

AANS/CNS Section on Neurotrauma & Critical Care

Editor: Shelly D. Timmons, MD, PhD, FACS

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Join the Section or Renew Your Membership Online

From the Chair

P. David Adelson, MD, FACS



P. David Adelson, MD, FACS

Forces Shaping Neurotrauma Care Delivery

Whether or not we wish to admit it, healthcare and its delivery are big business, and neurosurgeons are the commodity being traded. The economic forces that shape

how healthcare is delivered, and particularly how neurosurgeons are forced to adjust practice to meet these demands, will continue to change and potentially affect patient care and outcomes. This is even truer with regard to the delivery of neurotrauma care. As is well known, the challenging economic issues that affect how we deliver care to patients include reimbursement, medical liability, and unfunded mandates.

Presently, the supply of neurosurgeons who take neurotrauma and neurosurgical emergency call versus demand has led to many inaccurate perceptions. Neurosurgeons have been perceived as failing to present to the emergency room and as having opted out of their responsibility, despite data to the contrary. The AANS 2006 Workforce Survey reported that over 93 percent of neurosurgeons took ER call. The Institute of Medicine study entitled "Crisis in Emergency Care" noted that there are only approximately 3,200 practicing board certified neurosurgeons in the United States, while there are about 5,759 hospitals recognized by the American Hospital Association that accept trauma. This translates into a whopping 2,102,035 hospital days of ER call for neurosurgeons, or 657 days of call per year per neurosurgeon to cover all the ERs that want coverage. In essence, to cover adequately all of the ER needs, each neurosurgeon would

have to be on call 24/7/365 for two hospitals—an overwhelming and unrealistic amount of potential coverage for neurosurgical care. Currently, 30 percent of neurosurgeons take ER call for at least two hospitals, and the majority (57 percent) on average covered the ER two to three days per week. In the AANS 2006 Workforce Survey, only 38 percent of neurosurgeons reported that they limited their practice, with the majority (57 percent) eliminating only pediatric neurosurgery; only 13 percent had eliminated trauma neurosurgery. It is clear that neurosurgeons are, in general, fulfilling their obligations to participate in neurotrauma and neurosurgical emergencies in their communities and that the failure is in the demand on our specialty.

Neurosurgery is not the only specialty in crisis. The IOM recognizes that many ERs are significantly overcrowded and that emergency care is highly fragmented due to critical shortages in critical care specialists (that is, orthopedic and plastic surgeons, and others), especially in rural areas. It is also projected that there will be a 29 percent nursing shortage by 2020. In addition, the major cause of patient diversion is a lack of ICU beds. The reality is that adequate systems for trauma are simply not in place to support emergency neurosurgery—or even emergency trauma care—for every ER.

In most free market economic systems, if demand exceeds supply, the costs or price to supply the "product" increases. This has not been true with neurosurgery, which over the past few years has continued to see a decline in reimbursements for neurosurgical procedures, despite a fairly stable recovery for nonphysician charges. In economic times of largesse (where reimbursements and revenues recovered at a higher percentage of

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Member Feedback

To the Editor:

After reading the article “The Acute Care Surgery Curriculum” in the [Fall 2006] issue of *Neurotrauma & Critical Care News*, I am concerned that as neurosurgeons we are again missing the boat.

This article suggests that the addition of trauma neurosurgery to the trauma care surgeon’s curriculum is to “entice surgical residents...that this specialty (general trauma surgery) is not so bad.” Let us assume for just a minute that this is not the case and that this analysis is just what it sounds like, a populist, egocentric view of how neurosurgeons feel that general surgeons should see themselves. In fact, we really must presume that general/trauma surgeons actually want to be practicing their selected field of surgery, enjoy it, and have considerable pride in doing so. This is not an unreasonable supposition, and in fact it is the view of many general/trauma surgeons I know. Could it actually be that the threatened encroachment of general surgery into the field of neurotrauma has to do with the lack of adequate acute care neurosurgery in many locations in our country?

Even more alarming is the fact that in many places where adequate acute care neurosurgery is feasible, “neurosurgeons” trained to deliver this service choose to be “elective” spine surgeons for the well insured. Some even relinquish their “intracranial privileges,” citing the high cost of medical malpractice, and eliminate the possibility of even being considered for consultation on such patients. Delivery of timely neurosurgical care is delayed, and patient outcome suffers. Despite the harm this causes society, patients, and the field of neurosurgery, these physicians are still considered as neurosurgeons by their patients, colleagues and medical societies (AANS/CNS).

