



Fatigue and Shiftwork: Maximizing Sleep Opportunity

What is sleep opportunity versus sleep need? How much sleep is enough?

Sleep opportunity is the amount of time you have *available* to get some sleep, including time you spend in bed still awake. Sleep duration is the *actual* amount of sleep you get. Sleep need is the amount of sleep you *need* to maintain high alertness and performance, typically from 7-9 hours daily. A good test of being well-rested is the ability to sit inactive in a dimly-lit quiet room alone without falling asleep for at least 40-minutes.

Why is it important to maximize your sleep opportunity?

Maximizing your sleep opportunity requires insuring that you plan your sleep so that you get adequate sleep on a daily basis to maximize your alertness and performance. If you restrict sleep over several nights, you accumulate a sleep debt. The greater the sleep debt, the faster your performance and alertness decline. The only way to recover from your sleep debt is to “pay it off” by sleeping.

Can reduced sleep affect safety?

Yes, it can. Restricting sleep to 6 hours per night for 2 weeks has been shown to have similar effects on performance as staying awake for 48 hours straight. The general effect of sleep deprivation on cognitive (mental) performance is serious. It is scientifically proven that if you stay awake longer than 17-18 consecutive hours, you will likely experience:

- Unpredictable performance and inability to focus
- Impaired decision-making capacity and difficulties communicating
- Increase in risk of recovery errors - lapses (failing to take action) or slips (taking the wrong action)
- Slowed reaction times, reduced cognitive speed and decrements in both short- and long-term memory

So...what actions can I take to maximize sleep opportunity and minimize sleep loss?

- When possible, protect your sleep time by having a routine bedtime and wake time
- Schedule at least an 8-hour sleep opportunity; factor in about 30 minutes to fall asleep
- Obtain as much sleep as possible during biological nighttime hours (when it is dark); sleep during the nighttime hours is deeper, more consolidated and more restorative than daytime sleep
- Schedule sleep opportunities to overlap with windows of circadian low (times when your body naturally has extra pressure to sleep) to help increase sleep time (0300-0500 and 1500-1700)
- Take advantage of longer recovery sleep opportunities on non-work days to catch up on the sleep debt you accumulated during the work week
- Recognize that your body is naturally programmed to sleep at night and be awake during the day, so planning your sleep when working schedules that contain mids is particularly important
- Supplement shortened sleep periods with naps as needed to maximize sleep





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Myth: You will eventually adapt to less sleep without any effects on alertness and performance.

Fact: People are not good at judging their own alertness levels. If you routinely carry a sleep debt, you may *think* that your performance has not been affected, but in actuality you may unknowingly accept lower levels of performance and function. The decline is subtle and may introduce a safety risk, so try to focus on maximizing your sleep opportunity and making proactive healthy sleep choices.

