



AB067. SOH22ABS101. Extended-Duration Work Shifts (EDWS) in surgical specialties: a systematic review on psychomotor, cognitive, and physiological outcomes

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Background: Duration-hour restrictions implemented internationally to prevent surgical burnout, promote patient safety have undergone several iterations to optimise acumen in surgical training while preventing surgical burnout. A variety of Extended-duration Work Shifts (EDWS) have been implemented, with the impact on both surgical performance and the stress response unestablished in the literature.

Methods: This was a systematic review aiming to evaluate the impact of extended-working hours on surgical performance, cognitive impairment, and physiological stress responses. A review of the literature was carried out across PubMed, Ovid Medline, EMBASE, and Google Scholar between September–October 2021 in accordance with PRISMA guidelines. Filters including studies carried out after 2002 and the English language were applied.

Results: In total 30 studies were included for analysis. General surgery was the most commonly studied rotation, with Neurosurgical, Orthopaedic, and ENT specialties also included. The majority of studies found no difference or a significant improvement in post-EDWS on simulated performance. EDWS appeared to have the greatest impact on physiological stress markers in junior surgical trainees.

Conclusions: Experience appears to confer a protective element in the post-call period, with preservation of skill demonstrated. More experienced clinicians demonstrated lower levels of physiological markers of stress, although variability in hierarchical workload should be considered. Heterogeneity of findings across physiological, cognitive, and psychomotor assessments highlights the need for robust research on the optimum shift pattern prevent worker burnout and promote patient safety. Future research to evaluate any correlation between stress and performance in the post-call period is warranted.

Keywords: Call; fatigue; sleep deprivation; stress; surgical call

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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