The effect is tragic. I believe that the acute care surgery curriculum is being employed by general surgeons to deliver timely surgical intervention to those patients in need. There is no doubt that neurosurgeons are best qualified to deliver this sort of care, but if neurosurgeons won’t do it, then general surgeons appear willing to do so. As humans, we are good at complaining and focusing on external threats, but in this case...the enemy is within.

Respectfully,

*Bruce Frankel, MD
Medical University of South Carolina
Department of Neurosciences
Division of Neurosurgery*

Response

From the Editor:

Thank you, Dr. Frankel, for engaging in this important dialogue. We are all very grateful to Dr. Valadka for spearheading the efforts to bring the issue of the acute care surgery curriculum to the attention of the members of our professional organizations and for representing the interests of neurosurgeons in many forums where these issues are being addressed.

From the Author:

I thank Dr. Frankel for his thoughtful comments. Of note, the idea that trauma surgery has become an undesirable specialty is not my opinion; rather, it is the theme of a large and growing body of literature written by trauma surgeons. Dr. Frankel’s comments about the lack of availability of timely emergency neurosurgery care are, sadly, all too appropriate in some parts of this country. However, there are also a great many conscientious, hardworking neurosurgeons who continue to participate in their local emergency care systems, even when doing so is difficult. The ideal solution would make it easier for these individuals to continue their participation while also drawing additional neurosurgeons into the EMS system. Most importantly, patients with emergency neurosurgical conditions would be brought to a neurosurgeon as expeditiously as possible. Thoughtful public discussion is an essential part of the process of creating such a system. Time will tell whether these efforts prove successful.

*Alex B. Valadka, MD, FACS
University of Texas Medical School at Houston
Department of Neurosurgery*

Mark Your Calendars

**AANS/CNS Section on
Neurotrauma and
Critical Care Executive
Committee Meeting is
April 16, 2006, 1:00–2:45 PM**

charges), neurosurgeons were frequently providing much in the way of *pro bono* care, taking call and providing neurotrauma coverage in a discounted manner. With the tightening of reimbursement, where even basic elective practice is reimbursed at a loss, taking time and essentially dollars to provide time-intensive and energy-intensive care becomes physically and economically difficult. If, then, the goal is to increase neurotrauma care, the solutions become: (1) improved reimbursement directly to neurosurgeons for taking emergency call and handling neurotrauma; (2) indirect reimbursement, through hospitals that wish to have a neurosurgeon on call at all times for neurosurgical emergencies and neurotrauma (that is, coverage stipends); and/or (3) decreased demand on neurosurgeons for coverage.

The likelihood for reimbursement to increase in the short term is low. Stipends have been in place for a number of years and have worked for the systems that have wanted to provide the funding. However, in most instances, hospital and administrative financial support for emergency care has been marginal. With regard to manpower needs, to decrease the demand on neurosurgeons for coverage, one recommendation in the IOM report was to institute “regionalization” of emergency care at major regional centers. This idea has been supported by the Trauma Section for several years. Regionalization—with significant support of resources and personnel at the regional center, and support for the satellite suburban and rural hospitals for triage, stabilization, and transport—can provide an emergency system with adequate primary and ancillary staff to optimize care both medically and economically. Any regionalization plan, though, must make financial as well as geographic sense to ensure high-level, high-quality care in general and neurosurgical care in particular. For neurosurgery, practical issues include not only neurosurgical manpower but staffing of supplementary specialists and staff (for example, radiology, trauma, ICU, operating room, etc.) to handle the gamut of neurosurgical emergencies. As well, medical liability issues and the underlying reimbursement to physicians and hospitals need to be successfully addressed at the state and local levels in order to ensure the quality of care, appropriate triage, and rapid transport. These may include tele-radiography, video links for a physician at the regional center to make an assessment for transport, and increased helicopters and personnel for transport, to name a few. The ability to create the network and regional emergency care system is not limited simply by geographic distance but by building the relationships across areas. For example, regionalization has already occurred in the Northwest (Washington, Wyoming, Alaska, Montana and Idaho),



which has a “model” regionalized system. While not perfect (there are large gaps in coverage, especially in rural areas), this system is workable. Each geographic area would need to be assessed in order to develop a system that meets that particular region’s needs and specific specialty requirements.

