

# Behavioral therapy and sleep: A lifeline for night workers

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If you are a police officer, a health care worker, a firefighter or even a miner, you may be part of the 25% to 30% of the population with atypical working hours.

This type of schedule may involve working early mornings, evenings and nights, and it may be fixed, on-call or rotating. Unconventional schedules, especially the [night shift](#) and rotating schedules, have a significant impact on sleep and alertness, and this has an adverse effect on health.

First of all, insomnia and sleepiness while awake are widespread among people whose circadian rhythms—their biological clocks—are disrupted. But that's just the tip of the iceberg: the evidence also shows that they may experience symptoms of depression and anxiety, have a higher risk of gastrointestinal disorders and obesity, and suffer from cardiovascular problems. People with significant sleep disturbance and sleepiness may be diagnosed with "shift work sleep disorder."

These problems are caused by a misalignment between activities and the proper functioning of biological systems. "We are diurnal creatures—our entire physiology is built to be active during the day and recover at night," explained Julie Carrier, a professor in the Department of Psychology at Université de Montréal and researcher at the Center for Advanced Studies in Sleep Medicine of the CIUSSS du Nord-de-l'Île-de-Montréal.

"The biological clock can adapt to changes such as jet lag, thanks to the light-dark cycle," she added. "However, it is difficult for the body of a night worker to adjust, since they must sleep when it is light and stay awake when it is dark. They have to do the opposite of what their biology is designed to do, both in terms of sleep and hormone regulation and digestion, because the body isn't made to metabolize food at night."

Carrier is concerned about the many effects of working nontraditional hours and the limited treatments available, and has been looking for solutions. Now, she and her colleague Annie Vallières from Université Laval have found a promising new line of inquiry.

## High potential and some obstacles

Their research team has just published a [study](#) in the *Journal of Sleep Research* showing that applying behavioral therapy to night work can reduce the harmful effects of atypical work schedules. Specifically, it can improve daytime sleep and lower levels of drowsiness, anxiety and depression.

The therapy involves several stages: debunking sleep myths, recommended insomnia behaviors, sleep restriction therapy (reducing time spent in bed as much as possible to optimize its effectiveness), and sleep windows for daytime, nighttime and naps.

"Our results are very encouraging," Carrier said. "However, our study highlights the difficulty people with atypical schedules face in accessing the therapy."

The team is eager to make the solution available to more people and is currently developing a mobile app to deliver the therapy remotely.

"Patients will still be supervised by the therapist but will be able to get sleep prescriptions, advice and information on [best practices](#) at any time of the day or night," Carrier explained. "This will also reduce costs and increase therapists' capacity."

## A major social issue that receives little attention

In addition to [health risks](#), the sleep disruption caused by atypical schedules has relational and social ramifications. For example, it is associated with work and traffic accidents, medical errors, absenteeism and presenteeism.

Carrier and Vallières believe this is an issue of vital importance that

should attract the interest of HR professionals and managers, as well as psychosocial experts, sleep researchers and workers.

"Sleep is severely undervalued and rarely considered in discussions of work and employment," she noted. "However, the situation of workers with atypical hours is particularly worrisome. We are talking here about people who would be in good health but have work schedules with potentially serious consequences not only for their health and their social relationships but also for society as a whole.

"We urgently need to start a dialogue on this issue and devise solutions to minimize its adverse effects."

**More information:** Annie Vallières et al, Behavioural therapy for shift work disorder improves shift workers' sleep, sleepiness and mental health: A pilot randomised control trial, *Journal of Sleep Research* (2024). [DOI: 10.1111/jsr.14162](https://doi.org/10.1111/jsr.14162)

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