



NEUROSURGERY

NEWS

THE OFFICIAL NEWSMAGAZINE OF THE CONGRESS OF NEUROLOGICAL SURGEONS

President's Message: Three Things

**Richard G. Ellenbogen,
M.D., F.A.C.S.**
President, CNS



I am writing to tell you about "three things." These "three things" represent important action items at the Congress of Neurological Surgeons.

Clearly, there is much going on in neurological surgery around the country, such as the exponential expansion of our field, as well as the growing challenges to our ever changing practice environment. Our main mission remains to provide educational offerings that help our members stay well informed. In addition, through the Washington Committee, the CNS magnifies your efforts by combining with the other neurosurgical organizations to intelligently face the challenges to our practice environment with one strong and unified neurosurgical voice.

The first issue to discuss concerns the member's needs assessment that you received from the third-party independent lab conducting the survey. The purpose of this study is to collect information on the concerns and needs of our membership. The CNS will use this information to develop strategies to improve the value of its membership. All data will remain confidential. It is not our goal to add one more piece of e-mail or snail mail to your already bursting queue. It is our hope that the CNS, as an organization, can evolve to meet your ever expanding educational needs. Our CNS Staff, your elected Executive Committee members, and a professional survey team worked together diligently to construct a survey that is both meaningful and respectful of your very precious time. We realize that not everyone learns in the same way or needs to expand their knowledge base on the same subjects. After we analyze the results of the survey, we hope to change or modify the methods by which we deliver our educational products and to target clinical areas and members who may have felt we needed a change of direction. The results will be more meaningful if everyone who receives the survey takes the few minutes necessary to fill it out. I thank you in advance for your participation.

The second issue concerns our expanding educational products. *SANS Wired* remains a tremendous success to practicing neurosurgeons and residents. For residents, it appeals to the self-study habits required for success while enrolled in a busy residency training program, in which the resident is expected to know everything, but is given precious little time out of the operating room to absorb that information. For those of us in practice, it serves as a wonderful venue for Maintenance of

Certification (MOC) in the ABNS process. The CNS will enter your ABNS number when you complete the *SANS Wired* course and forward the tracking certificate on to the AANS for registering the appropriate CME. The

Three Important Areas

1. Member's Needs Assessment
2. Expanding Educational Products
3. Washington Committee Successes

SANS staff, led by Tony Asher and Nate Selden, are continuously writing new questions and creating new required modules. These questions are filled with educational content as well as references that can be pulled up via a click on the keyboard, directing the mem-

ber to the source of the information. There will be an important, new socioeconomic module added to *SANS Wired* that will be generously co-authored by Alan Scarrow (CNS) and Fernando Diaz (President, CSNS) and his skilled and knowledgeable team from the CSNS. This module will help expand all of our knowledge on the important socioeconomic issues that affect the practice of neurological surgery in the United States. It will be released this calendar year.

The CNS products, *NEUROSURGERY*, *Operative Neurosurgery*, and *Neurosurgery-Online* remain three of the most quoted neuroscience journals around the world. The journals, which seem to incessantly elevate the bar in neurosurgical peer-reviewed literature, claim an impressive International Editorial Board of leaders in our field, and is directed by our innovative Editor, Michael L.J. Apuzzo. The contributors to these journals, editorial board, and editorial staff,

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CNS-Integra Katrina Fund: Rebuilding Neurosurgical Training Programs

**Nelson M. Oyesiku, M.D.,
Ph.D.**
Past-President, CNS



In the aftermath of the tragic Hurricane Katrina natural disaster in the Gulf Coast region in the Fall of 2005, there were huge socioeconomic impacts and human dislocations. Among these was the severe disruption of healthcare delivery, including neurosurgery. The Integra Foundation and its corporate leadership rose to meet the challenge together with the Congress of Neurological Surgeons and its membership. An immediate commit-

ment of funds was made in the amount of \$200,000 and was disbursed to the two affected neurosurgical residency training programs at Louisiana State University (LSU) and Tulane to assist in the resuscitation and relief of these programs. Currently, the programs are being rebuilt by David Kline, M.D., Professor and Chairman at LSU, and Miguel A. Melgar, M.D., Ph.D., Tulane Neurosurgery Residency Program Director. A summary of the progress to date in both programs is reviewed.

Tulane University

Tulane is in the process of rebuilding the program and Tulane University as a whole. The President of Tulane University recently laid off nontenure faculty and staff personnel in the School of Medicine who were "noncritical" for the mission of the University. This was

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President's Message

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led by Rod Faccio, have magically sustained the creative spirit of these publications by diligence, rigorous peer-review, and an uncanny eye for new advances that make these journals eminently readable and appealing to a wide spectrum of our members.

The Annual CNS Meeting to be held in Chicago October 7–12, promises to be a blockbuster. The meeting theme is “Transcendent Leadership through Scientific Inquiry, Patient Advocacy, and Surgical Mentorship.” The science will be built around those three essential themes, which infuse our field with energy. My goal of adopting these themes was to remind ourselves that, despite the growing external pressures placed on our field, neurological surgery remains a vibrant and evolving art that continues to offer great promise for our patients. What we do in our daily lives is still essentially important to society and simply “all about the patients.” In addition, we add value to our field by advancing it through scientific inquiry and life-long learning by a unique mentorship process that starts in medical school and continues through retirement. An additional bonus is that the Annual CNS meeting in Chicago will be a joint meeting with the German Society of Neurosurgery (Deutsche Gesellschaft für Neu-

rochirurgie) and the German Academy of Neurosurgery. These societies represent some of the most sophisticated and technically advanced neurosurgical practices in the world. In the current day of instant information through the Internet and a global economy, the CNS feels that international neurosurgery efforts are ones that will yield some of the richest and sweetest educational fruits. After all, the CNS is an international organization, despite its huge North American base. The annual meeting will use many novel teaching techniques that have been requested by our membership, ranging from truly interactive programs in the plenary session, to live three-dimensional dissections, to digital posters. More about the wonderful 2006 Annual CNS meeting will be coming in future editions of *Neurosurgery News*.

The last point I want to make is the importance and success of your Washington Committee, led by Troy Tippet, Chair and Katie Orrico, Director. Too often, our members think of the multitude of neurosurgical organizations as fractious and confusing. However, it is at the Washington Committee that the leaders from the CNS, AANS, CSNS, Senior Society, and Sections work as a team to represent one powerful neurosurgical voice in Washington, D.C. It is under the auspices of this group, which pursues a broad agenda, that we in the CNS aim to positively influence the many health care policy

issues so very important to our members and their patients. Some of the recent accomplishments of the Washington Committee include the prevention of a 35% reduction of reimbursement due to practice expense reductions, the prevention of punitive pay-for-performance (p4p) parameters from being adopted, obtaining favorable relative value units for neurosurgical codes, obtaining medicare coverage for deep brain stimulation and carotid stents, participating in coalitions that worked to pass legislation doubling the National Institutes of Health budget over a 5-year period, working on Emergency Medical Treatment and Active Labor Act reforms for neurosurgeons, fighting actively for meaningful medical liability reforms in multiple states, and protecting the confidentiality of the QI process in hospitals, just to name a few. However, there remains much work yet to be done. We are currently very active in a number of fronts, including protecting the participation of neurosurgeons in stereotactic radiosurgery and defining the essential role of neurosurgeons in the care of trauma patients nationwide.

So, you see, the “three things” I wanted to tell you had a multitude of ramifications that hopefully, will be of interest to you. It is our hope that we at the CNS can continue to serve our members well, so that their patients can receive the best neurosurgical care possible.

CNS-Integra

Continued from page 1

done to balance the budget and keep the University afloat. As a consequence, retained faculty have been guaranteed their full-time salary, benefits, incentives, and supplements until July 2007. This has created a “relatively safe environment to pursue our goals and keep a peace of mind to do our job.”

The case load in the New Orleans metropolitan area has substantially increased with new practices in the North Shore of Lake Ponchartrain (Lakeview Hospital) and in a new facility at Metairie (Tulane Lakeside Hospital). The flagship hospital, Tulane University Medical Center, in downtown New Orleans has reopened. The practice includes three private hospitals and the Veteran's Administration (VA) Hospital. The New Orleans VA has leased 100 beds at Tulane University Hospital, and VA Neurosurgery will be covered by Tulane exclusively

Tulane residents have been welcomed at various programs around the country, including Methodist Hospital in Houston, University of Alabama Birmingham, University of Texas Southwestern in Dallas, and Indiana University. They are doing well and performing admirably in their posts. The Chief Resident, Dr. Emilio Tayag,

has returned to New Orleans to work since the beginning of January. Two more residents will be recalled by the end of April. The anticipation is that by July of this year, they will have the roster back covering three hospitals and a possible new rotation at Lady of the Lake Hospital in Baton Rouge. There is a neurosurgery group at Lady of the Lake composed of seven neurosurgeons with strong ties to Tulane. They perform the whole gamut of standard and complex neurosurgery that will benefit resident education.

