abstract submission site prior to the April 4, 2003 deadline.

ASSET PROTECTION FOR THE NEUROSURGEON

On Thursday, May 1, 2003 the AANS at its San Diego Meeting, in conjunction with the CSNS will offer a special course, The 2003 Malpractice Crisis: Current Perspectives. This offering is a result of the combined efforts of the Medico-Legal and Executive Committees of the Council of State Neurosurgical Societies. The course will offer new ideas and strategies that will be beneficial to practicing neurosurgeons and that can be implemented now to protect them from the excesses of the current Tort System. The session will familiarize the participants with the law and legal principals regarding asset protection. Although not intended to be exhaustive in its scope, the course should provide a sufficient working knowledge to the neurosurgeon so that he may understand the basic principals and thereby work with competent legal counsel to fashion a suitable asset protection plan. The course will be presented in a divided format and will also allow audience participation using wireless technology to poll the participants at various times during the program.

"Introduction and Scope of the Problem"

David Jimenez, M.D.

"A Defense Attorney's Perspective on Malpractice Trials, Judgments, Settlements, and Post-Judgment Issues for the Neurosurgeon"

Norman J. Barry, J.D.

"Perspectives of the Medical Liability Carrier"

Richard E. Anderson, M.D.

"The Law of Property, Estates, and Trusts for the Neurosurgeon"

Stanley W. Fronczak, M.D., J.D.

"Asset Protection for the Neurosurgeon"

Robert D. Guillen, J.D.

Panel Discussion/Questions and Answers

Participants

We are looking forward to a very informative meeting and would be interested in any questions, suggestions and/or comments. E-mail: *sfmdjd@msn.com*.

David Jimenez

Stanley Fronczak

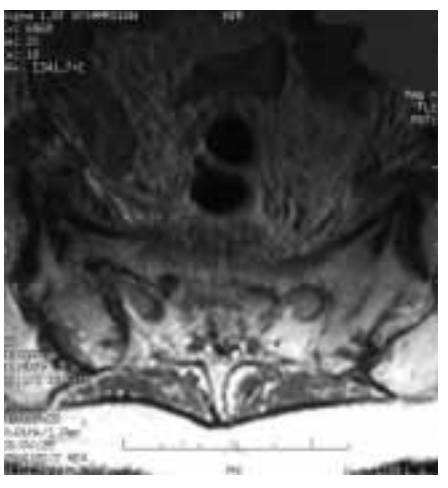
Joint Section on Pain

Continued from page 15

Case of the Month March 2003: Sacral Spondyloptosis

History & Physical: This 75-year-old female patient had a long history of mixed mullerian tumor of the uterus (Stage IIIC) that was initially resected in July of 2000. Subsequently, she underwent pelvic radiation along with cisplatin chemotherapy. In July of 2001, it was noted that she had evidence of a right sacroiliac metastases, and further radiation treatments provided resolution of her pain in this region. On a routine follow-up, radiological studies from January of 2003 show bony resorption of the S2 region with angulation and deformity that is significantly changed from prior studies one year ago. However, she is still ambulating quite well and going "shopping" frequently with her daughters. She also denies any current pain, but has been on a Duragesic patch for quite some time. Otherwise, she denies any other motor, sensory, bowel, or bladder changes.

Imaging: MRI shows resorption of S2 with angulation, along with bilateral sacral alar marrow signal changes that continue to exhibit enhancement. The caudal end of the thecal sac at S1 is compromised due to the degree of canal stenosis. This deformity and canal stenosis is progressive as compared to the prior study.



