Training and the public welfare

To The Editor: I read with interest the article by Grady et al. (Grady MS, Batjer HH, Dacey RG: Resident duty hour regulation and patient safety: establishing a balance between concerns about resident fatigue and adequate training in neurosurgery. Special topic. J Neurosurg 110:828–836, May, 2009). In 2002 the government mandated a reduction in resident working hours, which led to many discussions on whether neurosurgical residents can be adequately trained with these restrictions without lengthening the training program. With further work hour reductions looming on July 1, 2011, this discussion is even more important than it was a few years ago.

There is no doubt that the residents in neurosurgery programs throughout the country are a talented lot. Typically, they are in the top of their medical school class and often have an accompanying Ph.D. Almost uniformly, residents are described by their chairman as “brilliant,” and indeed they may be. At the (March 4) 2011 Interurban Neurosurgical Society meeting in Chicago, an entire morning was spent on resident education. Two key phrases were used several times: 1) mentorship after formal training has been completed, and 2) the magic “10,000 hours,” alluding to Malcolm Gladwell’s book Outliers in which he argues, quite convincingly, that one does not really master a skill, whether it is playing the violin or in our case performing surgery on the brain or spine, until you have done it for about 10,000 hours. A neurosurgery chairman commented that he would only allow a family member to be treated by a neurosurgeon with 5 years of experience.

The majority of residents do not understand this. They simply have no idea how much they do not know at this stage in their careers. Interestingly, the new grads I have spoken with list lifestyle, call schedule, income, location, and time off as their priorities in looking for a job. Mentorship, if mentioned, is way down on the list. Hospital administrators often hire recent grads to start neurosurgical programs, especially in small or rural settings. This can and often does lead to excess morbidity due to a lack of mentorship and peer review. Newly graduated residents may have a false sense of competence based on highly inflated salaries, unrealistically positive feedback from vendors and head hunters who want their business, and inappropriate marketing by their hospital. New neurosurgeons must understand that graduation from their residency training may provide a solution in which there is greater autonomy on the part of a resident while he or she remains within a supervised setting. This would necessitate a number of structural changes in the neurosurgery residency requirements, but these should not present a barrier to ensuring the public welfare.

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Disclosure

The author reports no conflict of interest.

RESPONSE: We appreciate the comments by Dr. Beck. In particular, the extraordinary interest on the part of hospitals to employ neurosurgeons has led to a “seller’s market.” Hospital administrators have no idea of the complexity of neurosurgical cases, but they are extremely aware of the positive influence to their bottom line. The result is, as Dr. Beck notes, hospital administrators hiring young neurosurgeons who do not have the experience and are not in an environment where they can go to more experienced neurosurgeons for guidance and counsel. The development of a mentor transition to the practice component of residency training may provide a solution in which there is greater autonomy of a resident while he or she is within a supervised setting. This would necessitate a number of structural changes in the neurosurgery residency requirements, but these should not present a barrier to ensuring the public welfare.

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Disclosure

Dr. Grady is a principal investigator for Aesculap.

Evoked potentials

To The Editor: Khalil and colleagues (Khalil A, Spiotta AM, Barnett GH: Difficulties with the neurological assessment of humans following a chimpanzee attack. Case report. J Neurosurg 115:140–144, July, 2011) describe a very interesting neurological emergency, which is fortunately exceedingly rare. They describe the use of somatosensory evoked potentials (SSEPs) from the posterior tibial nerve to evaluate corticospinal pathways, which were intact on diffusion tensor imaging. However, SSEPs do not assess corticospinal tract integrity, rather they rely on conduction in the dorsal columns. Assessment of the corticospinal tracts is best performed using motor evoked potentials, which can be performed under anesthesia/sedation through the use of transcranial electrical stimulation, as is routinely done in intraoperative neuro-monitoring. Somatosensory evoked potentials should not be relied on for these assessments, although they do have...
an important role to play in the prognostication following anoxic brain injury.\textsuperscript{1,2}

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References


RESPONSE: Of course, Dr. Norton is correct that SSEPs do not interrogate the corticospinal (that is, pyramidal) tracts but, rather, ascending spinal pathways. The concern that the patient’s pyramidal tracts may not be intact in this case stemmed from the suggestion of intracerebral white matter shear injury to the corona radiata by MR imaging, her lack of spontaneous movements, and the high degree of sedation (required to maintain hemodynamic stability) that further interfered with her assessment.

The statement that the presence of intact SSEPs “confirmed” the diffusion tensor imaging finding of an intact corticospinal tract in this case was inaccurate and should have been that the SSEPs “supported” this interpretation as we inferred that if both the motor and sensory tracts of the corona radiata appeared intact on diffusion tensor imaging and since the intracerebral ascending sensory tracts were shown to be functionally intact by SSEPs, that probably the adjacent descending pathways were also intact in that region. Motor evoked potentials would have been a more direct way to assess this, but it was believed that the patient’s required level of sedation was too high for these to be useful.

Dr. Norton’s point about the utility of SSEPs in assessment of anoxic brain injury is also well taken and was an additional (unstated) reason to obtain this study in our patient’s case, as there was considerable uncertainty regarding the extent and duration of anoxia to which she was subjected with loss of her airway immediately following this vicious attack.

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