Louisiana State University

LSU is also rebuilding its program. They have retained all faculty. Before the hurricane, the Department was engaged in a search for a new chair to replace David Kline, and adding faculty to fill attrition. While this was initially put on hold, plans have resumed as optimism has been regained. There is job and benefit support, and the area is safe for work. Much future planning will necessarily await the arrival of the new chair.

LSU residents were deployed to the University of Pennsylvania, Cleveland Clinic, and Louisville University, and all the residents are doing an outstanding job. There are three remaining residents who are very busy. The case volume is picking up in New Orleans and at LSU Baton Rouge, with very strong activity at the Ochsner, Tuoro,

and Children's sites. The practice at Baton Rouge is new. The flagship hospital, Charity Hospital, was hit heavily and its future role remains uncertain.

Use of the Integra-CNS fund

At Tulane, the Integra-CNS fund has been used for cash advance for the residents, CNS Boston travel and hotel, and Louisiana Neurosurgical Society meeting travel expenses. It has also been used for books, computers, and courses (Armed Forces Pathology Review), and for residents who will take the written ABNS boards. At LSU, the Integra-CNS fund has been used for personal support such as housing and transport, cash, and meeting attendance (CNS and State Society). It has also been used for books, computers, and courses and for residents who will take the written ABNS boards. Part of the money has also been used for faculty expenses (transportation and national meetings attendance) at both institutions.

There is great optimism that Tulane and LSU will regain their prominence and role in neurosurgery in this part of the country. Both Tulane and LSU thank the Integra Foundation and the CNS for their support!

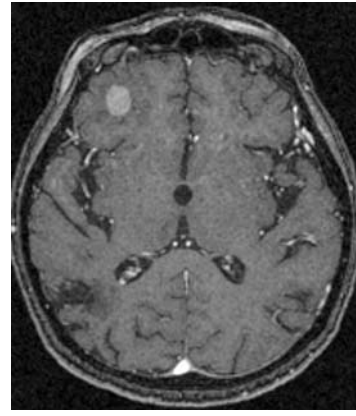
Detailed descriptions by neurosurgical trainees of their experiences during and as a result of Hurricane Katrina are provided on pages 14 and 15.

NCCTG/ASOSOG Radiosurgery Trial: Is WBXRT Necessary for 1-3 Brain Mets?

**Anthony Asher, M.D.,
Fred Barker, M.D.,
Michael Vogelbaum, M.D.**

About 20% of the 1.2 million Americans diagnosed with cancer this year will develop cerebral metastases during the course of their illness. The present management of cerebral metastases is in flux, with the recent widespread application of stereotactic radiosurgery (SRS) and other focal treatment options calling into question the need for other potentially toxic therapies that treat the entire brain. Although

whole brain radiotherapy (WBRT) has long been part of the standard treatment of brain metastases, the optimal role and timing of this therapy is now being studied by investigators in a variety of clinical settings. The N0574/Z0300 protocol tests the efficacy of WBRT, when added to SRS, in the treatment of patients with one to three brain metastases from systemic cancer. Specifically, the trial examines patient survival, and is powered to detect any significant decrement in survival from omitting WBRT from treatment regimens. Just as importantly, it tests the toxicity of WBRT in this setting using a battery of neurocognitive tests



Is WBXRT necessary in this anticoagulated elderly patient with a solitary right frontal metastasis?

designed to detect decrements in neurological function caused by WBRT.

The N0574/Z0300 protocol is built upon a foundation of previous retrospective work on this question regarding the efficacy of SRS alone or with WBRT for the treatment of brain metas-

tases. Sneed et al. published results of a retrospective, multi-institutional study in which 268 patients were treated with SRS alone and 301 received SRS plus WBRT (Sneed, 2002). After adjustment for known prognostic factors, they found no significant difference in overall survival between the groups. Hasegawa et al. noted that patients treated with SRS alone relapsed elsewhere in the brain at a gross rate of 38% (Hasegawa, 2003). In another retrospective series, patients receiving SRS alone for cerebral metastases were free from relapse in the brain only 28% of the time after 1 year (Sneed, 1999). Despite the high rate of new lesions developing in patients treated with SRS alone, however, overall survival appears to be equivalent to SRS plus WBRT, as salvage therapies are fairly effective and patients' extra-cranial disease is most often the actual cause of death (Sneed, 1999 and 2002).

The primary argument for using SRS alone in the treatment of cerebral metastases is to limit the neurocognitive side effects of WBRT. Although there is evidence that WBRT can produce negative neurocognitive sequelae, the available data are scant and may not be directly applicable to present day treatment. The two most commonly quoted papers on the topic evaluated a total of 18 affected patients and were published in the late 1980s (DeAngelis, 1989; Asai, 1989). Patients in the larger of these two series were treated in the late-1970s to the mid-1980s with radiation regimens that are generally not representative of current standards. Despite the widespread perception that WBRT inevitably results in worsened neurocognitive function, the contrary argument can be made that the exclusion of WBRT in patients with brain metastases can lead to worsened cognitive outcomes. Regine et al. have shown that when patients treated with SRS alone relapse, they are frequently symptomatic (71%), and the majority have a neurological deficit (59%) (Regine, 2002).

Unfortunately, the presumed biases in assignment of patients to different treatments in the course of standard practice render any retrospective analysis of this issue potentially misleading. A randomized trial that includes a prospective quality of life and neurocognitive evaluation is the best way to answer the questions raised by these retrospective reports.

To address the utility of WBRT in patients with one to three brain metastases treated with SRS, the American College of Surgeons Oncology Group (ACOSOG) opened trial Z0300: "A phase III randomized trial of the role of whole brain radiation therapy in addition to radiosurgery in the management of patients with one to three cerebral metastases." Due to a reorganization of ACOSOG, this trial is now being run by the North Central Cancer Treatment Group (NCCTG)

CNS ad #2 new 4/c

My Days at the “Candy Store”

Douglas Kondziolka, M.D.
President-Elect, CNS

Well, I just got out of court. Yesterday was my first time. I'm certain that it can happen again, especially based upon how it happened this time. Your CNS leadership has been speaking to you about medicolegal reform for years, and you have been encouraged to support Neurosurgeons to Preserve Health Care Access (NPHCA), Doctors for Medical Liability Reform (DMLR), and other initiatives to promote reforms to assure quality health care for our patients and appropriate legal safeguards for the medical profession. I want to share my personal experience in our current professional liability morass, as it shares several insights into the often surreal world in which we practice.

I was not sued for “malpractice.” I was not sued for providing negligent or substandard care; in fact, the surgery went fine. My patient went home the next day, and, in the words of her family, she was as happy as a “kid in a candy store.” It sounds pretty good so far, doesn't it? The patient previously experienced essential tremor for 40 years, and the condition had recently become disabling in her dominant hand, despite multiple medication regimens. She also experienced depression, panic attacks, and back pain, and walked with a wheeled walker. I performed a stereotactic radiofrequency thalamotomy in 1999, and her tremor was eliminated. Her tremor partly returned a few months later, and we offered additional surgery, which she decided to decline.

Then, 2 years later, I was suddenly sued. The patient claimed that she had never met me before the operation. She alleged that, in our office, she had only met a visiting fellow (who was only an observer), and that she did not meet with me. Thus, she claimed that she had not received informed consent and that I must pay her a huge cash damage award because the stereotactic radiofrequency thalamotomy that I performed constituted “battery” under Pennsylvania law.

Now, you might think that adequate documentation would dissuade any reasonable plaintiffs attorney from taking this case. Well, read on. During her initial office visit, we completed the history and physical documentation for the hospital record, the admission orders, the consent form for surgery, and the anesthesia consent form (all of which I personally signed). In addition, I included a hand-written note on the admission form, confirming that the risks (which were specifically listed) were explained to and acknowledged by the patient, and that the patient decided to proceed. In the correspondence from me to the referring neu-

rologist that same day, I again confirmed that all alternatives had been discussed, including radiofrequency thalamotomy, deep brain stimulation, and radiosurgical thalamotomy, as well as the risks of each of those approaches. One month later, the risks, benefits, and alternatives were again described in detail in the operative note. But, as it turned out, there was one form I did not personally sign—a clinic sheet that contained some background information and notes confirming her medical complaints.