1 The diagnosis of this sacral injury is most likely:
- ❑ Osteoporotic fracture
- ❑ Pathologic fracture from metastatic tumor
- ❑ Pathologic fracture from radiation
- ❑ Burst fracture
- ❑ Fracture dislocation

2. The treatment option of choice in this patient is:
- ❑ No surgical treatment indicated
- ❑ Observation, with repeat radiological studies
- ❑ Bracing for less than six weeks
- ❑ Bracing for greater than six weeks
- ❑ Immediate surgical intervention (within 48 hours)
- ❑ Delayed surgical intervention (after 48 hours)

3. The optimal surgical option offered to this patient would be:
- ❑ No surgery, bracing only
- ❑ Bony decompression only
- ❑ Spinal instrumentation only
- ❑ Bony decompression with spinal instrumentation

4. The optimal surgical approach to a bony decompression of this lesion would be:
- ❑ No decompression needed
- ❑ Anterior
- ❑ Posterior
- ❑ Anterior-Posterior

5. The optimal bone placement for spinal fusion to be offered to this patient would be:
- ❑ No fusion needed
- ❑ In situ fusion
- ❑ Reduction and fusion
- ❑ Reduction with anterior strut graft placement and fusion

6. The optimal spinal instrumentation option offered to this patient would be:
- ❑ No surgery needed
- ❑ No instrumentation, bony fusion only
- ❑ Anterior plating
- ❑ Anterior cage/interbody hardware
- ❑ Pedicle fixation construct
- ❑ Hook and rod construct
- ❑ Galveston/Sacroiliac construct
- ❑ Wiring construct
- ❑ Combination of both anterior and posterior instrumentation placement

To submit youtr answers electronically and for a subsequent discussion go to Pain Section in Hot Topics at *www.neurosurgery.org*.

William H. Sweet Young Investigator Award

$1,000 award sponsored by Medtronic, Inc. given for the best presentation by an investigator within 5 years of completion of residency training at the AANS Annual Meeting.

Awardees:

2002 - Ashwini Sharan, "MRI and Spinal Cord Stimulation: An Experimental Safety Study"

Dr. Ashwini Sharan was born in Patna, a small city in the Northeast of India. He immigrated to the United States when he was an infant in 1971. He then grew up in New York and New Jersey in an environment surrounded by multicultural immigrants. In 1995, he completed his BA-MD degree from Boston University and UMDNJ - Newark, New Jersey in an accelerated medical program. He initially began neurosurgical training at the University of Connecticut and completed the majority of his training at Thomas Jefferson university in Philadelphia, Pennsylvania. Since then he has decided to do a fellowship in Spine Neurosurgery

and Functional Neurosurgery both at The Cleveland Clinic Foundation in Cleveland, Ohio. Following the completion of his training, he plans on pursuing a career in academic neurosurgery with research interests focusing on movement, functional imaging, pain, and neural prosthesis. CV (PDF 23KB) □

Previous William H. Sweet Young Investigator Award Recipients

2001 - Dragan F. Dimitrov, "Human Adult Cortical Plasticity: Lidocaine Anesthesia Generates Effects Similar to Limb Amputation"

2000 - Alon Y. Mogilner, "Functional Brain Imaging and Spinal Cord Stimulation: Localization of Cortical Activity with Magnetoencephalography (MEG)"

1999 - No award given

1998 - Ali R. Rezai, "Deep Brain Stimulation for Intractable Neuropathic Pain: Contemporary Management and Outcome in 80 Patients"

1996 - John G. Piper, "Systematic Studies in Visceral Nociceptive Processing"

1995 - Zelma H. T. Kiss, M.D.

1994 - Richard K. Simpson, Jr, M.D., Ph.D.

1993 - Robert M. Levy, M.D., Ph.D.

1992 - Nayef L. Al-Rodham, M.D., Ph.D.

NEW PRODUCTS

FzioMed Receives Expanded Label Claims For Oxiplex®

San Luis Obispo, California – FzioMed, Inc. has announced that it has received approval in Europe to expand the label claims for its Oxiplex®/SP Gel for use in spine surgery to include the reduction of pain and radiculopathy.

Oxiplex®/SP Gel is a bioabsorbable gel that is applied during spine surgery as a barrier to reduce the formation of post-surgical adhesions, a leading complication of many surgical procedures. The product, currently sold throughout Europe, is indicated for use in laminectomy, laminotomy and discectomy surgeries. The expanded labeling, based on results from the company's clinical trial, now includes indications for the reduction of pain and radiculopathy.

"The use of Oxiplex®/SP Gel in spine surgeries offers the potential for improved patient outcomes," said Ronald Haynes, President and CEO of FzioMed. "The patient benefits of reducing pain and radiculopathy will be the subject of an article in an upcoming issue of Spine."

