

SLEEP

Better sleep for shiftworkers



Our body is designed to be awake and alert in the daytime and to rest at night. Many shift-workers therefore suffer from sleep deprivation and insomnia, having difficulty sleeping during the day and staying alert at night.

It is well known that sleep-deprived people are more accident-prone. VicRoads estimates that shift workers are six times more likely to be involved in a fatigue-related road crash.¹ A 1994 study estimates that driver sleepiness accounts for 6% of road accidents, 15% of fatal accidents and 30% of fatal crashes on rural roads.²

Getting a good night or days sleep is not just about the hours spent sleeping. Quality sleep is most important and should leave you feeling refreshed, with the energy you need for safe, productive work.

Both your health and your productivity can be compromised if you are continually sleep deprived.

As a shiftworker, you need to understand your body's two timers:

Circadian rhythm

The body's circadian rhythm is often referred to as your body clock, which cycles in periods a little more than 24 hours. Once the body clock is set, it cannot be altered easily. The body can begin to adjust after two or three night shifts, but as soon as you have one or two nights off, your body resets to daylight rhythms. Most night workers stay on their "day pattern" and need to learn how to TRICK their circadian clock into thinking "day is night" and "night is day".

Ultradian rhythm

The body's ultradian rhythm is often referred to as your sleep cycle, which lasts around 90 minutes and involves 5 stages.

- Stage I: Drowsiness (between consciousness and sleep)
- Stage II: Light sleep (heart rate slows, body temperature begins to drop)
- Stage III and IV: Deep restorative sleep (body makes repairs)
- Stage V: Rapid Eye Movement (REM)/ dreaming sleep (eye movement, heart rate, breathing, blood pressure and body temperature increase)

Shiftworkers trying to sleep during the day typically sleep 1.5 to 2 hours less than their night sleeping counterparts.³ They miss out on a significant portion of REM sleep and the amount of Stage II sleep is less. This results in "fragmented sleep."

Your body clock therefore has two timers, controlling body rhythms over 24 hour cycles (circadian rhythms) and 90 minute cycles (ultradian rhythms.) These rhythms affect your alertness, energy and sleep patterns.

Your body responds to a 24 hour pattern of day and night – your circadian rhythm. You are usually most awake at about 9:00am and 9:00pm. The two times when your body most wants to sleep is around 3:00 am and 3:00pm.



Sleep hygiene

- Develop some bedtime routines, e.g. shower, read, listen to music, clean your teeth etc - do not work or watch TV in bed
- Learn some relaxation techniques, unwind and de-stress before you go to bed
- Turn off lights, eliminate noise and overheating
- Don't panic if you cannot fall asleep, get up and return when you feel ready for sleep

References

1. VicRoads Fatigue and Road Safety, 2015, <https://www.vicroads.vic.gov.au/safety-and-road-rules/driver-safety/fatigue/fatigue-and-road-safety>
2. Dobbie, K. (2002). Fatigue-related crashes: An analysis of fatigue-related crashes on Australian roads using an operational definition of fatigue. Road Safety Research Report OR23. Australian Transport Safety Bureau: Canberra.
3. 3C zeisler, CA, Weitzman ED, Moore-Ede MC, et al. Human sleep: its duration and organization depend on its circadian phase. Science 1980 Dec;210(4475):1264-67.

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Tips to help shift-workers sleep better

- Before your first night shift, have a short sleep of 1 to 4 hours to reduce sleepiness at work
- A technique for a series of nights is called 'anchor sleep'. On days off, between night shifts, stay up until 3 or 4am and then sleep till 10 or 11am
- Coming off night shifts into days off, have a short sleep on reaching home and go to bed earlier that night
- A short "power nap" (10-30 mins) can have a significant recovery effect for some people in sleep debt and enhance their performance

Tips to help shiftworkers stay alert:

At work

- Stand up, walk around, wash your face and stay active

Getting home

- Be careful when driving home after night shift. Keep your mind active by listening to the radio, talk to passengers or wind down the window
- Don't drive home if you are fatigued - take a taxi, get a lift or call a friend/partner
- If your eyelids are "drooping" or you feel like "nodding off" pull over for a "power nap"

Managing night shifts

- Light exposure wakes you up, so you need to create an artificial light/dark cycle. When on night shift, you need bright light.

After the night shift, you need to:

- wear dark sunglasses with side shields on the way home
- go home and get into bed ASAP
- make your bedroom as dark as possible and keep your bedroom cool, and;
- optimise your sleep environment (pull phone out from wall, ask others to eliminate noise etc.)

Managing early morning shifts:

- Early morning light wakes you, so do not wear sunglasses in the morning, but try to avoid afternoon light.

After early morning shifts:

- keep household lighting to a low
- have 'time out' when you come home
- try not to have too big a difference in "wake-up" time when on days off



Nutrition for shiftworkers - At work

- Aim for regular meal times – incorporate low kj snacking
- Small meals at night
- Drink plenty of water/ fluids
- Don't skip breakfast

Before sleeping

- No large meals
- Do not use sleeping tablets regularly – please consult your doctor
- Limit fluids, alcohol and caffeine
- Eat low fat protein foods and good low GI carbohydrates

