



Neurotrauma and Critical Care

Head Injury Spinal Cord Injury Sports Medicine Critical Care Prevention

Editor: Brian T. Andrews, MD, FACS

Winter 1996



In This Issue

THINK FIRST Update	2
Critical Care Book Proposed	2
Severe Head Injury Guidelines Published	2
Surgical Treatment in Acute Spinal Cord Injury Trial	2
Chairman's Editorial: "The Limits of Salvageability"	3
Brain Trauma Foundation Fellowship	4
Upcoming Meetings of Interest	4

Don't miss the Joint Section Program at the AANS Annual Meeting, Wednesday, May 1, 1996.

Highlights include a Special Lecture on "Results of the National Acute Spinal Cord Injury Study III."

Message from the Chairman

Progress Report

I would like to thank the Joint Section for the opportunity to provide its leadership over the past two years. This has been a time of tremendous growth and challenge for the Section, to which the Executive Committee and many individual members have responded admirably.

When I first became involved with the Section almost 10 years ago, interest in neurotrauma seemed to be at a very low ebb. Membership in the Section barely exceeded several hundred, and we were in deep financial debt to our parent organizations. Through the concerted efforts of a number of excellent leaders, we are now the largest of all the Joint Sections, with a substantial treasury to match our size.

Additionally, over the past few years, the scientific and political leadership of the Section in all areas of neurotrauma has been prodigious. As an example, the *Guidelines for the Management of Severe Head Injury* were authored in significant measure by the Joint Section members and is a project of which all in neurosurgery can be proud. The Section also sponsored the development of a randomized clinical trial of the surgical treatment of spinal cord injury, now under consideration by the National Institutes of Health (NIH); and the Section has worked diligently to improve relations between trauma surgeons and neurosurgeons.

I have been proud to be involved with such an active and vibrant organization and wish the incoming leadership, under the direction of Chairman Charles Tator, MD, all the best in their continuing efforts to represent the interests of all neurosurgeons in issues involving neurotrauma, critical care and sports medicine. It remains vitally important that all our members stay active, if only in the form of making your views and opinions known to the Section leadership. Without such input, it would have been impossible for me to formulate appropriate strategic plans for the Section.

There are a number of critical issues the new Executive Council will be addressing in the near future: neurotrauma call coverage in trauma centers, reimbursement for neurotrauma care, *Guidelines* revisions and additions, and certification in Critical Care which require input and involvement by the membership. I hope that your interest and help will continue at a high level, as it has these past two years, and I look forward to serving in any way that I can in the future.

—Jack Wilberger, MD



THINK FIRST Update

At the 1995 CNS meeting, Section member Jeffrey Lobosky, MD described the latest efforts of the THINK FIRST program, entitled THINK FIRST for KIDS. Using a new cartoon character called "Street Smart," this program focuses on children younger than six years of age to teach injury prevention.

THINK FIRST continues to promote the THINK FIRST LIFE endowment campaign, a unique fundraising program designed to turn modest initial contributions into much greater future endowments. Contributions, which are tax-deductible and can be made over a one- to five-year pledge period, are used to pay the premiums on cash value life insurance policies on each donor in the name of THINK FIRST. The contribution made by the donor will grow to provide an exceptional donation over time. If you are interested in establishing an endowment to THINK FIRST, please contact the national office of THINK FIRST at (847) 692-2740.

Critical Care Book Proposed

The current Secretary of the Joint Section recently submitted a book proposal entitled *Pediatric Neurosurgical Intensive Care* to the Publications Committee of the AANS. Viewed as an important follow-up to a prior text supported by the Joint Section on Neurotrauma, *Neurosurgical Intensive Care*, published by McGraw-Hill in 1993, the current proposal focuses on similar topics for the pediatric age group and utilizes experts within the topics covered, from both neurosurgery and pediatrics.

Severe Head Injury Guidelines Published

The American Association of Neurological Surgeons (AANS) Board of Directors, as well as the Executive Committee of the Congress of Neurosurgeons (CNS), have reviewed and endorsed the "*Guidelines for Management of Severe Head Injury in Adults.*" Production of these *Guidelines*, in a loose-leaf format to permit additions, is currently underway and the plan is to distribute them to all neurosurgeons in North America at no charge by mid-March 1996.

Distribution outside North America will be managed by a collaborative effort between the AANS and the Brain Trauma Foundation.

A committee has been formed for the development of *Guidelines for Management of Pediatric Head Injury* by members of the Joint Section on Neurotrauma and Critical Care in cooperation with the AANS Section on Pediatric Neurosurgery. The committee will utilize the evidence-based *Guidelines* already prepared for treatment of head injury in adults and then modify them as appropriate for the treatment of children. The first meeting of this collaborative effort took place in Pasadena, California, and the initial draft of the document should be ready for review at the 1996 Congress of Neurological Surgeons meeting in Montreal, Canada.

The principal members of the Joint Section involved in the preparation of the *Head Injury Guidelines* are currently developing a *Manual of Guideline Methodology for Neurosurgeons* in an effort to expand the number of members who are interested in or who are trained in this process. This will include training young neurosurgeons and residents as a part of the project.

The development of new CPT codes for neurotrauma management is being facilitated by Donald Marion, MD, of the Joint Section, working in cooperation with Richard Roski, MD, AANS Representative to the American Medical Association's CPT Advisory Panel. New codes will emphasize management aspects of patients with head injuries, regardless of whether prior surgery has been performed.

