Resident duty hour regulations: time for reassessment and revision

Ralph G. Dacey Jr., MD

Department of Neurosurgery, Washington University School of Medicine, St. Louis, Missouri

About 12 years ago the first national restrictions on the number of duty hours worked by residents in training were promulgated by the Accreditation Council for Graduate Medical Education (ACGME). We are now in a position to assess the impact of those regulations on the specialty of neurosurgery. It is important that we do this because the quality of and values held by future generations of American neurosurgeons are now being determined. What we are learning about these regulations (first implemented by the ACGME in 2003 and then revised in 2011) is very disappointing and a cause for concern among those interested in the quality of neurosurgical training in the US.

In the current issue of the *Journal of Neurosurgery*, Bina, Lemole, and Dumont3 review and give their assessment of where we stand with regard to the duty hour regulations. In their succinct and comprehensive review they describe the impact of the regulations on fatigue, technical surgical training, and patient safety. To summarize their findings: the preponderance of evidence suggests that duty hour regulation has had no effect on patient safety and may in fact be harmful, and that residency training has probably been made worse by the regulations.

So almost 15 years after fundamental changes were made to the fabric of postgraduate medical education the question is "are we better off?" The answer to this question seems to be "no." The rationale put forward by the sleep scientists who played a fundamental role in the adoption of the duty hour restrictions (DHR)—that if we restrict duty hours, patient safety would be improved—has not been validated by experience. Moreover, there is significant evidence that the quality of care has actually been diminished.1

There is an overwhelming sentiment among experienced surgical educators that the quality of the surgical training environment has deteriorated in the wake of the DHR.1 The American College of Surgeons, concerned about perceptions that the surgical trainee end product is not as good as it was, empaneled a working group to deal with the period of transition to independent surgical practice.2 Surgical residents express concern that their technical training may not be adequate and choose with increasing frequency to enroll in postresidency fellowships to augment their surgical experience.

The DHR and the resultant burden of "compliance" have taken a large toll on both residents and the dedicated educators who direct the residency programs. Residents who are concerned about the patients under their care and their families are frequently put in the position of having to leave their patients or needlessly sign out patient care responsibilities to colleagues who are not as familiar with their cases or invested in their care. My colleague notes that "… patients are reduced to a single box on a sign-out sheet, and … the physicians on duty frantically refer to these sheets for even the most basic questions—"I'm just cross-covering." (David Limbrick, personal communication, 2015). Clearly transitions in care responsibilities must occur in complex hospital environments, but most practitioners believe that the endless churning of caregivers—mostly as a result of duty hour regulations—is excessive and detrimental to neurosurgical care and to patient well-being.2

For decades the best neurosurgical residents have taken pride in their progressively increasing surgical competence, with the realization that the more practical experience they accrue in intraoperative and perioperative patient management the better. Under the current DHR they must now leave the hospital, even when they realize that they could be sharpening their skills by doing another craniotomy for subdural hematoma or a spinal fracture reconstruction and stabilization. This has affected the culture of neurosurgical training programs and tends to devalue surgical technical competence.

In the 2011 regulations, accommodations were made for occasional exceptions to the restrictions in the case of a compelling educational benefit or for humanitarian reasons. However, zealous Designated Institutional Officials (DIOs), who want to promote a "zero tolerance" policy of complete compliance, frown upon such exceptions because it is easier to have none than to explain a variance.

Millions of dollars are now being spent in our nation’s...
academic medical centers to ensure compliance with the duty hour regulations. Complex software programs, additional personnel, and hours of paperwork and committee meetings are expended to feed the “duty hour compliance machine.” Program directors and coordinators spend hours devising complex block call schedules and continuously monitor the duty hour log software programs. All of these quantitative data can indicate complete compliance with the regulations. However, if a few residents fail to understand a question (for example, by using the word “sometimes” as opposed to “rarely”) they can submit “non-compliant” responses on the ACGME anonymous survey, triggering punitive actions by the ACGME. Under the new Next Accreditation System, the relative weight of the anonymous survey seems to have increased despite the fact that it is of questionable reliability. Systems may be carefully constructed to ensure compliance, but the motives of dedicated educators are called into question by the presumption of malevolence that is inherent in the anonymous survey mechanism. This pits busy program directors against residents and DISOs. For what? To ensure mindless compliance with rules whose fundamental rationale is now brought into question?

No thoughtful neurosurgeon would advocate a return to the crushing 120-hour work weeks that characterized neurosurgical training in the last century. Most neurosurgeons know that successful practitioners must, at an early age, learn to integrate and balance the professional and personal parts of their lives. This means setting reasonable limits on the hours they devote to their patients and to their continuing education. But rigid, bureaucratically complex rules applied in an atmosphere of punitive compliance are in conflict with such a process of rational work/life integration in a profession as complex and intense as neurosurgery.

Philip Howard, in his book The Rule of Nobody, describes how the prevalent, legalistic culture in the US today frequently creates complex regulations and detailed rules that prevent people on the ground from using their professional judgement to do the reasonable thing. He describes the pernicious effect this phenomenon has on those in our society who are responsible for accomplishing real things.

Think of any group activity in your life that works well—whether at the office, church, or Little League. In each one there will be people who do what’s right and sensible in the circumstances. Their record is probably not perfect, because they are human, but they achieve credibility not only by their skill but by their dedication to joint goals, and by the appropriate way in which they deal with others. The complexity of these types of moral traits can never be legislated but it is the glue holding together any healthy enterprise and society.

This is where we are now in the duty hour regulation area. We are slavishly struggling to comply with a set of complex regulations that often are in conflict with our professional responsibilities to our patients and that damage our training programs. Given that the much-anticipated improvement in patient safety has not occurred, the time has come to dramatically simplify the regulations, lessen the burden that they place on our residents and on neurosurgical educators, and let common sense prevail in postgraduate medical education. The only regulation should be that residents should not work more than 80 or 88 hours a week, averaged over 4 weeks. The very disruptive policy of the 16-hour limit in Postgraduate Year 1 should be rescinded. This policy has significantly devalued the essential initial year of neurosurgical training, delaying the full incorporation of early stage residents into the team. The procedures of the ACGME should be changed to eliminate the punitive compliance mentality that dominates our daily interactions with our residents. We should teach our residents to thoughtfully integrate their professional and personal lives in the context of our demanding and complex specialty. In the formative residency training period of their lives, they should be able to vigorously pursue their surgical technical training, take care of their patients, and progressively amass that body of knowledge and experience that will sustain them for the remainder of their careers.

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References

Disclosure
Dr. Dacey has no financial conflicts of interest. He was a member of the ACGME Duty Hour Task Force, which was responsible for the 2011 Duty Hour Regulations.

Response
Robert W. Bina, MD, G. Michael Lemole Jr., MD, and Travis M. Dumont, MD

Department of Surgery, Division of Neurosurgery, The University of Arizona College of Medicine, Tucson, Arizona

We thank Dr. Dacey for his poignant, eloquent, and experienced editorial concerning our publication. As medicine in general and neurosurgery in particular navigates this sea change, we must be vigilant in evaluating Trojan Horse mandates. We truly appreciate seasoned voices and opinions like his.