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Commentary: Neurosurgical Coverage for Emergency and Trauma Call

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Congress of Neurological Surgeons

Neurosurgical emergency call burden has been increasingly difficult. This is multifactorial. One of the main contributors is the increasing need for urgent interventions particularly in the realm of trauma and stroke. The urgency is partly the result of evidence through basic and clinical studies that emphasize the importance of relieving the neurological stress to improve neuronal survival and ultimately neurological outcome. There are also many “hidden” administrative requirements for neurosurgeons who are involved in neurotrauma and stroke call.

In their article, “Neurosurgical Coverage for Emergency and Trauma Call,” the authors address a very important and pertinent problem that faces practicing neurological surgeons in the United States.¹ They conducted a survey of all practicing neurosurgeons of the American Association of Neurological Surgeons (AANS) and Congress of Neurological Surgeons (CNS) and achieved a 24% response rate. This is on par with the average response rate for surveys, and thus the findings are likely to be generalizable to the entire group. Neurosurgical call coverage and the remuneration for this call have been areas of intense debate. The authors correctly point out that remuneration is now the standard for call coverage in contrast to the general expectations for call coverage as part of hospital staff privileges which was the norm 10 to 20 years ago. The importance of neurosurgical call coverage and availability has become more important as the trauma and stroke systems have become increasingly sophisticated and organized with an emphasis on early interventions to limit the effects of pressure/ischemia on the brain or spine.^{2,3} As we learn more about the molecular mechanisms of acute neurological insults, more emphasis has been directed to the paradigm of earlier treatment to mitigate the effects of global and focal secondary insults.⁴

Indeed, the ability to deal with the level of acuity with the appropriate resources readily available underlies the designations of “Level I trauma center” or “Comprehensive Stroke Center.” Neurosurgery shares some of the

burden of acute neurological problems with our neurology colleagues in the realm of stroke. Neurologists and neurosurgeons frequently work together on the same patients in stroke centers. It is interesting that the American Association of Neurologists have done recent evaluations of their workforce and projected shortfalls.⁵ In their survey of 900 neurologists who took stroke call, they found that 71% indicated the call was covered by general neurologists. Not all of the coverage of stroke call can be provided by stroke/vascular neurologists. Thus, they are acutely aware of a potential increase in the “burn-out” of vascular neurologists and a potential exodus from this subspecialty. The call burden then becomes shifted to the general neurologists.⁵⁻⁷

What is not captured in this current neurosurgery article is the additional requirements upon neurological surgeons to participate in the activities of the whole trauma team. It is hard to quantify these requirements and to remunerate for them. These include, but are not limited to trauma-specific Continuing Medical Education (CME) requirements, Advanced Trauma Life Support certification (and maintenance of certification), neurotrauma/critical care specific research with publications, and active participation in progress improvement initiatives. Additionally, for Level I trauma centers there is also a requirement for 24/7 back-up neurotrauma availability. Thus, the back-up neurosurgeon is subject to the same restrictions on lifestyle as the on-call neurosurgeon. However, there is no compensation for this back-up call. The requirements for participation in other trauma related activities are the strictest for the ACS Level I trauma designations and may vary for the Level II, II, or IV centers. These are mandated by the certifying bodies and deficiencies found in neurosurgical participation can lead to loss of hospital certification of the entire program. This can adversely affect the hospital bottom line.⁸

Similarly, for a hospital to be a comprehensive stroke center, there is a requirement for both open and endovascular neurosurgery coverage.

