Alertness CRC Media Release

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Sleep study findings could aid alertness in night shift workers

Australian researchers have unveiled new information that could help night shift workers remain more alert while on duty.

Shift work has long been associated with impaired alertness and performance, which can further lead to poor staff health and increased workplace errors.

In a study led by the Alertness CRC, researchers examined 52 nursing and medical staff in an intensive care unit at Austin Health in Victoria as they worked on a variety of shifts – day, evening, and night. They found that if you can understand the individual timing of a worker’s body clock, you can better help them maintain alertness during night shift.

“We’ve uncovered new knowledge on the impact of different shift types and the sleep-wake behaviour of healthcare shift workers, which could inform potential methods of intervention to help people cope better with shift work,” said Monash University’s Dr Tracey Sletten; an Alertness CRC Project Leader and senior author on the recently published paper, “The Impact of Shift Work on Sleep, Alertness and Performance in Healthcare Workers”.

During the study, sleep and wake duration between the workers’ shifts was evaluated using wrist activity monitors and daily diaries. As expected, the amount of sleep obtained during the day between night shifts was shorter than most people require. An additional significant finding was that working early morning shifts was also associated with a considerable reduction in sleep.

“We found that in rotating shift workers, early day shifts could be associated with similar sleep loss to night shifts, particularly when scheduled immediately following an evening shift,” Dr Sletten said. “This is important to consider when designing shift schedules to optimise the sleep, alertness and the wellbeing of staff in any industry”.

The study also assessed the time course of alertness and performance during day and night shifts, specifically examining whether alertness is most impaired on the first night shift or after working several consecutive nights.

Staff reported their level of sleepiness and completed tests of reaction time and attention during day shift, as well as on the first night shift, and after several consecutive night shifts.
“Workers experienced higher sleepiness and had slower reaction times at the end of night shifts compared to day shift,” Dr Sletten said.

Unlike many other similar studies, this study also involved the collection of biological samples, to assess the specific timing of individual staff’s circadian phase – the timing of their body clock – to examine the impact of this timing on changes in alertness and performance during a shift. Circadian timing varied considerably between individuals, and this timing was shown to influence sleepiness and performance during night shifts.

“We can now use this information to inform potential interventions to improve sleep obtained by shift workers. In turn, we hope that this will have a positive impact on the personal health of these workers.”

Dr Tracey Sletten is available for Interviews relating to this research:

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About the CRC for Alertness, Safety and Productivity
The Alertness CRC is an industry focused research program committed to maximising alertness in the workplace. The mission of the Alertness CRC is to 1) Promote the prevention and control of sleep loss and sleep disorders, and 2) Develop new tools and products for individuals and organisations to improve alertness, productivity and safety. http://www.alertnesscrc.com/

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