

## Results of a National Neurosurgery Resident Survey on Duty Hour Regulations

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The Accreditation Council for Graduate Medical Education Task Force on Quality Care and Professionalism proposed revised duty hour standards in 2010 that took effect July 2011.<sup>1</sup> These standards were based primarily on systematic reviews of published studies evaluating duty hours, clinical performance, and medical errors.<sup>2,3</sup> The major changes included a reduction in first-year resident shifts to a maximum of 16 hours and a reduction in shift length for all other residents to 28 hours (24 unrestricted hours plus 4 hours for additional responsibilities). We sought to obtain the opinions of the resident population within the field of neurosurgery before the initiation of the new duty hour standards by completing a nationwide resident survey.

### PATIENTS AND METHODS

A survey package was sent by mail to all 101 accredited US and Puerto Rico neurosurgery programs. Each package contained a letter to the coordinator and program director with detailed instructions for distribution and survey completion and 8 to 28 individual surveys (based on program size), each with its own envelope with the address of the study center preprinted and postage already included. On receiving the 4-page survey, residents were to complete the surveys, separate the envelope from the attached survey, and immediately place the survey into the envelope and then into outgoing mail. A gatekeeper at the study center received all survey envelopes and immediately separated the survey from the envelope to preserve resident anonymity. The gatekeeper then recorded the state of postmark on a deidentified database.

### RESULTS

Three-hundred seventy-seven residents (34% of residents in the United States) returned surveys to the study center. All areas of the United States and Puerto Rico were represented. Most respondents were male (79%), educated in US medical schools (87%), without children (72%), and in training programs approved for 1 to 2

residents per year (69%). The average age was 30.5 years. The number of respondents in their first 3 years of training equaled those in their senior or chief years. More than one-third of respondents reported violating the 80-hour rule occasionally or frequently (36%). Thirty-one residents reported involvement in a life-threatening event, and 20 reported having made a major medical error resulting in patient harm at the end of extended shifts. Those involved in life-threatening events were more likely to agree that medical errors would be reduced by shortening shifts than those who were not involved in such an event ( $P = .002$ ). The majority of respondents reported that the proposed duty hour standards would increase duty hour violations (85%); most felt that the proposed standards would not prevent medical errors (64%) or reduce resident fatigue (59%); and the majority disagreed (or strongly disagreed) with the 16-hour proposed regulation for postgraduate year 1 (83%). Furthermore, most disagreed or strongly disagreed with being subject to the same duty hour regulations as other medical specialties (74%), and the majority reported that the new regulations would decrease resident operative or educational experiences (85%). Finally, the majority of respondents felt the new standards would have a negative or strongly negative effect on their residency training (72%). Senior or chief residents were more likely to rate this effect as negative or strongly negative compared with junior residents ( $P = .002$ ).

### CONCLUSIONS

This national duty hour survey of neurosurgical residents reveals considerable concern about the new Accreditation Council for Graduate Medical Education proposed standards. The majority of respondents believe that the new standards will have a negative or strongly negative effect on their residency training. Furthermore, this survey indicates an overwhelming negative attitude toward mandated duty hour regulations among neurosurgical residents. Duty hour violations reported in this survey may be a more honest depiction of true violations and are higher than expected. Finally, the survey provides data that indicate that tired neurosurgery residents do, in fact, believe that they have

caused patient harm and/or been involved in vehicular collisions.

### Disclosure

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

### REFERENCES

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