Thus, I was sued. In an informed consent case, the plaintiff must prove: 1) that I did not provide informed consent, 2) that whatever information I did provide was so lacking that it did not contain those elements that a reasonable person would have used to make a decision for or against surgery, 3) that the patient was injured in some way, and 4) that this alleged lack of information caused specific compensable damages to the patient. We had plenty of evidence to address point one. In fact, the patient and her family admitted that they knew and understood the risks of surgery. She acknowledged that she understood the risks of possible no benefit, recurrent tremor, bleeding and stroke (and described what stroke was), and heart attack. The patient confirmed that she had read the consent form before she signed it (although later said that she had only read parts), and that she understood the information on the form. In addition, she had personal experience with cerebral hemorrhage in her family.

After the fact, of course, the patient claimed that the surgery, although initially successful, had caused a myriad of problems. These included stuttering speech, hemibody numbness, hearing loss, and worsened tremors. But, all of these problems came on “suddenly” between 2 and 6 months after the surgery. Although the uncontroverted pre-trial testimony in the case was that any problems from surgery such as this would cause only immediate effects, that didn't matter. The magnetic resonance imaging scans after surgery showed a normal-appearing brain, with an ideally located small thalamotomy lesion and no signs of previous hemorrhage, stroke, atrophy, or much else. Multiple professionals, including her psychologist, physical therapist, neurologist, and an independent reviewer, found evidence that her complaints waxed and waned with anxiety and non-physiological signs. Nevertheless, she and her attorneys plowed forward through the judicial system. Perhaps they were looking for a nuisance settlement, perhaps for a rousing jury verdict, perhaps for some experience for their young attorney. Who knows? They didn't even have an expert witness to discuss informed consent nor the effects of surgery.

I had an excellent attorney and vowed never to settle this case. Each time I received a letter from my attorney, I fully expected to learn that the case had been dropped, or that a judge had ruled that the whole matter was ridiculous. It was not to be. We went to court, 6 years after the surgery.

After jury selection, the trial began on a Wednesday afternoon and concluded late on Monday. After opening arguments, one juror and an alternate asked to be excused. One had seen me give informed consent to his family member in my office. (I'm not sure why that would be a reason for refusal, but there it was). The other was a cameraman who had filmed a segment on deep brain stimulation for the Discovery channel, and knew the defense expert in the case. So, we were immediately down to 11 jurors. Ten would be needed to get a verdict on my behalf. Those odds seemed stacked against me. Needless to say, I was not taking anything for granted.

Trials do not move along like a neurosurgeon's practice. I spent a total of 6 hours during those days by myself, alone in the courtroom, just sitting quietly. And totally frustrated, like a school child in detention. The jury was not there and the judge was in conference with the lawyers. At one point, I really thought I should just walk out and get back to caring for my patients.

Finally, the plaintiff began to put on her case (such as it was). Her evidence consisted of 2 days of testimony from the patient herself, her niece, husband, a friend, and a video deposition of her neurologist. Then, at the close of her evidence mid-day Friday, the patient had a panic attack and fled the courtroom, never to return! I turned to my attorney, “Surely, I have the right to look my accuser in the eye during my testimony? Do people really just get to sue you and then take off? Why, then, do I need to be here?” His inevitable answers only added to my frustration. So, we proceeded to put on our case, which consisted of my personal testimony followed by a fairly brief cross examination by the plaintiff's attorney, and then detailed testimony by an expert witness. Some deposition testimony describing the patient's time course and variable complaints was read into the record, and that was it. Or so I thought. The judge then spent another long hour in chambers with the attorneys (as I again sat alone in the courtroom) discussing closing arguments and other legal issues.

The plaintiff's closing argument was brief. It began with a Shakespearean quote... “He doth protest too much” (as if, somehow, I was supposed to welcome this whole process!). My attorney was very thorough and knew I was very serious about this case and was entitled to prevail. His closing took 65 minutes (longer than a full episode of Boston Legal or The Practice). He told me later that the judge admonished him for taking so long. I could not believe that a

bizarre perception of illogic might be the final driving force.

After closing arguments, the judge instructed the jury, a process that itself is not brief. Then, the jurors went to decide my fate. In less than 15 minutes, they walked solemnly back into the courtroom. Their verdict—no liability—was unanimous. I had won. I sat there numb: no happiness, no elation, just overwhelming anger.

After the verdict, the tone in the courtroom relaxed as the jurors, attorneys, and judge were allowed to have an open discussion about what had happened. At one point, the first juror pointedly asked the plaintiff's attorney, “How did this case get this far?” Silence filled the courtroom.

Professional liability is a perilous world with many conflicting agendas. Some tell us it's “just a business,” “don't take it personally,” or “that's why you have insurance.” But, to you and me and to the quality of care we deliver to our patients, it is very personal. This case was about nothing, and a good jury finally put a swift and decisive end to the nonsense. The experience was unpleasant and provoked much personal anxiety. And, most memorably, at no time did I ever feel like a “kid in candy store.”

NNCTG/ASOSOG

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and is now known as trial N0574. Investigators who are not members of NNCTG can enroll patients via the NCI's Clinical Trials Support Unit (CTSU). In addition, the Radiation Therapy Oncology Group (RTOG) will open this trial to its member institutions.

Participating patients will receive either radiosurgery (RS) alone (Arm 1) or RS combined with WBRT (Arm 2). The primary objective of the study is to ascertain if one treatment, compared with the other, is associated with worse overall survival. Important secondary objectives will compare time to local failure, quality of life, duration of functional independence, long-term neurocognitive status, and post-treatment toxicity.

The study provides an opportunity to gain critical comparative data about therapeutic options for patients with cerebral metastases arising from an extra-cerebral primary tumor, one of the most common clinical situations in modern neuro-oncology and general oncological practice. It is also an important opportunity for the neurosurgical community to support a trial that was designed by a neurosurgeon (Anthony Asher, M.D.). Successful completion of this trial will provide the neurosurgical community with the vital experience and credibility needed to take the lead in the design and execution of future multi-center, prospective clinical trials.

The CNS Welcomes the 2006 Neurosurgery Match

Name, Medical School, Residency Match

Adib Abl, University of Pittsburgh, Barrow Neurological Institute
 Tarek Abuelem, Jordan, Baylor College of Medicine
 Bobby (Basheal) Agrawal, University of Wisconsin, University of Wisconsin
 Awad Omar Alaid, Jordan, University of Arkansas
 Dunbar Alcindor, Medical College of Wisconsin, Alleghany General Hospital
 David Altschul, SUNY-Brooklyn, Albert Einstein College of Medicine
 Peter Amenta, Jefferson Medical College, Thomas Jefferson University
 Nana Amponsah, Northwestern University, Wake Forest University
 Amjad N. Anaizi, Tufts University, Georgetown University
 Tracy Ansay, University of Arizona, University of Arizona
 Yaser H. Badr, Egypt, Louisiana State University-New Orleans
 John R. Bandela, University of Florida, University of Florida
 Luigi Bassani, Georgetown University, New York University
 Andrew Bauer, University of Missouri, University of Wisconsin
 Scott Bell, University of Texas San Antonio, University of Colorado
 Tarun Bhalla, University Connecticut, Cleveland Clinic Foundation
 Joshua Billingsley, University Oregon, University of Louisville
 Emanuela Binello, Harvard Medical School, Mount Sinai School of Medicine
 Erin Biro, SUNY-Syracuse, Mount Sinai School of Medicine
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 Charles R. Bowie, Louisiana State University-Shreveport, University Miami
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 Emily Lehmann, University of Pittsburgh, University of Michigan

AANS/CNS Trauma Section Chairman's Message—A Call to Action in Response to “Acute Care Surgery” Proposed Curriculum

Alex Valadka, M.D.

Trauma Section Chairman, AANS/CNS

President's Note: *Please read the following important message by Alex Valadka, the current AANS/CNS Trauma Section Chairman. The introduction of an Acute Care Surgery Curriculum for general surgeons by the American Association for the Surgery of Trauma (AAST) has the potential to affect every practicing neurosurgeon in the USA. It is up to us to decide whether or not this represents a positive or negative step for our patients with neurosurgical emergencies. Needless to say, your Washington Committee, under the auspices of the CNS/AANS leadership and Troy Tippett and Katie Orrico, are responding to this AAST proposal, on behalf of our patients, in the strongest of terms. Rich Ellenbogen*

A young man is brought to an emergency center (EC) after an automobile accident. He soon deteriorates from normal alertness to unconsciousness. Computed tomographic scans reveal a large epidural hematoma (EDH). The emergency room physician cannot locate an on-call neurosurgeon. The patient's pupil begins to dilate.