Surgical Treatment in Acute Spinal Cord Injury (STASCI) Trial

At the 1995 Congress of Neurological Surgeons Annual Meeting in San Francisco, the current status of the Surgical Treatment in Acute Spinal Cord Injury Trial was reviewed. To date, there are 40 centers committed to participating in this prospective, randomized trial that will assess the benefits and timing of surgical intervention for spinal cord injury. The goal is to involve a total of 50 centers.

The coordinating center for the trial will be the University of Toronto. The expected duration of the trial will be five years, randomizing a total of approximately 3,000 patients to achieve an adequate statistical analysis.

If you are interested in participating in this trial, please contact me by fax at (416) 369-5298.

— Charles H. Tator, MD, Chairman,
Spinal Cord Injury Committee of the AANS/CNS
Joint Section on Neurotrauma and Critical Care.

Chairman's Editorial

The Limits of Salvageability

"Can physicians be agents of social and fiscal good and still serve the patient to the best of their ability? In the near future, this will, perhaps, be the most vexing dilemma the physician will face."

—Edmund Pellegrino, MD
Cushing Oration, 1983

In the context of neurotrauma, a series of milestones can be recognized over the past four decades. Cairns, in 1947, commented that reflection on his wartime experience led him to conclude that some who survived head injury were so disabled that they might have been better off dead. Enthusiasm for aggressive treatment of head injury was ushered in during the 1960's and 1970's through the efforts of pioneers like J. Douglas Miller, Graham Teasdale and Donald Becker.

Identification of the concept of secondary injury, the clinical principles of rapid evacuation of surgical mass lesions, and treatment of elevated intracranial pressure certainly led to a decrease in overall mortality from the high 30% range to the current levels of less than 20%. The 1990's are now witnessing an explosion in the area of neuroprotection, searching for the magic pharmacological bullet to prevent disability from head injury.

All the while, costs of providing head injury care have continually escalated, reimbursement has steadily declined, and mortality rates have not changed within the past decade. Many people, including physicians, families and ethicists, are revisiting Cairns' 50-year-old concern that many of those we salvage to a vegetative or severely disabled state might indeed be "better off dead."

The economics of head injury are clear. Head injury accounts for 13% of all serious injury while resulting in 29% of all costs. Over 50% of the approximately \$50 billion spent on acute head injury care goes to patients who die or end up vegetative.



Jack Wilberger, MD

At the CNS Annual Meeting in San Francisco, the Joint Section on Neurotrauma and Critical Care sponsored a symposium on the "Limits of Salvageability." Aspects of the care of both closed and penetrating head injury were addressed, and it became obvious that while there are a number of predictive factors for outcome, none provided 100% certainty when dealing with an individual patient. The primary question, thus, becomes at what level of "scientific certainty" will we be able to socially, philosophically, medically, ethically and legally define the limits of salvageability?

Recently, the working group for the document *Guidelines for the Management of Severe Head Injury in Adults* met to begin debating this issue. It was decided to attempt to develop an evidence-based guideline on prognostic parameters rather than attempt to establish clinical "limits of salvageability." The following parameters will be studied: age, Glasgow Coma Scale,

papillary size and response, intracranial pressure, and findings on computed tomography. The ultimate goal will be to establish a weighted ranking of the parameters in relation to outcome.

The American Academy of Neurology is also attempting to come to grips with "decision making at the end of life," and will be sponsoring a symposium in Aspen, Colorado this March to begin the preparation of practice parameters on this subject.

It is of obvious importance to keep these issues in mind as we care for patients on a daily basis. As noted previously, no statistically-derived formula will ever have absolute predictive accuracy for outcomes in neurotrauma. Additionally, in this setting, clinical decisions often must be made on an urgent basis with, at times, inadequate information. Unfortunately, however, the medical and economic realities at the coming turn of the century are that we are increasingly unable to afford the practice of always pursuing every available treatment for every patient, irrespective of the consequences for others, or for society.

The Joint Section will continue to monitor this critical area of clinical importance and keep its membership informed of ongoing developments. I would encourage all of you who are interested in this subject to make your views and opinions known to the Joint Section leadership and to become involved with the development of any forthcoming positions we may take.

—Jack Wilberger, MD

AANS/CNS Joint Section on Neurotrauma and Critical Care

22 South Washington Street
Park Ridge, Illinois 60068-4287

FIRST CLASS
U.S. POSTAGE
PAID
DesPlaines, IL
Permit No. 329



Brain Trauma Foundation Fellowship

This \$50,000 award was established to support basic and/or clinical neurotrauma research and is available, on a competitive basis, to any neurosurgery resident or neurosurgeon within two years after completing their training.

Applications and additional information can be obtained directly from the Brain Trauma Foundation at (212) 753-5003.

Upcoming Meetings of Interest

Sports and Recreational Injuries:

**Tactics for Prevention and Treatment,
March 27–30, 1996, Beaver Run Resort, Beckinridge, Colorado.**

Intended for neurosurgeons, orthopedists and other health professionals, the focus is on sports and recreational injuries such as concussion, cervical and lumbar injuries and decision making for return to play. Course directors are Glen Buterbaugh, MD and Jack Wilberger, MD. For more information, call (412) 359-4952 or fax (412) 359-8218.

AANS Professional Development:

**Neurosurgical Critical Care for Neurosurgeons, Neuroscience Nurses and
Physician Assistants,
June 20–22, 1996, Hotel Inter-Continental, Chicago, Illinois.**

This is the most comprehensive and interactive course available which is tailored specifically for neurosurgical critical care. For more information, contact the AANS Professional Development Department at (847) 692-9500 or fax (847) 692-2589.

*The Joint Section on Neurotrauma and Critical Care newsletter is supported by
an educational grant from the Pharmacia-Upjohn Company.*