



## **POSITION STATEMENT**

on

# **EMERGENCY SERVICES AND THE ACUTE CARE SURGEON** *Ensuring Patient Safety*

### **Background**

The number of emergency department (ED) visits in the United States continues to increase annually. At the same time, in some parts of the country, there is a growing shortage of specialists -- including neurosurgeons -- available to treat patients with emergency medical conditions. Addressing this serious and complex problem defies a simple resolution and will require a multi-faceted approach that includes the regionalization of certain emergency neurosurgical services, improved reimbursement and medical liability reform.

In order to expand the number of surgeons available to treat emergency and trauma patients and to encourage young surgeons to pursue careers in trauma surgery, an additional solution has been proposed -- the creation of a new subspecialty of medicine called acute care surgery. These surgeons would perform a wider array of emergency surgeries, not just those related to general trauma. Part of this expanded scope of practice would include neurosurgical procedures, despite the fact that the proposed curriculum for these new practitioners only includes one or two months of neurosurgical training.

### **AANS/CNS Position Statement**

Optimal patient care and patient safety are best achieved when surgical diseases affecting the nervous system are managed by neurological surgeons. Neurosurgical procedures should therefore not be performed by practitioners in other fields.

### **Rationale**

- Neurosurgeons are the only physicians qualified to provide the full spectrum of care to patients with neurosurgical emergencies. This is a patient safety issue. Among these qualifications are expertise in diagnosis, decision-making, formulation of treatment plans, initial stabilization and treatment of emergency neurosurgical conditions, performance of neurological surgeries and other procedures (such as insertion of intracranial pressure monitors, ventriculostomies, application of cervical traction, etc.), critical care, postoperative care, and long-term follow-up care. This unique range and depth of skill is acquired throughout a neurosurgeon's six-year residency training period and continues to expand throughout the course of his or her time in practice.
- The majority of neurosurgical emergencies involve emergency conditions other than trauma. Neurosurgeons receive extensive training not only in cranial and spinal trauma, but also in other emergency conditions, including spontaneous cerebral hemorrhages, ruptured intracranial aneurysms, stroke, hydrocephalus, shunt malfunctions, acute brain tumor presentations, spinal cord compression, brachial plexus injuries, peripheral nerve transections, and intracranial and spinal infections. In neurosurgical training and practice, the same knowledge and experience

employed during the treatment of nonemergency neurosurgical conditions is applied seamlessly to the management of emergencies, including expertise in neurological assessment, intracranial pressure dynamics, cerebral blood flow and metabolism, spinal stabilization, and management of seizures, fluid and electrolyte balance, respiratory issues, infections, and nutrition. Although other specialists may have familiarity with one or another of these areas, no one can integrate and manage them in the context of a patient's overall condition as well as neurosurgeons. Published data from other countries document the poor outcomes that result when non-neurosurgeons attempt to perform neurotrauma procedures, leading to technically substandard operations and major delays in definitive neurosurgical intervention.

- Appropriate care of patients with neurosurgical emergencies is labor- and resource-intensive not only during initial assessment and stabilization, but often for many days and weeks after injury. Interventions undertaken during the initial management of patients with neurosurgical emergencies require consideration of possible subsequent developments in the ensuing days and weeks. This need to anticipate complications mandates the creation and maintenance of a highly coordinated system involving experienced practitioners in the various treating specialties. Specifically, it is important to note that the practice of emergency neurological surgery requires a large complement of appropriately trained ancillary and professional staff, to include nurses, radiology technicians, and operative staff. With the growing shortage of these specially trained professionals, the need for regionalization of care is even more apparent.
- The development of a rapidly responsive, regionalized system of care may be the best approach to treating patients with neurosurgical emergencies. Such a system would optimize the availability of the limited supply of neurosurgeons, nurses and costly technologies. The planned regionalized approach would eliminate the redundancy of services and spiraling technology costs among competing hospitals by facilitating agreements that would ensure neurosurgical emergency coverage at key hospitals based on actual need. Not all hospitals that wish to attract patients with neurosurgical emergencies can -- nor should they -- provide the interventions, services, and resources required for their optimal care.