Meanwhile, when a similar patient is brought to an EC in another city, an “acute care surgeon” is called. This surgeon spent 3 months on a neurosurgery service during postgraduate training in general trauma and emergency care. He takes the patient to surgery to evacuate the EDH, but most of the clot is left behind. The patient subsequently comes under the care of a neurosurgeon, who promptly performs surgery to evacuate the residual clot. The patient remains severely debilitated.

Both of these stories are fictitious, but there have been accusations that scenarios like the first one have already occurred. Partly in response to these claims, but mostly in an attempt to breathe life into the specialty of trauma surgery, plans are underway to create a new specialty called Acute Care Surgery. These general surgery specialists would take care of trauma patients, but they would also handle nontrauma surgical emergencies like appendicitis, bowel obstruction, vascular emergencies, etc. Some leaders have explained that the members of this proposed new specialty would act like “surgical hospitalists.”

Of relevance to neurosurgeons is that the proposed training curriculum for acute care surgeons includes placement of intracranial pressure monitors, ventriculostomies, burr holes, elevation of depressed cranial fractures, and appli-

cation of cervical traction. “Limited craniotomy” has also been suggested. The proposed curriculum also includes orthopedic procedures.

It is unrealistic to expect that a brief exposure to neurosurgery provides sufficient training to guarantee competence in these procedures. The second scenario above was inspired by published reports from our Scandinavian colleagues, who document poor technical results and poor patient outcomes after non-neurosurgeons attempted to evacuate epidural hematomas (1, 2).

I was invited to attend a meeting of the group that is working on the creation of this new specialty. It soon became apparent that our differences in opinion necessitated a face-to-face meeting between the leaders of organized neurosurgery and those of general/trauma surgery. From the perspective of the Trauma Section, the interest that neurosurgery's leadership has shown in this issue has been gratifying. Important questions are at stake, including the basic ways in which neurosurgery services are structured in many hospitals in this country, as well as the ways in which patients with neurosurgical emergencies will receive care in the future.

In the conclusion of a recent popular action movie, the hero begins his final battle with his longtime nemesis by declaring, “It ends tonight.” That's a perfect analogy for discussions about neurosurgical emergency care. High-level meetings between officers of different professional societies are important and necessary, but the real answers will be provided by each of us, one hospital at a time and one neurosurgeon at a time. The answer will be dictated by the way you respond—and the way your hospital and regional emergency medical system have decided you should respond—when the emergency room pages you tonight.

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For information regarding upcoming meetings of the CNS, visit <http://calendar.neurosurgeon.org/>

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Treasurer's Report

Joel D. MacDonald, M.D.
Treasurer, CNS

It is a great honor to assume the role as Treasurer of the Congress of Neurological Surgeons. Under the stewardship of my predecessor, Dr. Douglas Kondziolka, the Congress Treasury experienced substantial growth and stability. We are roughly halfway through the current fiscal year and the general (operational) fund balance is nearly \$7.3 million.

Over the course of recent years, the CNS Executive Committee has worked toward establishing an Endowment Fund for Fellowships and Education. The successful financial endeavors of the CNS have enabled contributions to this fund on the order of \$2.3 million. The long-range purpose for this fund is to underwrite the fellowships offered by the CNS and to stimulate development of novel educational products to meet the increasing demands placed on practicing neurosurgeons for maintenance of certification. After hurricanes Rita and Katrina last fall, a small portion of this fund was used to match contributions from Integra Neurosciences to support displaced neurosurgical residents from the New Orleans-based training programs.

The recent Annual Meeting in Boston was both a financial and scientific success. As the principal educational activity of the Congress, and the most significant source of annual revenue, the Annual Meeting fuels much of the philanthropy of the organization throughout the year. Typically, the Annual Meeting accounts for approximately 50% of the annual revenue. This year, the annual meeting committee met its revenue target, which will enable the organization to continue to develop new products and member services, as well as contribute to the CNS Endowment Fund.

The Congress also has several other sources of revenue, including those derived from the publication of *NEUROSURGERY*, *Clinical Neurosurgery*, and *Neurosurgery News*. Collectively, these products account for approximately 36% of annual revenue of the CNS. Membership dues account for 9%, and the remainder is derived collectively from investment income, fellowship contributions (corporate), and the *SANS Wired* Self-Assessment Test.

Last year, the CNS Executive Committee established a 501(c)(4) corporation to subserve political action activities. As a 501(c)(3) organization, the CNS must limit its political contributions to a relatively small proportion of its operating expenses to comply with Federal tax statutes. Last year, the total allowable contributions from the CNS, including its affiliated sections, could not exceed \$135,000.00. The new

501(c)(4) organization, called the Congress for American Neurosurgical Education (CANE), has fewer limits on political contributions. Funds from CANE have recently been applied to the Doctors for Medical Liability Reform (DMLR) initiative. In the future, this new entity will, hopefully, enable more significant political action contributions when they are needed.

Membership in the Congress remains an exceedingly good value. Dues continue to remain stable at \$335.00 per year. Of this, \$125.00 provides your annual subscription to *NEUROSURGERY*,

\$201.00 supports Member Services and contributions to the Washington Committee, and the remaining \$9.00 offsets the cost of *Clinical Neurosurgery*, which is a published yearly as a supplement of the Annual Meeting.

The Congress is currently engaged in several activities to support the world community of neurosurgeons through membership in the World Federation of Neurological Surgeons and the World Directory. The CNS sponsors numerous fellowships ranging from opportunities in public policy to clinical career development. The organization is politically active through the Washington Committee and through contributions to neurosurgeons to preserve health-

care access. Much of the creative energy and volunteer effort of the organization is focused on the development and distribution of quality neurosurgical educational products. The CNS has also applied substantial resources to technology solutions to support member services in the central office, delivery of content at the Annual Meeting, and year-round educational offerings, such as *SANS Wired*.

In summary, the Congress of Neurological Surgeons is currently financially healthy and has many exciting present and future opportunities. The organization will continue to strive to meet the needs of its members at all levels of training and practice.

Guidelines in Medicine: Are They Standard of Care?

Fernando G. Diaz, M.D., Ph.D.

Chair, Council State Neurosurgical Societies

Background

The Centers for Medicare and Medicaid (CMS) adopted a system of reimbursement reduction to physician participants under the Sustainable Growth Methodology initially implemented, but not activated until 2006. From that date forward, physician reimbursement for Medicare services will be reduced at annual rate of 4 to 5%, until 2011. The Medicare Payment Advisory Commission (Med PAC) of CMS, and the United States Congress have focused on the development of guidelines to provide payment incentives under the Medicare program to improve the overall quality of services provided to Medicare beneficiaries.

Although these discussions have extended across the range of providers paid by Medicare, much of the more recent discussion surrounding pay-for-performance (P4P), or what is now being called value-based purchasing, has focused on the physician community. The purpose of P4P is to pay physicians based on quality and efficiency instead of a flat rate based on volume. The United States Congress and CMS have been very clear that they believe the physician community, physician specialty organizations in particular, should develop the quality measures for their specialty.

The American College of Surgeons has been collaborating with other surgical specialty societies to develop proposals, such as the Surgical Care Improvement Project (SCIP) and the National Surgical Quality Improvement Program (NSQIP), which are based on recognized best practices and avoid imposing undue burdens on surgeons. These will be "process measures" related to the prevention of certain complications, including infection, cardiac episode (MI), postoperative pneumonia, and

thrombophlebitis. These quality measures are expected to evolve in the form of practice guidelines applicable to the physicians in a specialty specific manner.

The "Medicare Value-Based Purchasing for Physicians' Services Act of 2005" (H.R. 3617), legislation introduced by Rep. Nancy Johnson, chair of the House Ways and Means Health Subcommittee would restructure the Medicare physician reimbursement formula to link payment to quality incentives, otherwise known as practice guidelines. The essential provisions of the bill include a phased-in, value-based purchasing program over several years by starting with voluntary initial reporting beginning in 2007. It is based on quality measures or practice guidelines developed by physician specialty organizations such as the American College of Surgeons.

Guidelines

Guidelines are norms of medical practice based on various types of medical evidence that are used to outline a course of treatment in a given medical problem. Guidelines can be based on any type of medical evidence, but are most frequently based on Type 2 or 3 studies, and, therefore, are not exacting forms of medical treatment. Guidelines can be considered pathways of action in the care of patients to orient healthcare providers in the care of patients.

Standard of care is a legal concept used by attorneys to identify medical behavior, focusing specifically on deviations from that behavior. A particular act or decision in medicine is considered standard of care when is performed by any physician of average training in the care of a particular patient with the same or similar clinical circumstances.

