

I'll Sleep Later

We often view sleep as a luxury, a flexible block of time we can negotiate to fit more productivity, socialization, or entertainment into our lives. However, sleep is not just downtime; it's a complex, active process that supports our cognitive wellness and is essential to our survival. When we sacrifice both the quantity and quality of our sleep, we accumulate a deficit, known as sleep debt, that our bodies need to recover from. We don't just feel tired; we suffer physiological, psychological, and emotional impacts, which can increase our risk of errors and accidents on the job.

For shift workers, the fight against fatigue requires an ongoing commitment to scheduling sleep effectively, establishing and maintaining good sleep hygiene, getting regular exercise, and eating healthily. To truly grasp the impact of fatigue on the job, however, we must also understand the basics of adequate sleep quantity and sleep quality.

- **Sleep Quantity** Most adults require between 7 and 9 hours of sleep each night (or day) to complete the three to four cycles of sleep necessary for the restoration of the body and the brain. Each sleep cycle includes 4 stages – stage 1 light sleep, stage 2 stable sleep, stage 3 deep sleep, and stage 4 rapid eye movement or REM sleep.
- **Sleep Quality** Even if a shift worker spends 7 to 9 hours in bed each night, factors such as light pollution, noise, or sleep disorders, can prevent the brain from entering stage 3 and stage 4 sleep. During these stages, the brain flushes out metabolic waste, and growth hormone is released (which heals tissue, strengthens muscles and restores the body). These restorative processes are essential to our cognitive function.

Fatigue can be tricky. Unlike with hunger or thirst, we are notoriously poor judges of our own level of sleep deprivation. Medical research has demonstrated that after just several nights of restricted sleep (6 hours or less), individuals reported feeling fine while their performance on tasks requiring sustained attention has declined¹.

When fatigue carries over to the job, the consequences manifest in different ways.

- **Reduced Risk Assessment:** Fatigue reduces our brain's ability to successfully transmit information² which, in turn, inhibits or impairs our rational decision-making.
- **The Tunnel Vision Effect:** When our brains are sleep-deprived, we lose the ability to multitask. In a pipeline control room, this can be hazardous. A pipeliner may become fixated on a minor technical detail while failing to notice a flashing warning light or a colleague's verbal alerts.

Our individual sleep needs and patterns change as we age, but this also varies across individuals of the same age. There is no magic amount of sleep that works for everybody of the same age. Babies initially sleep as much as 16 to 18 hours per day, crucial for their growth and brain development. Children and teens need about 9.5 hours of sleep per night. Most adults need 7 to 9 hours of sleep a night. Most of us believe we can easily catch up on missed sleep. If our accumulated sleep debt is significant, however, a few extra hours of sleep on our off-days may not be enough to replenish the debt. Understanding the science behind sleep is the first step toward mastering it. Prioritize consistent sleep hygiene and respect the body's restorative cycles. Use rest to your advantage by ensuring you get enough quality sleep to stay safe and effective on the job.



¹ **Psychomotor Vigilance Task**, ScienceDirect, <https://www.sciencedirect.com/topics/nursing-and-health-professions/psychomotor-vigilance-task#:~:text=Apart%20from%20total%20sleep%20deprivation,Sanhti,> accessed February 11, 2026.

² **The Consequences of Sleep Deprivation on Cognitive Performance**, National Institutes of Health, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10155483/>, April 28, 2023.