One of the common concerns of neurosurgeons and for all of emergency care, as reported by the IOM study, is the impact of medical liability. Some neurosurgeons have limited their practice to exclude neurotrauma, and others have eliminated cranial cases. Surprisingly, in the AANS 2006 Workforce survey, the vast majority of neurosurgeons who were not taking ER call had not experienced any cost reduction or discount on malpractice insurance. Similarly, in an informal review by the AANS/CNS Washington Committee of the most common malpractice claims and Medicare CPT billings, neurotrauma was not even in the top 10 malpractice claims despite having a number of top 10 billing codes, both spinal and cranial. Despite the perception that malpractice rates would be affected deleteriously by taking emergency call, this concern may not be true. The calculation of medical liability premiums and the true impact of medical liability and emergency coverage need to be further studied.

Finally, the optimal care for neurosurgical emergency is provided by a neurosurgeon in a well supported emergency system. Despite the issues, neurosurgeons need to continue to ensure the highest quality of care available. They need to be part of the solution by providing leadership through national organizations as well as working locally and regionally to improve reimbursement, to develop proper regionalized trauma systems, and to protect against medical liability. ■

Neurotrauma Highlights at the 2007 AANS Annual Meeting



Photo courtesy of the Washington Convention and Visitors Bureau

April 14-19, 2007 Washington, D.C.

This annual meeting marks the 75th anniversary and diamond jubilee celebration of the American Association of Neurological Surgeons. This innovative and celebratory meeting promises an exciting array of programming and events. It is particularly fitting that such a historic occasion for the AANS is taking place amid the backdrop of an American city so richly steeped in history, Washington, D.C.

The scientific program features the latest technological innovations and scientific advances from all areas of neurosurgery, presented within the framework of the practical clinics, breakfast seminars, plenary sessions, scientific and section sessions. While this meeting highlights cutting-edge research and the latest advances in the field, it also offers a wonderful setting to reflect on the 75 years of tradition and excellence that have enabled the AANS to help move neurosurgery forward.

The entire program and details are available online at www.aans.org. Consult the final program, provided with registration materials at the meeting, for room numbers and additional information.



Saturday, April 14, 2007

Practical Course

8:00 AM–5:00 PM

008 Head Trauma: Current Treatments and Controversies with Hands-On Practical Session in Brain Monitoring and Techniques

Co-Directors: Geoffrey T. Manley and Shelly D. Timmons

Faculty: P. David Adelson, M. Ross Bullock, Dominic P. Esposito, Michael G. Fehlings, Anthony Marmarou, Raj K. Narayan, Jamie S. Ullman

Practical Course

8:00 AM–5:00 PM

012 Management of the Craniocerebral Trauma Patient for Allied Health (N&PE)

Director: Andrea L. Strayer

Faculty: Kim A. Clark, Leo Timothy Harris, Joseph Haymore, Tuvyila

Lay, Peter B. Letarte, Geoffrey T. Manley, Karen March, Christina M. Stewart-Amidei

Sunday, April 15, 2007

8:00 AM–12:00 PM

024 Peripheral Nerve Injuries, Entrapments and Tumors: Examination and Evaluation

Co-Directors: Line Jacques and Robert J. Spinner

Faculty: Allan H. Friedman, David G. Kline, Allan H. Maniker, John E. McGillicuddy, Rajiv Midha, Robert L. Tiel

Monday, April 16, 2007

7:30–9:30 AM

115 Management of Spinal Axis Trauma

Moderator: Gregory R. Trost

Panelists: Barth A. Green, Geoffrey T. Manley, Michael Y. Wang

4:45–5:00 PM

619 Spinal and Supraspinal Control of a Peripheral Nerve Bridge Used to Bypass Spinal Cord Injury

Raqeeb M. Haque, Christopher Winfree, John H. Martin

2:45–5:15 PM

Scientific Session VI—Neurotrauma and Critical Care

2:45–3:30 PM

Posters 645–647, including NovoNordisk Neurocritical Care Award Presentation

Spinal Cord Injury Research-Lessons from History and the Promise of the Future
Invited Speaker: Charles H. Tator

3:30–4:00 PM

Posters 648–652

4:00–5:15 PM

Tuesday, April 17, 2007

219 Cerebral Trauma State-of-the-Art Treatment

Moderator: Alex B. Valadka

Panelists: M. Ross Bullock, Austin R. Colohan, Geoffrey T. Manley, Jamie S. Ullman

