

## An Observational Study of Junior Neurosurgery Resident Call at a Large Teaching Hospital

To -date, few studies have attempted to understand resident workload while on call by quantifying individual duty requirements, such as new patients seen, procedures performed, distance walked, or pages received. Theoretically, residents who are required to return more pages, walk greater distances, see more new patients, and sleep less while on call are more likely to suffer from fatigue than those who have less intense responsibilities, regardless of the length of shift. From a practical perspective, it can be argued that increased workload may stimulate residents while on duty and help prevent the performance effects of fatigue. There are few published studies that have attempted to characterize resident fatigue while on call by quantifying workload, scope, and contextual factors.

From April to June 2011, the primary author (a postgraduate year-3 neurosurgery resident) recorded workload data during 15 consecutive call shifts in a large neurosurgery program. The author wore a pedometer to record the total number of miles walked during the shift. An average 24-hour neurosurgical call shift at our institution entailed walking 9.6 miles, being responsible for an inpatient census of 62 patients, evaluating 8 new patients, returning 65 pages, performing one minor procedure, eating one sit-down meal, and sleeping 35 minutes with a median sleep time of zero minutes.

This report from an individual resident is a first attempt at quantifying the experiences of overnight resident call at a large program to further understand the rigors facing neurosurgical trainees. There are few recent data evaluating the workload of residents or fellows, and only a few studies have quantified the distance walked while on call.<sup>1,2</sup>

Although these data are limited given their single-center, single-resident origin, we believe the study is interesting, particularly with regard to long distances walked during call (one call period entailed 13 miles of walking). This suggests a need for further investigation into the call experiences of resident physicians, to more fully understand the relationship between the physical demands of call, resident fatigue, and the quality of care that is provided. We encourage other centers to engage in similar, yet more robust, efforts so that we can obtain a broader understanding of the relationship between workload and physician fatigue while on call.

**KYLE M. FARGEN, MD, MPH**

Fourth-year Resident Department of Neurosurgery,  
University of Florida

**WILLIAM A. FRIEDMAN, MD**

Faculty, Department of Neurosurgery, University of  
Florida

### References

- 1 Parshuram CS, Dhanani S, Kirsh JA, Cox PN. Fellowship training, workload, fatigue and physical stress: a prospective observational study. *CMAJ*. 2004;170:965-970.
- 2 Gabow PA, Karkhanis A, Knight A, Dixon P, Eisert S, Albert RK. Observations of residents' work activities for 24 consecutive hours: implications for workflow redesign. *Acad Med*. 2006;81(8):766-775.