Guidelines in neurosurgery have been developed in some areas where controversy exists as a way to assist orient the clinician in a pathway that is generally accepted by the vast majority, and which may provide reasonable out-

comes. Guidelines in neurosurgery have never been used to prescribe specific norms of behavior that must be followed by everyone, but simply as pathways to assist physician behavior. A prime example are the recent guidelines for the management of degenerative lumbar osteoarthritis published by the American Association of Neurological Surgeons, which are based on Class II medical evidence.

Little is known about barriers to physicians' adherence to clinical practice guidelines. What is known is that the implementation of clinical guidelines is limited by disagreement with the interpretation of reported clinical trials and the lack of resources available at a particular institution to make the proposed guidelines useful. Other reasons for noncompliance with clinical guidelines include potential patient discomfort, adverse effects, and convenience for nursing staff. Moreover, the degree of nonadherence to clinical guidelines seems to be independent of the strength of the evidence in support of specific interventions reported in previous trials, even when the evidence presented is considered Class I.

Most agree on the importance of using protective gowns and gloves (unproven measures) and on the need for adequate hand washing between patient contacts (77 and 85%, respectively) to reduce the rate of acquired nosocomial infections in intensive care units. This contrasts with repeated reports that compliance with hand washing in the intensive care unit setting remains low.

Published guidelines and clinical trials alone cannot be expected to change practices at the bedside. More active measures are needed to modify practice patterns. Twenty years ago, Eisenberg and Williams (1) suggested six ways to change physicians' behavior: education, feedback, financial rewards, financial penalties, administrative changes, and physician participation. It is now recognized that interventions combining more than one strategy (e.g.,

Guidelines in Medicine

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education plus feedback) will yield better success rates than single methods. Moreover, the best way to influence hospital physician behavior may be to identify a problem and then involve the most respected staff as champions of the intervention to gain overall support for its implementation

The major argument against adopting guidelines as the yardstick to measure physician behavior and performance is the potential misuse of guidelines by plaintiff attorneys. In personal interviews conducted by Monica Wehby, M.D. with a variety of attorneys in different states reflects that concern:

I asked attorneys from the three major malpractice defense firms in Oregon "Have you ever seen guidelines used against a physician?" They all responded "Absolutely," and followed with a litany of recent cases. One stated he had seen dozens of instances in the past year alone.

Alabama: "The plaintiff always wants what I refer to as the "Reader's Digest Condensed Version of Medicine," a set of written standards or guidelines that make medical practice a checklist that a jury of lay persons can apply with confidence. It's easier to explain to a jury than clinical judgment. The use of clinical guidelines can sometimes tie the hands of the practitioner and is always going to be touted as the equal of standard of care. The jury will use and accept guidelines as the standard of care because it is something they understand. "Everyone has to follow the rules. If a practitioner does not follow the rules, then s/he must be wrong. If you are considering promulgating practice guidelines please, please, please don't."

Florida: "The guidelines are always referred to, but people with Florida drivers licenses (our jury pool) think guidelines are the rules, they were broken, and, therefore, the physician acted wrong."

Texas: "I have had evidence of the physician's violations of the AAP, ACOG, and ACEP guidelines come in against my clients. It is always damaging to the defense and usually raises the settlement value."

Guidelines are used by plaintiffs like a building code. They all own a copy of the American College of Obstetricians and Gynecologists (ACOG) guidelines, and the first thing they do is look for a deviation. They then project the deviation for the jury on PowerPoint and the burden of proof suddenly shifts to the defendant to prove why s/he is right against the entire specialty. Even though ACOG has an extensive disclaimer attached to their guidelines, it has no effect on the jury because they never understand the difference between a standard, a guideline, or an option. As far as the jury is concerned, "you broke

your own rule, it was written down so it must be right." With the increased scrutiny by societies of expert witnesses, guidelines are being used by plaintiffs all the more.

Currently, P4P is being piloted in primary care for preventative care and chronic diseases, like diabetes, coronary artery disease, hypertension and, chronic obstructive pulmonary disease. The measures currently in use include such things as following the PT, LDL, HbA1c, Pap smears, mammography, immunizations, and retinal and foot exams in diabetics. The determination of similar basic concepts of performance may be used as well in neurosurgery; however, these measures are likely not to remain limited. Cardiac surgeons led the way in developing surgical guidelines, a cardiac surgeon now does anything he can, not to or under report the incidence of perioperative stroke, not to lose his ability to continue to participate in the Medicare program.

Across the country, physicians remain resistant and resentful to the implementation of P4P measures. It is entirely possible that neurosurgeons may prefer the potential 1 to 2% Medicare pay-

cut to the consequences of being bound by guidelines for every move they make. Neurosurgeons in Oregon have seen their premiums quadrupled since 2000, and they view the use of guidelines as an additional way to lose their ability to act independently and to use their clinical judgment. Oregon neurosurgeons believe that, as clinical information becomes available to alter their current standards of practice, it should be incorporated in the form of educational seminars tied to the maintenance of certification process.

It is the belief of many that if someone feels the need to review the literature and publish it, it should be published as a review and not as a guideline. Proponents of guidelines argue, "If we don't do it, someone else will, and, therefore, it is better to take a proactive approach in the development of measurements of our own performance." The guidelines currently in use in obstetrics and gynecology, anesthesia, emergency medicine, and pediatrics have been written by societies. Perhaps a similar process could evolve in neurosurgery, where our leadership develops those guidelines, and prevents others from imposing on the rest of us a set of parameters to live by.

Physicians are being blackmailed into cost-cutting measures in the name of quality and at the expense of patient care. Insurance companies and the government are forcing physicians to do more with less, increasing their demands in awkward documentation, delaying reimbursement for unreasonable causes and forcing physicians to fight amongst each other for the crumbs they throw. There are only 3000 active neurosurgeons in the United States, and we are vital to the healthcare system of this country. It's time we start calling the shots with regards to our profession and our patients. If any specialty has the power to change the course of events that are rapidly evolving in American healthcare, it is ours. It's time we stopped helping others to take control over us.

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Acknowledgment

I thank Dr. Monica Wehby, Oregon delegate to the CSNS for her assistance in the completion of this article.

NS Match

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 Shearwood McClelland III, Columbia University, University of Minnesota
 Jason Miller, Medical College of Georgia, Duke University
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We encourage the newest members of our specialty to take advantage of the benefits of resident membership in the CNS.

Non-Clinical Core Competencies for the Neurosurgeon

**Nathan R. Selden, M.D.,
Ph.D., F.A.C.S.**

Editor, SANS

The Institute of Medicine has identified competency goals for physicians and surgeons in all

stages of their career: medical education, residency training, and practice. Major regulatory bodies within organized medicine, including the American Board of Medical Specialties (ABMS) and the American College of Graduate Medical Education (ACGME), have adopted these goals. The competencies

are thus becoming a regular part of training, certification, and practice for neurosurgeons in the United States.

The ACGME, which regulates residency education in the U.S., has identified six competencies that are now required of all medical and surgical trainees. Two of these competencies cover skills and knowledge that comprised core medical training during the 20th century: Medical Knowledge and Patient Care. The other four competencies, however, have not been as well represented in didactic training curric-

ula: Professionalism, Interpersonal and Communication Skills, Practice-based Learning and Improvement, and Systems-based Practice. Nevertheless, beginning this year, neurosurgery programs are required to formally train their residents in knowledge, attitudes and skills related to these less familiar competencies.

Similarly, the ABMS now requires each of its member boards to assess proficiency in the competencies as part of certification and maintenance of certification (MOC). The American Board of Neurological Surgery (ABNS) is currently undertaking a major effort to roll out an MOC process for U.S. neurosurgeons and to assess proficiency in the competencies. Although very similar to the content required by the ACGME, the ABNS organizes the non-clinical competencies into slightly different categories: Ethics, Safety, Evidence, and Compliance.

Although these categories sound abstract, much of the information covered by the competencies is practical, is used every day by practicing neurosurgeons, and may already be taught "by example" to neurosurgery residents. Topics included in the competency rubric include, for example: effective communication during informed consent, EMTALA regulations in the transfer of trauma patients, JCAHO national patient safety initiatives, ethical and effective procedural coding, etc.

The Congress of Neurological Surgeons is making a major effort to bring its tradition of member educational service to bear on the issue of non-clinical core competencies. The CNS continues its longstanding efforts, in collaboration with the Council of State Neurosurgical Societies, to offer annual meeting and special course content relevant to the competencies, including coding, medico-legal issues, practice building and economics, and other important topics. The CNS has also led the way in online learning and self-assessment of competency based content, with the launch of *SANS Wired*. Beginning in the spring of 2006, SANS will contain content specifically directed at the four non-clinical competencies. This SANS material will also significantly overlap with competency content appearing in the ABNS MOC cognitive examination now required of all board certified neurosurgeons. Finally, the CNS is actively developing a library of web-based video lectures on key competency topics, plus links to diverse competency related material available at other neurosurgical, organized medicine, and governmental websites.