7:30–9:30 AM

223 Guidelines for the Management of Acute Spinal Cord Injury

Moderator: Gregory R. Trost

Panelists: Charles Kuntz, Michael Patrick Steinmetz, Andrea L. Strayer, Michael Y. Wang

7:30–9:30 AM

Presidential Address

Donald O. Quest

12:15–1:00 PM

Cervical Spine Trauma and Treatment Considerations (N&PE)

Moderator: Saeed Bajwa

1:00–4:00 PM

713 Direct Repair of Cervical Root Avulsions in Brachial Plexus Injury

Heinrich Cheng, Jau-Ching Wu, Wen-Cheng Huang

4:30–4:40 PM

719 Outcomes following Decompressive Craniectomy in Severe Pediatric Traumatic Brain Injury: A Single Center Experience with Long Term Follow-up

Jayant Jagannathan, David O. Okonkwo, Aaron S. Dumont

3:54–4:06 PM

721 Analysis of Pediatric Injuries Related to Child Restraint Seats: Are Children at Higher Risk for Injury Outside the Vehicle Than Inside?

Ashutosh Singhal, Adiriweera, B. Desapria, Ian Pike

4:18–4:30 PM

Socioeconomic Session I

Improving the System of Emergency Care Delivery: The Big Picture

Speaker: Alex B. Valadka

2:45–5:15 PM

2:45–3:05 PM

EMTALA's Role in Emergency Care Delivery

Speaker: John A. Kusske

3:05–3:25 PM

Neurosurgical Emergency Coverage in Private Practice

Speaker: Deborah L. Benzil

3:25–3:45 PM

Neurosurgical Emergency Coverage in Academics

Speaker: Domenic P. Esposito

3:45–4:05 PM

Fixing the Emergency Medical System: Where Do We Go from Here?

Speaker: Shelly D. Timmons

4:05–4:25 PM

Legislative and Regulatory Solutions

Speaker: Katie Orrico

4:25–4:45 PM

Question and Answer

4:45–5:15 PM

Wednesday, April 18, 2007

302 Management and Treatment of Traumatic Spinal Cord Injury

Moderator: Michael G. Feblings

Panelists: Barth A. Green, Geoffrey T. Manley, Daniel K. Resnick, Scott A. Shapiro

7:30–9:30 AM



Photo courtesy of the Washington Convention and Visitors Bureau

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304 Current Options in Cerebral Neuromonitoring 7:30–9:30 AM

Moderator: Johannes Schramm

Panelists: Odette Althea Harris, Robert L. Macdonald, Gary K. Steinberg

309 Pediatric Head Injury: Avoid Common Pitfalls 7:30–9:30 AM

Moderators: Thomas G. Luerssen

Panelists: Ann-Christine Duhaime, Hugh J. L. Garton, Michael Lee Levy, John Ragheb

802 Brain Tissue Oxygenation in Major Trauma 10:50–11:05 AM

John Morrison, Alex Garton, Narendra Nathoo, Pradeep Narotam

AANS/CNS Section on Neurotrauma and Critical Care 2:45–5:30 PM

Boxing: Sport or Organized Head Injury? 2:45–4:00 PM

Argument to Ban Boxing: Analysis of Neurological Injury 2:45–3:00 PM

Speaker: Robert C. Cantu

Making Boxing Safe: A Medical Perspective 3:00–3:15 PM

Speaker: Flip Homansky

Argument to Continue Boxing 3:15–3:30 PM

Speaker: Julian Bailes Jr.

Boxing and Head Injury: An Athlete's Perspective 3:30–3:50 PM

Speaker: "Baby" Joe Mesi

Question and Answer 3:50–4:00 PM

Synthes Resident Spine Award Presentation 4:00–4:15 PM

806 Transplantation of Adult Neural Precursor Cells as a Therapeutic Means for Structural and Functional Repair of Demyelinated Axons: Implication for Neurotrauma and Demyelinating Diseases

Eftekhar Eftekharpour, Soheila Karimi-Abdolrezaee, Jian Wang, Hossam El-Beheiry, Cindi Morshead, Michael Fehlings