Once again, this is regulated by national certifying agencies that have specific requirements for call availability. In addition, as with trauma centers, there are similar requirements for CME, participation in quality improvement, leadership, and outreach.⁵

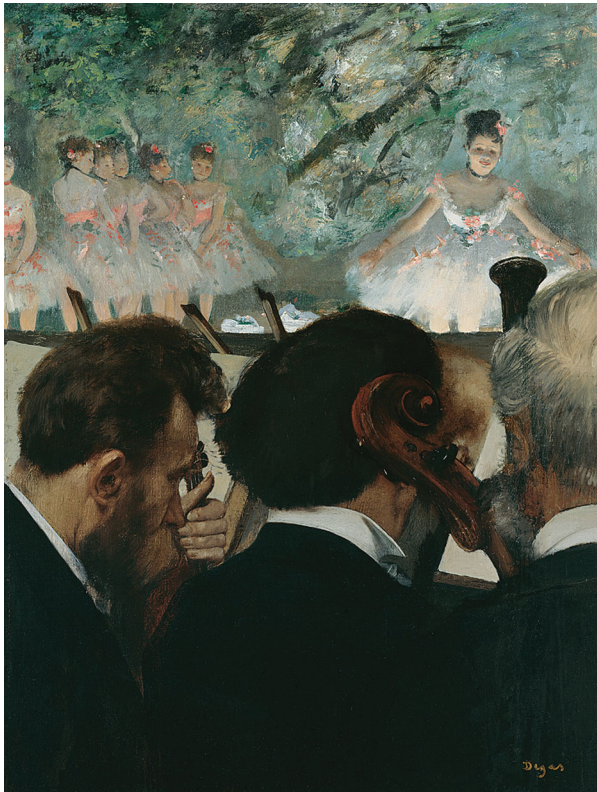
One of the interesting findings was that a good 20% of the respondents plan to stop taking emergency neurosurgery call by the year 2020 and the most common reason cited was retirement. The median anticipated retirement age is 60 yr. If we extrapolate to the total number surveyed (4896), this would mean that 979 neurosurgeons would stop taking neurosurgery ED call in the next 2 yr. According to the AANS workforce analysis, about 160 new graduates join the workforce each year. These numbers speak to the anticipated neurosurgical shortage in the next several years. This is particularly important at a time when there is an increase in the need for acute neurosurgical intervention in trauma and in stroke. Additionally, with an aging population, there is the expected increase in the need for urgent neurosurgical interventions for chronic neurosurgical problems (ie, sequelae of ground level falls). As noted in this paper, the AANS and CNS have several initiatives that are addressing the perceived shortfall in neurosurgical coverage in the coming years. It is important for neurosurgeons in the United States to be aware of and to be actively involved with these initiatives.

Disclosure

The author has no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

REFERENCES

1. Babu MA, Stroink AR, Timmons SD, Orrico KO, Prall JA. Neurosurgical coverage for emergency and trauma call. *Neurosurgery*. 2019;84(4):977-984.
2. Seelig JM, Becker DP, Miller JD, Greenberg RP, Ward JD, Choi SC. Traumatic acute subdural hematoma. *N Engl J Med*. 1981;304(25):1511-1518.
3. Seelig JM, Greenberg RP, Becker DP, Miller JD, Choi SC. Reversible brain-stem dysfunction following acute traumatic subdural hematoma: a clinical and electrophysiological study. *J Neurosurg*. 1981;55(4):516-523.
4. De Vloot P, Nijs S, Verelst S, van Loon J, Depreitere B. Prehospital and intrahospital temporal intervals in patients requiring emergent trauma craniotomy. A 6-Year observational study in a level 1 trauma center. *World Neurosurg*. 2018;114:e546-e558, doi: 10.1016/j.wneu.2018.03.032.
5. Kenton EJ, Culebras A, Fayad PB, et al. Impact of stroke call on the stroke neurology workforce in the United States: possible challenges and opportunities. *J Stroke Cerebrovasc Dis*. 2018;27(7):2019-2025.
6. Adams HP, Jr, Biller J. Future of subspecialty training in vascular neurology. *Stroke*. 2014;45(12):3730-3733.
7. Leira EC, Kaskie B, Froehler MT, Adams HP, Jr. The growing shortage of vascular neurologists in the era of health reform: planning is brain! *Stroke*. 2013;44(3):822-827.
8. Hoyt DB, Ko CY, eds. *Optimal Resources for Surgical Quality and Safety*. Chicago, IL: American College of Surgeons, 2017;60611-3211.



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