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# MEDIA RELEASE

## Fatigue and surgical performance

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While the issue of safe working hours for surgeons has attracted considerable attention in recent years, a study in the latest issue of the *ANZ Journal of Surgery* finds there is insufficient evidence to gauge the effect of fatigue on surgical performance.

One of the study's authors, Professor Guy Maddern of the Department of Surgery at the University of Adelaide and the Queen Elizabeth Hospital, said the research aimed to determine whether fatigue has an impact on surgeon performance or surgical outcomes.

"It is known that sleep deprivation and disturbances in circadian rhythms generally lead to poor performance," Professor Maddern said. "We were curious to see if this was an established fact in the surgical field, given that long work hours are almost considered a tradition during medical residency training and that the discipline of surgery appears to require a greater number of work hours than other medical disciplines."

"It is known that fatigue has been associated with increased attention failures in intensive care interns, increased serious medical errors made by internal medicine interns, and increased risk of interns having motor vehicle accidents during a commute from work. But the link between sleep deprivation and poor performance has not yet been clearly established in surgery," he said.

A systematic review of published literature identified 16 studies of sufficient relevance and quality: two randomised controlled trials, five non-randomised comparative studies and nine case series. Of five studies that directly measured clinical performance, three reported no significant difference as a result of sleep deprivation, while two found increases in complications or errors. Of 11 studies that assessed psychomotor skill performance using a variety of simulation-based methods when a participant was rested and/or fatigued, two reported no significant differences while the remaining nine reported mixed results. However, surgical residents with less training and experience did appear to be more affected than more senior residents.

"The overall weight of relatively poor evidence shows that clinical performance is not proven to be affected by sleep deprivation or fatigue and that psychomotor performance may or may not be," Professor Maddern said. "Of course the absence of evidence is not necessarily evidence of an absence of effect, which leaves the issue very much an open one. There is clearly scope for more work in this important area," he said.

The *ANZ Journal of Surgery*, now in its 80<sup>th</sup> year and published by Wiley-Blackwell, is the pre-eminent surgical journal published in Australia, New Zealand and the South-East Asian region. The Journal is dedicated to the promotion of outstanding surgical practice, and research of contemporary and international interest.

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