As the regulatory burden facing both practicing neurosurgeons and trainees increases almost daily, the CNS remains committed to supporting members' educational goals, streamlining regulatory compliance, and adding value for each of us striving to maintain excellence in all aspects of our practice.

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Hurricane Katrina: Neurosurgical Resident Experiences and Impact

Ali Chahlavi, M.D.

Neurosurgery News Resident Reporter

The effect of Hurricane Katrina on New Orleans was catastrophic. It is considered one of the deadliest natural disasters in American history. By August 30, 2005, 1 day after the Category 3 storm, about 75% of the city of New Orleans was flooded, with some parts of the city under as much as 20 feet of water. The flood, which was caused by several levee breaches, has been called "the largest civil engineering disaster in the history of the United States." The event continues to have major implications for a large segment of the population, as well as an economic and political impact in the entire United States.

According to Dr. Thomas C. Ricketts III, deputy director for policy analysis at the University's Cecil G. Sheps Center for Health Services Research, approximately 6000 physicians in the 10 counties and parishes in Louisiana and Mississippi have been directly affected by Katrina flooding. This includes 2952 specialists from six Louisiana parishes and four Mississippi counties. Physician recruiters and practices in various parts of the country have been asking for the names of displaced physicians. Also, Locum Tenens, or temporary positions, have proven to be an option for many of them.

Neurosurgery residents in these areas were also affected, especially in terms of their training. These are the accounts of two neurosurgical residents who were affected by the disastrous hurricane. Their lives will be forever changed. Fortunately, for many of the residents, neurosurgery training was accommodated in one way or another. We have to realize that neurosurgery is a small community, and we should continue to support and help each other in times of need.

Dr. Alex Jones, a fifth year resident from Louisiana State University (LSU), who was working through a 6-month enfolded spine fellowship at the Cleveland Clinic Spine Institute, recalls the time when his city was hit by the storm on Monday August 29:

"...I logged onto the Channel 6 website from New Orleans and went to the live video feed...The first footage to come back was nearly indescribable. A helicopter caught live footage as it flew east over Metairie, toward New Orleans. Lakeside Mall, where we used to shop, was an island in a new lake. Debris was scattered over the parking lot from store signs, roofing material, and whatever else wasn't fastened securely. Nervousness was turning to

dread. We knew that a couple of miles further east was Lakeview and our house.

The first pictures of the neighborhood and City Park made my heart sink. There were only roofs in the middle of a lake. No streets, no cars. We couldn't see our house, but really didn't need to. We saw the small shopping center two blocks away, and it was flooded to the eves. That shopping center contained my barbershop, and a drugstore that I would walk to for the odd newspaper or six-pack. New Orleans is almost perfectly flat, and there was no way that our house had escaped.

In some ways, life was nearly unbearable after this. Gen (my wife) and I had rallied a van rental, crowbars, axes, and whatever else we might need. But we weren't allowed back. The water was still there. We watched in horror as the situation was managed by an indifferent President, a paralyzed governor, and an erratic mayor. We saw the satellite photos and zoomed in on our house. We saw the roof. Gen's little Honda was invisible in the driveway....We quickly came to terms, however, with the fact that we had lost our house and everything in it. In a sense, life went on as normal after the storm. We kept ourselves busy with work. Being outside of Louisiana, we were both in great positions to coordinate people and arrange meetings, take head counts and make sure that everyone was accounted for. Having a purpose in life makes even the most difficult times more bearable. Thankfully, all of our friends, colleagues, and neighbors survived without injury.

About a week after the storm, I got all of the residents from my program together on a conference call. Two of them had been inside Charity Hospital for days after the storm, serving whatever function the patients required...We talked about the future of the program, backup plans, and filled each other in on what we had learned individually about the attendings and staff.

The group of residents met like that a few more times. Everybody wanted to stay in Louisiana to keep training. A senior and a junior resident were going to Earl K. Long Hospital in Baton Rouge to start a service there. I would remain in Cleveland for the time being. The chief resident would be sent to a program on the East Coast to finish, as there was no practical way for him to complete his training in Louisiana.

Then, a couple of weeks after the storm...we faced what everybody in southeast Louisiana eventually faced: we had more questions than answers. When could we enter the city without a military escort? Would Charity reopen? If so, when? When were all the people coming back? Where would they live? Where would we live? And who was making all of these decisions, anyway?

Gen and I went back to Louisiana in



LSU resident Alex Jones's house following Hurricane Katrina

the beginning of October, almost 6 weeks after the storm...The neighborhood was completely destroyed. All of the houses were standing, but everything was covered with cracked dry mud that could have passed for a desert. Several of the giant trees had fallen. Witnessing our house after the storm was sort of like seeing a friend's coffin laid to rest. When a friend dies, you don't feel sorry for yourself so much as sad for losing the opportunity to spend more time together...It was the same for the house. There is no single material item within that house that I lament. But it was our house, and our first house at that. It was where I went after long days in the operating room and nights in the hospital. It was warm in the winter, cool in the summer (very important in New Orleans), and very comfortable. It was home, and I miss it.

...It has now been over 4 months since I last visited New Orleans. I made the difficult decision to leave the training program and enlist at a different one, on higher ground as it were. So did another senior resident. From what I hear, things are getting more routine down there. Some day, I am sure things will be back to normal again. But it will never be the way it was.

Charity Hospital has been decommissioned, and will likely be torn down. Both LSU and Tulane are facing the most challenging of times in their histories. Some training programs have closed, and others will.

I have been welcomed into a new training program. My gratitude for that is immense, but I really miss the guys I used to work with too. I have a new city to call home, though I feel sick when I think of the spirit of New Orleans that was crushed by this storm. Gen and I are looking for houses. I liked ours just fine...we miss the things we had before.

I feel fortunate for the fact that things were only as bad as they were for myself, Gen, and all the people immediately around us. Everyone is OK. We lost a lot, but many people went through worse. I am thankful that we

landed on our feet professionally. In fact, I never worried. I knew that the neurosurgical community would never allow any of its own to be stranded, unable to complete their training. What a blessing..."

Dr. Dani Bidros, who is a second year resident from LSU, recalls the event while living in New Orleans:

"...Code Gray at New Orleans' Charity Hospital (County Hospital) means there is bad weather ahead and only a skeleton crew of essential personnel remains in the hospital. If you are on call the day that the Code Gray is called, you make up part of the skeleton crew. Otherwise, you are free to evacuate. Being only one of two Neurosurgery residents at Charity hospital, I would stay in the hospital along with my chief resident and our chairman.

...Preparing for a hurricane can be mass chaos. There were lines around the corner at gas stations. The grocery stores were sold out of water in all shapes and forms, canned goods were off the shelves, hardware stores ran out of plywood and plastic. These are pretty regular occurrences in advance of a hurricane. It took hours to buy food and water...That night a few friends, including my chief, and I went out to dinner. It was our last meal together in a restaurant on a street that no longer exists.

The car was packed as I left a house with furniture that had been pulled into the center of each room, all blinds drawn. The drive to the hospital was eerie; the city was already starting to look deserted. The hospital was in full swing. Cars were pulling up from all directions, obviously packed with everyone's necessities. The elevators were full of people carrying their food and water into the hospital—medical personnel were responsible for their own provisions. It took me quite a few trips to carry everything...The outer bands of the hurricane struck New Orleans that night and continued through the next day.

Katrina

Continued from page 14

I woke up at 5:30 a.m. to no electricity. There were some back-up lights on in the hallways, but looking into the long hall of call rooms, there was nothing. You could hear the rain going into the elevator shafts. I grabbed a granola bar and went to take care of my patients...It was pitch black in the stairwells. The building had already started to get hot without the air conditioning. You could hear the breaking of windows from around the hospital and every now and again, the thunderous crash of a window air-conditioning unit falling from the upper floors down to the ground. As the windows continued to break, the patients became more nervous—they were right next to the windows. We moved all of the patients—in their beds—into the halls. This took quite a bit of maneuvering, with many patients being in traction, on oxygen, or connected to tubing or monitors. They remained in the hallway for the remainder of Katrina...All of the units had patients on ventilators. When the power went out, the ventilators went out. Nurses and physicians took turns manually ventilating, the patients for hours on end. Power from emergency generators was not available for 24 hours.