FzioMed is a privately held biomedical company engaged in the development and commercialization of advanced, absorbable biosurgery products based on the company's patented Oxiplex® platform technology. Oxiplex® is an innovative polymer that is formulated for a variety of medical indications and markets. Products in development include those for the prevention of post-surgical adhesions, drug delivery and hemostasis. FzioMed products are at various stages of clinical and pre-clinical development, and are directed towards high growth markets in the rapidly growing field of biosurgery.

Oxiplex® is a registered trademark of FzioMed, Inc.

For more information, contact FzioMed, Inc., www.fziomed.com or Ronald F. Haynes, 805-546-0610, ext. 212, *rhaynes@fziomed.com*.

AtlasSpace™: the Brain Atlas for Leksell SurgiPlan®

AtlasSpace™ is a new option for Leksell SurgiPlan® particularly when performing functional neurosurgery. It's the second generation computerized stereotactic brain atlas and is based on the three original series of the Schaltenbrand & Wahren* atlas. It offers a combination of sophisticated 3-D matching, overlay on patient's images of atlas contours, interactive setting of displayed atlas contours and advanced target verification.

According to the manufacturer, the core advantages are…

1. Fast and flexible matching in 3 dimensions

Continued on page 22

NEW PRODUCTS

New Products

Continued from page 21

AtlasSpace™ overlays the atlas contours from the Schaltenbrand & Wahren atlas directly on the patient's anatomical images matching the data in three dimensions by using the Talairach proportional grid.

2. Accurate identification with interactive and customized atlas contours

The atlas contours can be turned on or off individually. Groups of user selected contours can be defined according to the individual surgeon's preferences. These customized sets of structures can also be saved for future use. The atlas contours are interactively labeled.

3. Confirmation through advanced target verification

When a target is placed in an image, the distances to the AC-PC line are automatically calculated to further help to verify the position. Generic targets can be defined relative to the atlas contours, and once selected for a particular patient the corresponding stereotactic coordinates can be calculated.

Seamless integration…

AtlasSpace™ links seamlessly with Leksell SurgiPlan® for fast and accurate planning.

An excellent educational tool…

Thanks to the user-friendly features of AtlasSpace™ and Leksell SurgiPlan®, AtlasSpace™ is an excellent tool for educational purposes. Its intuitive design and the visual user interface with interactive labeled atlas contours make learning easy.

For more information contact Sam Norris, Product Marketing Manager, (770) 670-2485.

*© George Thieme Verlag, Stuttgart/New York

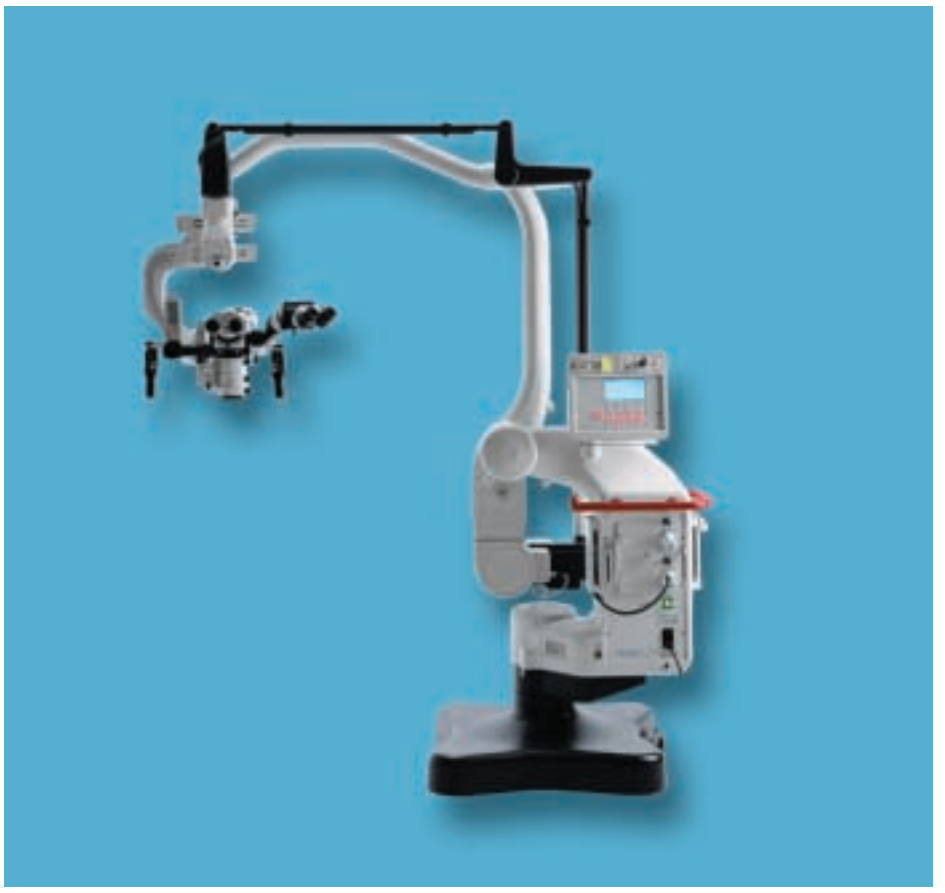
Brasseler USA™ Introduces XK-PRO 100™ High Speed Drill System

