
Practice Guidelines

The AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves, under the direction of Dr. Mark Hadley and Dr. Beverly Walters, has completed an evidence-based review of literature pertaining to the treatment of cervical spine trauma and spinal cord injury. This work represents a monumental effort of many prominent experts in spinal surgery and embraces twenty-two clinical questions ranging from immobilization in the field, to the role of Methylprednisolone after acute spinal cord injury. The evidence has taken two years to compile and analyze.

The end result, **Practice Guidelines in the Treatment of Cervical Spine and Spinal Cord Injury**, was published under separate cover as a supplement to the March 2002 issue of the journal *Neurosurgery*. This publication is destined to become the reference manual for all clinicians involved in treating cervical spine injuries from the paramedics in the field, to the rehabilitation specialists involved in long-term follow-up.

We will be publishing a synopsis of each of the recommendations in this and subsequent editions of Neurosurgery News. The following is an excerpt from the first of 22 chapters.

PRE-HOSPITAL CERVICAL SPINAL IMMOBILIZATION FOLLOWING TRAUMA

RECOMMENDATIONS

Standards: There is insufficient evidence to support treatment standards.

Guidelines: There is insufficient evidence to support treatment guidelines.

Options:

- It is suggested that all trauma patients with a cervical spinal column injury or with a mechanism of injury having the potential to cause cervical spinal injury should be immobilized at the scene and during transport using one of several available methods.
- A combination of a rigid cervical collar and supportive blocks on a backboard with straps is very effective in limiting motion of the cervical spine and is recommended. The longstanding practice of attempted cervical spinal immobilization using sandbags and tape alone is not recommended.

SUMMARY

Spinal immobilization can reduce untoward movement of the cervical spine and can reduce the likelihood of neurological deterioration in patients with unstable cervical spinal injuries following trauma. Immobilization of the entire spinal column is necessary in these patients until a spinal column injury (or multiple injuries) or a spinal cord injury has been

excluded or until appropriate treatment has been initiated. While not supported by Class I or Class II medical evidence, this effective, time-tested practice is based on anatomic and mechanical considerations in attempt to prevent spinal cord injury and is supported by years of cumulative trauma and triage clinical experience.

It is unclear whether the spines of all trauma victims must be immobilized during pre-hospital transport. Many patients do not have spinal injuries and therefore do not require such intervention. The development of specific selection criteria for those patients for whom immobilization is indicated remains an area of investigation.

The variety of techniques employed and the lack of definitive evidence to advocate a uniform device for spinal immobilization, make immobilization technique and device recommendations difficult. It appears that a combination of rigid cervical collar with supportive blocks on a rigid backboard with straps is effective at achieving safe, effective spinal immobilization for transport. The longstanding practice of attempted cervical spinal immobilization using sandbags and tape alone is not recommended.

Cervical spine immobilization devices are effective but can result in patient morbidity. Spinal immobilization devices should be used to achieve the goals of spinal stability for safe extrication and transport. They should be removed as soon as definitive evaluation is accomplished and/or definitive management is initiated.

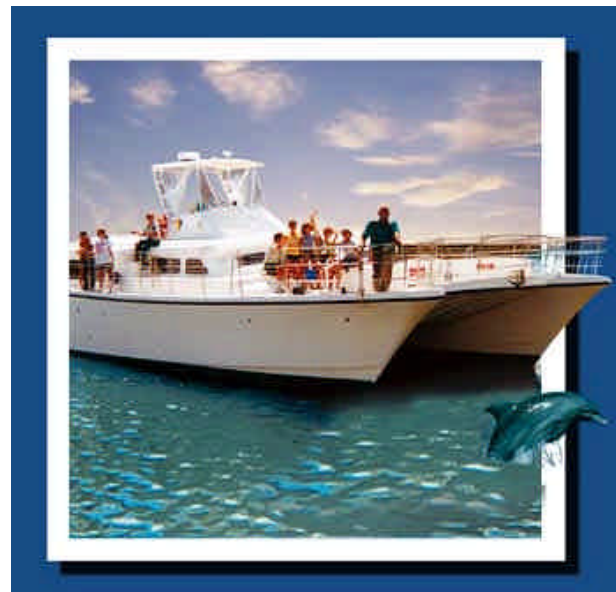
KEY ISSUES FOR FUTURE INVESTIGATION

The optimal device for immobilization of the cervical spine following traumatic vertebral injury should be studied in a prospective fashion.