By later in the afternoon, the worst of the storm had passed, and it looked like we were going to be OK. We didn't even flood. I looked out the window and everything looked to be in order across the city—until the water started to rise. First, there was a little water in the street, then it came to the sidewalk, then over the sidewalk, then to the building, then up the ambulance ramp, then over the cars. By the early evening, when I looked out of my window on the 14th floor, some of the city streets looked more like rivers.

It took a while to go sleep that night. Even though there was no air conditioning, the wind was blowing through the broken windows and creating a breeze. It was almost peaceful. At 6 a.m. there was no water. The hot shower I had taken the day before was my last while at Charity. By 8 a.m. the hospital phones weren't working; neither was my cell phone.

As Charity began to flood, we had to evacuate the Emergency Room. An auditorium on the second floor was transformed into a makeshift ER. The patients who could walk up the stairs did so, and we carried the others. Patients were placed on spine boards, secured in place with medical tape and sheets, and carried up the flight of stairs in the dark. It took six of us to transport each of these patients. Once the patients were moved upstairs, we tried to work as though it were a normal day. Granted, the "marvels" of modern medicine were not at our disposal, but we pressed on.

Water had been delivered, but not a lot



Trees uprooted by Hurricane Katrina near the Jones's house

of food....A few cold ravioli or canned beans in a small plastic cup would make up lunch. At some point during the day, a back-up generator was up and running. Fuel had been siphoned from a stranded ambulance into the hospital, electric cords were being run outside the hospital from one floor down to the next. The ventilators were finally able to work without the assistance of human hands.

No one had been evacuated...I was growing accustomed to the conditions. I would bathe with the body wipes used for the patients in the ICU and brush my teeth with bottled water. I took care of my patients as well as I could, and wondered when the patients were going to be evacuated.

At the private hospital across the street, Tulane University Hospital, a makeshift helipad was established on the top floor of the parking garage for the evacuation of Charity, University, and Tulane hospitals. Military Blackhawks and Chinooks, as well as some private helicopters, flew patients and staff from Tulane to safety. No one from Charity was being evacuated.

Finally, we located a private company that volunteered four rescue helicopters to rescue four of our sickest patients in the hospital... [They] were placed on the army truck...[which] set out across the flooded street to Tulane hospital, a quarter of a mile from Charity Hospital. As we crossed near buildings, we were ordered by the army men to keep our heads down; there was a sniper in a nearby building using a rifle in an attempt to shoot at people. The military personnel were carrying their machine guns, loaded and ready.

We managed to unload our patients on the helipad at Tulane. But, to our dismay, the helicopters that were sent for us had been used to evacuate healthy family members and pets of Tulane patients. We remained on the helipad hand bagging our patients for 6 hours as we watched multiple helicopters come and go, continuing to evacuate healthy individuals. The Tulane hospital executives' only excuse for this inex-

cusable action was that these were private helicopters and should only be used to transport private patients and their families. By the end of the day, only four of our Charity patients had been evacuated.

We finally were able to arrange for other helicopters to transport our patients. By Thursday, September 1, the ICUs were to be evacuated. The day began with a flurry of activity. We started at the top of the hospital. The patients in the Surgical ICU (SICU) were bundled up and ready to go. Six people around the spine board, one person on the ambu bag (to administer oxygen), two flashlights in the front and two in the back. We carried out the 14 people in the SICU and loaded them onto military trucks to be brought to the helipad at Tulane. We repeated the same for the other intensive care units. We thought the patients were being flown away.

The critically ill patients of Charity Hospital lied tied down to spine boards in the parking garage of Tulane while the entirety of Tulane University Hospital was flown to safety. For 10 hours, more than 30 Charity ICU patients were waiting to be evacuated while healthy people from Tulane cheered as they were evacuated.

I have never been so angry, frustrated, or confused in my life. After the hard work and frustration of the day before, I did not have a lot of hope that much was going to be accomplished. I have never been so happy to be wrong. People from the Department of Wildlife and Fisheries were going up and down the street in air boats, organizing evacuations. We were to get our patients ready for evacuation. Every patient in the hospital had a one-page summary of their medical condition and plan as well as 3 days of their necessary medications secured to their person. The plan was to evacuate University hospital first, then Charity. It went on for hours. A couple of 18-wheelers were able to get through and we loaded them up as well. The staff started to go.

Little by little, Charity was being evacuated. If the patients couldn't walk, they

were carried. Nurses, patients, staff, families were able to follow the patients out of the hospital. When there were no more patients, no more nurses, no more staff and very few physicians, it was time to go. With only five or 10 people in the hospital, I grabbed my one bag and walked down the ambulance ramp to get on the air boat. I was finally evacuated.

I started the second year of my residency, the first year of my neurosurgery residency, on July 1 of this year. I was as nervous as any new resident—fear of the unknown and the new responsibility. I had no idea that those fears would pale in comparison to the emotions I have experienced daily since I left Charity Hospital.

I was lucky to have some place to go—I stayed with my family in Baton Rouge and Lafayette for the first few weeks after the storm. I watched the news here and there, but couldn't quite digest what had happened while I was in the hospital. After a couple of weeks had passed, it was time to get back to work. We started a new rotation at Earl K. Long Hospital, the charity hospital, in Baton Rouge. As we had not had a Neurosurgery rotation here in the past, we needed supplies. The place to get them was Charity—we went back. In the months following the storm, we set up that rotation at Earl K. Long, it is still in place to this day.

The future is uncertain. Charity Hospital, where I completed medical school and my internship, and was to finish my 7-year residency, is slated to be torn down. There are currently rumors about what will happen with the hospitals, but nothing is certain. I am currently living back in New Orleans with a friend, as my house was destroyed by the storm. The city is still struggling: all is not well. I don't know what the future holds. I am happy to be back at work, taking care of those who need me. It is a good feeling, but yet the uncertainty of tomorrow remains constant."



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Cost of Disorders of the Brain: A Brief Review of the Report of the European Brain Council

Michael W. McDermott, M.D.

University of California, San Francisco



The June 2005 Supplement of the *European Journal of Neurology* details the direct and indirect costs of disorders of the brain in Europe (2). The

Supplement contains 13 separate articles, ranging from the introductory article reviewing the global Costs of Disorders of the Brain in Europe, to articles focused on diagnostic subgroups within the fields of neurology, neurosurgery, and psychiatry, including the costs of addiction, affective disorders, anxiety disorders, brain tumors, dementia, epilepsy, migraine, multiple sclerosis, Parkinson's disease, psychotic disorders, and trauma. The Preface, written by Jes Olesen, President of the European Brain Council, outlined the genesis of this project and the fact that the European Brain Council (EBC) arose out of a growing awareness of the importance chronic neurological, neurosurgical, and psychiatric conditions as compared with heart disease, cancer, and acquired immunodeficiency syndrome (AIDS; Table 1).

The EBC was formed in 2003, pulling together neurologists, neurosurgeons, psychiatrists, psychologists, basic neuroscientists, patient organizations, and industry under one roof to promote brain research and to understand, in economic terms, as a starting point the burden of the diseases they were proposing to study. The first step of the group was to analyze previous World Health Organization burden of disease data, extracting European figures. These data indicated that brain disorders accounted for 35% of the disease burden in Europe, as calculated in terms of disability adjusted life-years. As stated so aptly by Dr. Olesen, "...while decision makers obviously pay attention to burden, it was considered more important for them to know the actual cost of disorders of the brain." Working in collaboration with the Stockholm School of Economics, the group put together a model of care costs using economic data, epidemiology data, and international statistical data. Results from these methods were validated internally and externally. The scope of the project included data from 25 member European Union states plus Iceland, Norway, and Switzerland. The cost of the project was underwritten by an unrestricted grant from the Danish drug company H. Lundbeck A/S.

Because cost of care is an aggregate of

direct and indirect costs, the study group included direct costs such as doctors' visits, hospital care, drug costs, nursing home care, and home care nursing. Indirect costs included reduced productivity from illness, absenteeism, and early retirement (Table 2). A prevalence-based study was used focusing on data from the year 2004. The total costs were estimated by the product of prevalence and cost per case. During the study, there were 127 million Europeans living with brain disorders out of a population of 466 million (27%). The total cost of brain disorders in 2004 was estimated as EU 386 billion (\$467 billion US). Direct inpatient expenditures totaled EU 135 billion (\$163 billion US), comprising inpatient stays of EU 78 billion (\$94 billion US), outpatient visits EU 45 billion (\$54 billion US), and drug costs EU 13 billion (\$15 billion US). Direct non-medical costs (social services, home care etc.) totaled EU 72 billion (\$87 billion US). Indirect costs were EU 179 billion (\$216 billion US) of which mental disorders accounted for the largest amount of any diagnostic group (Table 3). Of the 12 diagnostic groups analyzed for cost, mental disorders (excluding dementia) accounted for 62% (EU 240 billion, \$290 billion US) of the total, followed by neurological diseases totaling EU 84 billion (\$101 billion US), or 22% of the total. Neurosurgical diseases (brain tumors and trauma) made up a smaller fraction of the cost at EU 8 billion (\$10 billion US), although brain tumors were the most costly disorder by patient (EU 39,000/\$47,000 US) (Table 4). The average cost of brain disorders in Europe was EU 829 per inhabitant.

