



**American Association of Neurological Surgeons
and
Congress of Neurological Surgeons**



POSITION STATEMENT

on

Neurosurgeons and Neurocritical Care

Summary Statement

Accreditation Council for Graduate Medical Education (ACGME)-approved neurosurgical residency training includes critical care management of patients with neurological disorders. Neurosurgeons are fully trained in neurointensive care by reason of training program requirements, and upon completion of training are competent to independently manage and direct treatment of patients with neurological disorders requiring critical care. Additional training in critical care is optional, but not necessary for neurosurgeons to manage neurocritical care patients following residency training.

Certification in neurological surgery is through the American Board of Neurological Surgery (ABNS), and includes certification for critical care of patients with neurological conditions. No other certification is required for ABNS diplomats for privileges in neurological surgery or neurocritical care management. Additional certification by organizations unrecognized by the American Board of Medical Specialties (ABMS) is unnecessary for ensuring neurosurgeon training, competency, or credentialing in intensive or critical care.

Patient Access to Neurosurgeon Care in Critical Care Settings

The American Association of Neurological Surgeons (AANS) (<http://www.aans.org>) and the Congress of Neurological Surgeons (CNS) (<http://www.cns.org>) are professional scientific and educational associations with over 7,400 members worldwide. All active members of the AANS are board certified by the American Board of Neurological Surgery (ABNS), the Royal College of Physicians and Surgeons of Canada, or the Mexican Council of Neurological Surgery, AC. The AANS and the CNS are dedicated to advancing the specialty of neurological surgery in order to provide the highest quality of neurosurgical care to the public. Neurosurgery is the medical specialty concerned with prevention, diagnosis, and treatment and rehabilitation of disorders that affect the spinal column, spinal cord, brain, nervous system, and peripheral nerves. This includes the evaluation and management of neurosurgical patients in intensive or critical care settings.

The ABNS, in collaboration with the Accreditation Council for Graduate Medical Education (ACGME), the Residency Review Committee (RRC) for Neurological Surgery, and the American Board of Medical Specialties (ABMS) defines the scope of neurosurgical practice, sets the standards of neurosurgical education, training, and practice, defines the requirements for training, develops and administers the primary examination, evaluates the credentials of candidates for certification, including professional practice, develops and administers the oral examination, issues board certification certificates, and defines requirements for Maintenance of Certification (MOC) in Neurological Surgery. The evaluation and management of neurosurgical patients in critical care settings is explicitly articulated as within the defined scope of neurosurgical training and practice by the ABNS (http://www.abns.org/content/about_abns.asp).

The ABMS is the sole organization in the U.S. authorized to recognize and approve medical specialty certification organizations. The AANS and the CNS do not acknowledge the validity of any self-appointed board or professional certification program acting independently of the ABMS to determine neurosurgeons' neurocritical care or other neurosurgical competencies. Such certifications are without

authority and are unnecessary for ABNS-certified neurosurgeons to independently direct the care of critically ill patients with neurological disorders.

Many patients with common neurosurgical conditions such as brain and spinal cord traumatic injury, hydrocephalus, ruptured aneurysm, subarachnoid hemorrhage, brain and spinal cord tumors, and post-op craniotomy and complex spinal surgery routinely require evaluation and management in a critical care setting during their hospitalization. The seriousness of conditions that affect the nervous system, the rapidity with which these conditions may deteriorate, and the profound consequences associated with disease progression often necessitate an intensive level of peri-operative observation and management in a critical care setting. Much more commonly than not, these acute consequences directly arise from their effect on the central nervous system. Thus, peri-operative critical care evaluation and management of the neurosurgical patient do not represent independent aspects of care for neurosurgical patients, nor do they rely on knowledge or skills distinct from neurosurgical training or practice but, instead, represent a continuum of a specific disease process that often may require neurosurgical intervention.

In addition, due to the nature of neurosurgical conditions, it is essential that neurosurgeons are proficiently trained and educated in the evaluation and management of these patients both before and after surgery, especially in a critical care setting. Indeed, many of the protocols for the management of life threatening conditions in a critical care setting such as brain edema, vasospasm, and elevated intracranial pressure have been developed by neurosurgeons. Expert clinical evaluation and care by well trained board certified neurosurgeons can optimize the outcome of a neurosurgical intervention or even prevent the need for operative intervention in some patients. Educational and training requirements in critical care settings are included within neurosurgery residency training curricula and are rigorously and periodically assessed through ACGME-approved core competency evaluations, the primary ABNS written examination, and the ABNS oral examination. Satisfactory completion of an ACGME-accredited residency training program and achievement of a passing score on both the primary written exam and the oral examination reflect competence in the evaluation and management of patients in critical care settings and are required for ABNS Board Certification in Neurological Surgery.

