

Editor's Note: The following are the Top 3 Research in Residency Education Papers selected by the JGME and the Royal College of Physicians and Surgeons of Canada for the 2015 International Conference on Residency Education (ICRE) meeting in Vancouver, Canada. A full listing of submitted abstracts appears on the JGME website (www.jgme.org). Underlined author names indicate presenting author at the conference.

The Effect of a Night Float Call System on Resident Fatigue, Cognition, and Motor Function

Introduction: In response to governing body restrictions, residency programs have adopted rotating night float systems to reduce the number of continuous working hours. We aim to objectively measure the impact of a night float (NF) as compared to traditional call (OC) on resident quality of life, fatigue, and cognitive and motor function.

Methods: Thirteen residents on night float and 15 on overnight call were tested prospectively at 3 time points: morning precall, immediately postcall, and the first day back. Fatigue was assessed subjectively using the Brief Fatigue Inventory (BFI) and objectively using the Computerized Test of Information Processing (CTIP), the Roadsigns Perception Test (RSPT), and the Purdue Pegboard (PP).

Results: NF residents were not significantly fatigued postcall, with fatigue levels returning to precall levels by the following workday. OC residents were significantly fatigued postcall without recovery. Manual dexterity testing showed no decline in the NF group, but significant decline without recovery in the OC group. CTIP scores were not consistently affected by NF or OC. RSPT testing showed NF group accuracy did not decline postcall and had higher scores the next workday compared to precall.

Conclusions: Residents under an OC system experience more significant and persistent fatigue postcall as compared to a NF system. Fatigue was demonstrated subjectively, as well as objectively using motor and cognitive testing. In contrast to previous research, the impact of fatigue on motor function in our study is more impressive than on cognitive function. Future research will investigate the clinical impact of fatigue-induced detriments on patient care.

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