Brasseler USA™ Surgical Power & Accessories has introduced the XK-PRO 100™ High Speed Drill System, that, according to the manufacturer, combines a compact size and lightweight design that adapts to a combination of surgical procedures. Rotating at 100,000 rpm, the pneumatic powered high-speed drill system exemplifies qualities to include smooth, precise cutting, superior fingertip control, minimal operational noise level, and is virtually oil free.

The XK-PRO 100™ has been molded to provide an ergonomically balanced motor to minimize wrist fatigue for the surgeon. The slim modeled hand piece allows easier access and greater visibility to the smallest surgical sites making it an optimal choice for neurosurgical, ENT, and orthopedic procedures.

The Brasseler USA™ XK-PRO 100™ High Speed Drill System features quick connect nosepieces, craniotomes, and is complimented with a wide range of cutting accessories available in the most popular shapes and sizes.

For more information contact Doug Radford, (800) 535-6638, ext. 3187.



Leica Microsystems Presents the New Leica M500 OH3 Surgical Microscope

Leica Microsystems has introduced the new Leica M500 OH3 for neurosurgery, ENT, and spine surgery.

According to the manufacturer, the Leica M500 OH3 combines the best optical performance available in the market with an innovative and unique stand and offers the following advanced features:

The stand's patented advanced movement system achieves perfect balance in six axes and all locations/angles of the surgical microscope.

The Leica M500 OH3 is now the lightest, easiest system to move in the industry with the greatest range of movement.

The stand has a patented auto-balance system that fully balances six axes with one push button.

In addition to six electro-magnetic controlled free-floating axes, the Leica M500 OH3 has robotic functions on axes five and six to allow further movement precision. The robotic functions can be activated by hand and/or foot controls.

The Leica M500 OH3 has a newly designed 300-watt dual Xenon arc lamp illumination system, which increases the light quantity by 20% and improves reliability and heat control. A back-up light and electrical system of equal light quality and quantity gives the surgeon comfort in knowing his/her surgery will not be disturbed by a light failure.

In addition to the traditional binoculars, the system has a high-resolution dual imaging device available, the Leica DI C 500 that allows the input of endoscope images into the microscope image. This allows the surgeon to use endoscopes in combination with the Leica M500 OH3 microscope. Furthermore, the Leica DI C 500 allows computer, MRI, CAT, and other images to be seen or layered over the microscope image to compare actual anatomical structure with diagnostic images.

The system has an overhead design and low total weight, which allows easy positioning in the operating room. The Leica M500 OH3 is built with unmatched performance for the surgeon and unmatched user-friendliness for the operating room nurse.

For more information, contact Leica Microsystems Inc., 2345 Waukegan Road, Bannockburn, IL 60015. Phone: (847) 405-0123; Fax: (847) 405-0164; Web site: *www.leica-microsystems.com*; E-mail: *info@leica-microsystems.com*. □

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