A reliable in-field triage protocol to be applied by EMS personnel for patients with potential cervical spine injuries following trauma needs to be developed.

ANNUAL MEETING – TAMPA BAY, FLORIDA

The AANS/CNS Section on Disorders of the Spine and Peripheral Nerves will hold its 19th annual meeting in Orlando, Florida at the beautiful Saddlebrook Resort from March 5 - 8. Make your reservations now!



AWARDS

RESEARCH FUNDING: The AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves has established two Research Grants: the *Larson Award* and the *Sonntag Award*. They are intended to establish funding for clinical projects related to the spine and peripheral nerves, and to provide a means of peer review for clinical research projects to help improve the quality of the proposal and therefore, enhance competitiveness for National Institutes of Health (NIH) funding. The awards are also meant to provide continued funding on an annual basis to establish the AANS/CNS Spine Section as a known source for quality clinical research aimed at answering questions pertaining to the treatment of disorders of the spine and peripheral nerves.

The awards range from \$15,000 - \$30,000 and are intended for primary investigators of planned clinical studies requiring national level funding to support the preparation of grant proposals and external consultations and to assist in the development of the proposal, planning meetings, and the collection of pilot data. Work that can be completed without such support (such as literature review and preliminary protocol design) should be completed before applying for the Larson or the Sonntag Awards.

The format of the proposal should follow that of the NIH grant package. Specifically, applications should not exceed five single-spaced pages. The applicants should address their specific aims, pertinent literature review and previous studies review, include a brief summary of the proposed study, and a plan for utilization of the funds, as well as a detailed budget and budget justification. The budget should not include salary support for the primary investigator or co-investigators.

Application details for research grants are available from James D. Guest M.D., Ph.D., c/o Neurological Institute of New York, 710 W. 168th Street, New York NY 10032, (212) 305-7976, or check out our website at www.neurosurgery.org. The application deadline for grants to be awarded for 2003 is Dec. 1, 2002.

FELLOWSHIP FUNDING: The *Cloward Fellowship Award* is sponsored by Medtronic / Sofamore Danek and is awarded annually to one or two U.S. or Canadian trained neurosurgical residents to provide supplemental funds for advanced education and research in disorders of the spine or peripheral nerves in the form of fellowship training. The amount of the award is \$30,000.

Application information for the Cloward Fellowship Award can be acquired from Timothy C. Ryken, MD, The University of Iowa Hospitals & Clinics, Division of Neurosurgery, 200 Hawkins Drive, Iowa City, IA 52242. E-mail: Christopher G. Paramore, M.D., Lake Norman Neurological and Spine Surgery, 156 Centre Church Road, Suite 204, Mooresville, NC 28117, c.paramore@lnrmc.hma-corp.com, or check out our website at www.neurosurgery.org

The application deadline for the 2003 Cloward Fellowship Award is Sept. 15, 2002.

RESIDENT AWARDS: The Mayfield Award is presented annually by the Joint Section on Disorders of the Spine and Peripheral Nerves to the neurosurgical resident who authors an outstanding research manuscript detailing a laboratory or clinical investigation in the area of spinal or peripheral nerve disorders. Two awards are available, one for clinical research and one for basic science research. Each award is valued at \$500.00.

For further information and submission forms, please contact: Christopher G. Paramore, M.D., Lake Norman Neurological and Spine Surgery, 156 Centre Church Road, Suite 204, Mooresville, NC 28117, c.paramore@lnrnc.hma-corp.com , or check out our website at www.neurosurgery.org

DEADLINES

- September 15, 2002: Cloward Fellowship Award
- September 15, 2002: Mayfield Awards
- December 1, 2002: Sonntag and Larson Clinical Research Grants

Comments, Submissions, or Suggestions for the Spine Section?

Please e-mail John Hurlbert at jhurlber@ucalgary.ca or contact through surface mail: Dr. R.J. Hurlbert, University of Calgary Spine Program, Foothills Hospital and Medical Centre, 1403-29th St. N.W., Calgary, AB Canada T2N 2T9