Photo courtesy of the Washington Convention and Visitors Bureau

Synthes Resident Craniofacial Award Presentation 4:15–4:30 PM

807 Novel Radiocarbon Dating Method to Probe Adult Human Neurogenesis in Normal and Pathological Neocortical Regions

Ratan D. Bhardwaj, Bruce Buchholz, David Fink, Heinrich Druid, David Mann, Nenad Bogdanovic, Jonas Frisen

Posters 808–811 4:30–5:30 PM

Regionalized Emergency Neurosurgical Services Highlighted at the CNS Annual Meeting

Shelly D. Timmons, MD, PhD, FACS

At the October 2006 Congress of Neurological Surgeons Annual Meeting, a special session was held to address challenges in contemporary healthcare. One segment, entitled “On Surgery and Society: The Growing Challenge of Neurotrauma Care in America: A Roundtable Discussion,” was cosponsored by the American College of Surgeons, which also met in Chicago in October. Speakers included Edward R. Laws, MD (neurosurgeon and past president of the ACS), James R. Bean, MD (neurosurgeon), David B. Hoyt, MD (trauma surgeon), Alex B. Valadka, MD (neurosurgeon), and A. Brent Eastman, MD (trauma surgeon).

Dr. Bean addressed the topic “Barriers to Effective Surgical Emergency Care: Socioeconomic/Medico-legal, Regulatory Challenges.” Citing data from the AANS/CNS 2004 Neurosurgical Emergency and Trauma Services Survey, the AANS 2006 Workforce Survey, and reviews of neurosurgical liability claims, Dr. Bean noted that:

- More than 90 percent of neurosurgeons cover ER call.
- Medical liability and EMTALA are actually minimal ER call risks.
- One-third to one-half of neurosurgeons receive a hospital call stipend.
- Neurosurgical restrictions are based primarily on practice type and available ancillary/support services, not ER call.
- Pediatric neurosurgery is the most often restricted activity.
- One half of neurosurgeons think emergency services could improve.

He concluded, “Regionalized emergency neurosurgical service with individualized regional design is the solution.”

In Dr. Valadka’s talk, entitled “The Fact and Fiction of Emergency Surgical Care in America: A Neurosurgical Perspective,” he addressed some misperceptions about neurosurgeon involvement in emergency care, characterizing as *fiction* the concepts that:

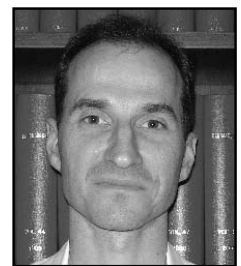
- Neurosurgeons do not do emergency work.
- General surgeons like emergency work more than neurosurgeons do.
- General surgeons wish to do neurosurgical procedures.

He based his assertions on the AANS 2006 Workforce Survey data noted above.

Data from the ACS reflects that a higher percentage of general surgeons prefer not to take trauma call than either neurosurgeons or orthopedic surgeons, and that most general surgeons rank performing selected neurosurgical or orthopedic procedures very low in a list of “ideal practice characteristics.” Dr. Valadka also touted regionalization of care as one solution to the specialty coverage crisis, including developing processes by which lower acuity patients are appropriately kept at lower-level trauma centers.



James R. Bean, MD



Alex B. Valadka, MD

Shelly D. Timmons, MD, PhD, FACS, is secretary/treasurer of the AANS/CNS Section on Neurotrauma and Critical Care.

AANS/CNS Section on Neurotrauma and Critical Care Leadership

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AANS/CNS Section on Neurotrauma and Critical Care

5550 Meadowbrook Drive

Rolling Meadows, Illinois 60008-3852

Join the Section or Renew Your Membership Online

An online application process for membership in the AANS/CNS Section on Neurotrauma and Critical Care recently became available, rendering the form that had been printed in previous newsletters obsolete. The new streamlined process decreases the time from application to membership, expediting the extension of Trauma Section benefits to new members.

Applying is this easy:

- 1) Go to www.MyAANS.org.
- 2) Login using e-mail address and password, or register by entering name and e-mail address and chosen password.
- 3) Select: Member Applications from the left-hand tool bar.
- 4) Select: Create a New Application.
- 5) Select: AANS/CNS Section on Neurotrauma and Critical Care.
- 6) Complete and submit the application following the online instructions.

Questions may be directed to AANS/CNS Section Services, sjm@aans.org or (888) 566-2267.

Coming in the Next Issue of Neurotrauma & Critical Care News:

Neurotrauma-Related Book Reviews

**Submissions for the new
Member Feedback section
will also be considered.**