The article in the Supplement by Ekman and Westphal (1) begins with a general review of the classification and incidence of brain tumors. As pointed out by the authors, a major limitation of some of the European data on incidence is that only malignant tumors are included in many databases. If one was to apply figures for the incidence of benign tumors in the United States to the European population, 43% of all new tumors would be benign. And, leaving out these tumors may lead to a serious underestimate of the total burden of illness. The authors also reviewed studies from Sweden, England, and Switzerland specifically addressing the costs of brain tumor patient care. In the study from Sweden, indirect costs accounted for 75% of the total cost. The cost for early mortality was the largest component. Hospital care was the largest direct care cost item, with malignant gliomas accounting for 42% of directs and meningiomas 30%. In the English study of the direct costs associated with managing malignant glioma, the mean costs were EU 26,052 per patient, of which 56% was

TABLE 1. Total prevalence of selected brain disorders in Europe, 2004

Diagnostic group	Prevalence
Anxiety disorders	41,407,747
Migraine	40,777,009
Dementia	4,886,252
Epilepsy	2,690,608
Parkinson's disease	1,158,990
Stroke	1,128,986
Trauma	708,954
Multiple sclerosis	379,599
Brain tumor	135,251

TABLE 2. Distribution of total costs of brain disorders

Cost component	Percent of total
Sick leave	33%
Hospitalization	20%
Social services	13%
Outpatient care	12%
Premature death	7%
Early retirement	7%
Informal care	3%
Drugs	3%
Other direct costs	2%

TABLE 3. Distribution of costs by specialty

Specialty	Direct: Health care	Direct: Non-medical	Indirect
Neurosurgical	54%	4%	42%
Neurological	25%	37%	38%
Psychiatric	39%	11%	50%

TABLE 4. Top five disorders for cost per case

Rank	Disorder
1	Tumor
2	Multiple sclerosis
3	Stroke
4	Dementia
5	Psychotic disorders

for radiotherapy, 15% for acute care bed days, and 13% for neurosurgical services. The authors concluded that "since indirect costs are by far the largest, the potential gains of more effective treatments may be substantial even if treatment costs as such would increase as a result of the introduction of new treatments."

Previous data included in this study have shown that the cost of disorders of the brain is enormous—greater than the costs of diabetes and cancer combined! The anticipated increase in the aging population will only increase this cost more, and the only methods to control the explosion in costs will be through increased funding for research, better prevention, better treatments, and more efficient methods of health

care delivery. In the period from 1998 to 2002, EU 85 million was spent on neuroscience research, only 8% of the life sciences budget for the EU and only 0.01% of the estimated costs for disorders of the brain in Europe. The study group concluded that "the huge cost and burden of brain disorders calls for increased efforts in research, health care and teaching" and that "...further investment in brain health will be very profitable for society." Here's hoping that this message is received in some realistic way by other countries around the world.

References

- Ekman M, Westphal M: Cost of brain tumour in Europe. *Eur J Neurol* 12:45-49, 2005.
- Eur J Neurol* 12:1-92, 20

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ASSFN News

Konstantin Slavin, M.D.

Chicago, IL

Due to a significant increase in the volume and quality of clinical and research information in the field of stereotactic and functional neurosurgery, the American Society for Stereotactic and Functional Neurosurgery (ASSFN) is now placing a major emphasis on the development of pathways to make this information

widely accessible. The exchange of scientific ideas and results becomes particularly important as the field expands and more neurosurgeons get involved.

Recently, one major step in this direction was to increase the frequency of ASSFN meetings from quadrennial to biennial. Another was the preparation of consensus statement on deep brain stimulation (DBS) for Parkinson's disease.

The most recent meeting of the ASSFN took place in the Fall of 2004 in Cleveland. It was extremely well-attended and attracted a significant number of outstanding speakers and presentations. The next meeting will be conducted in Boston in the beginning of June of 2006. It is being organized by Drs. Rees Cosgrove and Emad Eskandar, and the scientific program chairs are Drs. Ron Alterman and Robert Maciunas. The meeting venue is the magnificent Fairmont Copley Plaza Hotel located in the heart of Boston.

The meeting program will include a

variety of subjects, with current updates on surgery for movement disorders, pain and epilepsy, stereotactic radiosurgery, and neuronavigation. It will also include overviews of emerging areas in functional neurosurgery, including psychiatric surgical indications, the treatment of Alzheimer's disease, and the development of brain-machine interfaces. The sessions will be led and moderated by renowned experts in the field, and the level of scientific debate is expected to be high as controversial issues will be presented at most sessions, in keeping with the traditions of our Society. And, the presence of honored guest, Dr. Ronald Tasker, one of the fathers of modern functional neurosurgery, will bring wisdom, unique insight, and perspective into meeting discussions.

Registration for the meeting, as well as information regarding housing arrangements, is available online at www.assfn.org. The meeting promises to be a great success and I want to extend an invitation to participate in this forum to the entire neurosurgical community!

DBS for Parkinson's disease has become a standard of care, and multiple peer-reviewed publications attest to the wide acceptance of this approach among neurologists and neurosurgeons. The success of this treatment has been related to the development of a new collaborative approach to clinical neuroscience. For the first time, neurologists and neurosurgeons are working together to promote this treatment, and they share the responsibility for the treatment cooperatively. To summarize the present knowledge on the effects of this new treatment in an appropriate forum, the Congress of Neurological Surgeons (CNS) and the International Movement Disorder Society (MDS) decided to establish a common ad-hoc committee charged with the task of developing a consensus statement on main issues dealing with preoperative, intraoperative, and postoperative aspects of DBS for Parkinson's disease. Drs. Ali Rezai and Alim-Louis Benabid were selected as neurosurgical representatives to the committee. The results of their work are being published in a special supplement to the Movement Disorders in early 2006, and the ASSFN is proud to endorse the consensus statement as a true reflection of the current state of affairs.

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Bylaws Committee Report

Mitesh Shah, M.D.

Chairman, CNS Bylaws Committee



The Bylaws Committee of the Congress of Neurological Surgeons approved two amendments to the Bylaws at the recent Winter

Executive Committee (EC) meeting. The EC has approved the formation of two new standing committees that both

serve to fulfill the mission of the CNS to promote public welfare through commitment to excellence in education and research.

Under Robert Friedlander's initiative, the EC approved the formation of an ad hoc committee to promote the quality and quantity of research effort in neurological surgery. The success of the endeavor has warranted the development of a formal standing committee to enhance the research effort by organized neurosurgery.

The Self Assessment in Neurological Surgery (SANS) Committee has been under the auspices of the Education Committee of the CNS. The maturation of this educational tool to a powerful web-based product occurred under Anthony Asher's leadership. More recently, the American Board of Neurological Surgeons' (ABNS) incorporation of the SANS Wired product into the maintenance of certification process has provided an impetus to strengthen the editorial quality and content of the web-based product. This necessitated the EC of the CNS to make the SANS Committee a free-standing committee.

Proposed Amendments:

Article VII

Committees

Section 1. Standing Committees

- Y. *The CNS Research Committee shall be composed of a Chairperson, Vice Chair and Members who shall review all aspects of research in organized neurosurgery. They shall make strategic recommendations to the CNS Executive Committee regarding means to enhance the quantity and quality of research endeavors. The Committee will meet biannually coincident with the annual meetings of both the Congress of Neurological Surgeons and the American Association of Neurological Surgeons. The Committee shall make reports to the Executive Committee quarterly and other standing committees as necessary. The Chair shall be appointed by the President for a three-year term. Members of the committee will be jointly appointed by the President and the Chairperson.*
- Z. *The CNS Self Assessment in Neurological Surgery (SANS) Committee of the Congress shall be composed of a Chairperson, Vice-Chair (who is to serve as editor-in-chief of the project) and Members who shall administer all aspects of the SANS project to include content development, web-site administration and elements of SANS related to the process of Maintenance of Certification. The Committee shall make reports to the Executive Committee quarterly and other standing committees as necessary. The Chair shall be appointed by the President for a two-year term. The Vice-Chair will be appointed to two-year term by the Chair in consultation with the President. Members of the Committee will be jointly appointed by the President and the Chairman.*

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