

The Effect of Night Float Rotation on Resident Sleep, Activity, and Wellbeing

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Abstract body

Background: Many training programs utilize a night float call systems. Prior studies have shown that anesthesia residents obtain less sleep and continue to have decreased sleep efficiency for several days after the night float rotation. The impact of these changes on physical and emotional wellbeing is unknown.

Methods: Twelve anesthesia residents completed National Institute of Health Patient Reported Outcome Measurement Information System surveys for Fatigue, Sleep Disturbance, and Positive affect before and after their night float rotation, and again after a recovery week. During the 3 weeks, they wore a commercial activity tracker (Fitbit Alta HR). Sleep hours and steps per day were captured.

Results: There was no difference from baseline in individual sleep hours per week during their night float rotation or recovery week ($p=0.17$). There was no change in reported sleep impairment ($p=0.09$). Despite this, they reported increased fatigue (10[7,14], $p<0.0001$), which recovered after the following week. The increased fatigue was associated with a reduction in positive affect score (3.3[0.6,8.7], $p=0.0002$). that also improved after the recovery week. They took 1913 [898,2632] fewer steps per day during their night float week ($p = 0.007$).

Conclusions: Despite no change in total sleep hours and reported sleep impairment, the residents felt more fatigued and reported lower positive affect, suggesting a significant emotional and/or psychosocial component may be contributing to fatigue. The low baseline Positive Affect scores are concerning for trainee well-being. Further research is needed to identify optimal call structures and interventions to curtail the interaction between fatigue and affect.