Lifelong learning and self assessment, two fundamental elements of medical professionalism, are incorporated into the ACGME-approved six core competencies of patient care, medical knowledge, professionalism, practice-based learning, interpersonal and communication skills, and systems-based practice which form the foundation of Maintenance of Certification (MOC) in Neurological Surgery. An essential component of lifelong learning is continuing medical education (CME). The goal of CME is to ensure that current and future generations of physicians acquire, maintain, and apply the values, knowledge, skills, and judgment essential for quality patient care. CME represent the educational activities to develop, maintain, or increase knowledge, skills, professional performance and relationships that the physician uses to provide service for patients, the public, and the medical profession.

The ACCME, a nonprofit corporation comprised of seven member organizations (AHA, AMA, AAMC, FSMB, CMSS, ABMS, and AHME), sets the standards for CME activities and monitors CME providers' adherence to these standards (www.accme.org). The widely representative ACCME is granted broad social authority to accredit providers of CME. Accredited CME providers are certified to determine the content, assess the needs and objectives, define the methods, choose the faculty, and perform the evaluations of CME activities. By definition, the educational content of CME is that body of knowledge and skills recognized and accepted by the medical profession, as defined by the duly authorized representative organizations such as the ABNS, ABMS, ACGME, and RRCs. Such educational content for neurological surgery clearly includes the evaluation and management of neurosurgical patients in intensive or critical care settings.

As ACCME-accredited providers of CME, the AANS and the CNS sponsor independent, high quality education, training, and scientific investigation on the evaluation and management of patients in critical care settings in seminars, practical clinics, scientific and plenary sessions, poster sessions, courses, and in peer reviewed and textbook print and online publications such as the *Journal of Neurosurgery*, *Neurosurgery*, *Neurosurgical Focus*, *AANS Neurosurgeon*, and *CNS Quarterly*. The AANS and the CNS have both supported and endorsed evidenced-based guidelines developed by neurosurgeons in the critical care evaluation and management of head and spinal cord trauma, penetrating head injury, and pediatric head trauma. Fellowship and research grants in neurotrauma and critical care are also awarded by the Neurosurgery Research and Education Foundation (NREF) of the AANS. There are currently seven post residency fellowships in neuro-trauma and critical care sponsored by ACGME-accredited neurosurgery residency training programs in North America.

The AANS and the CNS jointly sponsor the AANS/CNS Joint Section on Neurotrauma and Critical Care. This subspecialty division of neurosurgery has nearly 1,200 neurosurgeon members whose activities contribute to the AANS and CNS and the whole of neurosurgery with focused, creative education, scientific investigation, and training in specific areas of neurotrauma and critical care within neurological surgery. Both research and fellowship grants are awarded through the AANS/CNS Joint Section on Neurotrauma and Critical Care.

The physician/patient relationship has been described as a moral covenant, based on the medical need of the patient but maintained through the trust of the patient and society in the physician and the medical profession. The attributes necessary for the physician to function as a responsible and effective medical professional and to faithfully serve this relationship constitute the domains of professionalism and include competence in the skills and knowledge that form the basis of the medical profession, including a commitment to lifelong learning and self assessment, a duty to apply these skills and knowledge in the service of healing for every patient, and service to the best interest of the health and well being of each patient (i.e. altruism). In return, society grants the medical profession, through representative organizations such as the ABNS, ABMS, ACGME, RRC, and ACCME, extraordinary privileges of autonomy and self regulation to define the scope of medical practice and science, determine the standards of care of medical practice, define the body of knowledge and skills recognized and accepted by the professional medical specialty, and educate current and future physicians with the skills, knowledge, values, and judgment befitting a competent and caring medical professional. These privileges are to be governed by strong ethical principles of objectivity, independence, and acting in the best interests of patients and society. The ABNS, in conjunction with the ACGME, RRC, and the ABMS clearly defines neurosurgery patient care in critical care settings as an essential element of neurosurgical training and practice. Any externally created barrier to a neurosurgeon's access to their patient in a critical care setting, therefore, undermines the very foundation of this moral covenant between patient and physician and conflicts with a fundamental principle of medical professionalism of duty to patient health and well being.

The evaluation and management of patients in a critical care setting is an essential component of neurosurgical training and practice. Patients have benefited and will continue to benefit from access to caring, well trained, board certified neurosurgeons both in and out of the operating room, including critical care units. Neurosurgeons are, and will always be, uniquely qualified to care for critically sick patients who have undergone a neurosurgical procedure or may need a neurosurgical procedure. In the former case, only a neurosurgeon truly understands the intensive care management of the various side effects and complications of those procedures and in the latter case, only a neurosurgeon can assess in a timely fashion the risks of the procedure versus its benefits. Turning the care of these patients over to those divorced from the procedures would lead to delays and mistakes in patient care. To limit or deny access of appropriately trained and board certified neurosurgeons to their patients in neurocritical care settings would not be in the best interest of neurosurgical patients and would have a chilling effect on neurosurgery education and training of residents, society's future neurosurgeons. Further, such restriction would be an abrogation of a neurosurgeon's fundamental duty to the care and well being of patients throughout their illness.