

Shift work can affect your health

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Shiftwork is an occupational health risk of growing significance because it is becoming more common and because of its potential influence on health outcomes, possibly increasing health differences between workers of higher vs lower socioeconomic status. A new study from the University of Wisconsin School of Medicine and Public Health determined that employees who work shifts outside of a 9-to-5 schedule are more likely to be overweight and experience sleep problems, and possibly more likely to develop metabolic disorders, such as diabetes,

compared to workers following traditional work schedules. The study is published in *Sleep Health*, journal of the National Sleep Foundation.

"Shiftwork employees are particularly vulnerable to experiencing sleep problems as their jobs require them to work night, flex, extended, or rotating shifts," explained lead investigator Marjory Givens, PhD, an Associate Scientist with the University of Wisconsin School of Medicine and Public Health. "Shiftworkers are more commonly men, minorities, and individuals with lower educational attainment and typically work in hospital settings, production, or shipping industries."

The investigators used cross-sectional data from the Survey of the Health of Wisconsin (SHOW) collected from 2008-2012. SHOW is a population-based [health](#) examination survey that includes home- and clinic-based interviews and physical examinations. In this analysis, 1593 participants were assessed using measures from the physical examination to calculate [body mass index](#) and determine obesity or overweight status. Type-2 diabetes (T2D) was assessed in 1400 subjects using either self-report of physician-diagnosed T2D or glycated hemoglobin (HbA1c) equal to or greater than 6.5% as determined from a blood sample obtained at the [physical examination](#).

Shiftworkers were significantly more likely than traditional schedule workers to be overweight (47.9% vs. 34.7%). They also experienced more sleep problems such as insomnia (23.6% vs. 16.3%), insufficient sleep (53.0% vs. 42.9%), or excessive wake-time sleepiness (31.8% vs. 24.4%). Since shiftwork and sleep problems have both been implicated in poor metabolic health, this study asked whether sleep problems may play a role in shiftworker [health disparities](#). Dr. Givens and her colleagues found that experiencing sleep problems was positively associated with being overweight/obese or diabetic. Moreover, even though [sleep problems](#) did not fully explain the relation between shiftwork and overweight or diabetes, these association appear to be

stronger among shiftworkers who were not able to obtain sufficient sleep (less than seven hours per day), suggesting that the adverse metabolic consequences of shiftwork could be partially alleviated by sufficient sleep.

Two particular strengths of this study are that it draws from a general population sample and primary outcomes (overweight and diabetes status) were defined according to objective markers (measured weight, height, and HbA1c). Potential limitations include unmeasured confounding factors, the potential for systematic biases in self-reports of sleep duration and sleep quality, and an inability to determine a causal relationship due to the cross-sectional nature of the study.

According to Dr. Givens, "This study adds to a growing body of literature calling attention to the metabolic health burden commonly experienced by shiftworkers and suggests that obtaining sufficient sleep could lessen this burden. More research in this area could inform workplace wellness or healthcare provider interventions on the role of sleep in addressing shiftworker health disparities."

More information: "Shiftwork, sleep habits, and metabolic disparities: results from the Survey of the Health of Wisconsin," by Marjory L. Givens, PhD, Kristen C. Malecki, PhD, Paul E. Peppard, PhD, Mari Palta, PhD, Adnan Said, MD, Corinne D. Engelman, PhD, Matthew C. Walsh, PhD, and F. Javier Nieto, MD, PhD. It is published in *Sleep Health*, Volume 1, Issue 2 (June 2015), DOI: [dx.doi.org/10.1016/j.sleh.2015.04.014](https://doi.org/10.1016/j.sleh.2015.04.014)

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