

# Is Sleep Something to Worry About?

## UNDERSTANDING SLEEP BIOLOGY

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### Should you get more sleep?

One of the most common searches on Anxiety Canada's website relates to sleep. Anyone looking to improve their physical or psychological health has undoubtedly been advised to "get more sleep." Whether the advice comes from a physician, psychologist, podcaster, or influencer, the benefits of sleep are widely emphasized. Memory, learning, immune function, healing, energy, and even lifespan is said to improve with sleep. For most people this makes intuitive sense—we have all felt the lift in mood and physical well-being after a solid night of sleep.

Despite the constant reminders from experts, many people struggle to get enough sleep. The distractions and demands of modern life seem to be eroding our sleep. However, telling someone to "get more sleep" is bad advice. Here's why: First, it's not specific. While many people would benefit from more sleep, others may not. Telling someone to get more says nothing about sleep quality or even the 'how much' more. Simply trying to increase the time you spend in bed is unlikely to make much difference, and the reality is that sleep is not a solution to every problem. For some people sleep can make a big difference to how they feel but there are often many other factors at play that a person may need to address to help with sleep.

More importantly, telling someone to get more sleep doesn't tell the person *how* to achieve more sleep. Most people are aware of the importance of sleep and reminding them of this fact only makes sleep more stressful. It usually isn't as simple as just going to bed earlier. To actually improve sleep, it is helpful to understand how sleep works.



## Why do we sleep?

Approximately **one third of our lives are spent asleep**. Given this, sleep must serve an important function, yet despite a significant body of research, its purpose is not fully understood. **Sleep science** does give us some clues about why we enter a state of unconsciousness for so much of our time. It turns out that when we sleep our brain does not turn off, rather, when we measure the electrical activity of the brain there are four distinct stages of sleep. These stages seem to play different purposes; the first two stages play a transitional role towards the third and fourth stages. Much of what we know about the function of sleep is by observing the effects of sleep deprivation.

Researchers have restricted total sleep or selectively interrupted different stages, and sleep plays an important role in a range of functions, whether cognitive, emotional or physical, sleep is clearly important and not getting enough sleep comes at a cost. Sleep also occupies time that we might be doing other tasks, and our bodies find a balance between sleep and wake. To do this sleep is an extremely dynamic process and will be governed by both internal physiological cues as well as environmental ones.

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## Why does sleep matter?

Another reason we believe sleep is important is that sleep is universal. It occurs in all animal species. Even creatures like sea slugs enter sleep-like states that serve functions like human sleep.

Why is sea slug sleep important? It is an evolutionary conundrum because any behaviour that does not serve to enhance an organism's chances of survival and reproduction is unlikely to persist. All animals are adapted to acquire resources, navigate a sometimes-hostile environment and ultimately reproduce. Yet, sleep seems to put animals in a state that is at odds with survival. When animals sleep, they're exposed to the elements, vulnerable to predators and not gathering resources necessary to survive. This suggests that sleep must be essential if it persists across species despite these risks.

In fact, we know that animals have mechanisms to manage the risks while still holding on to sleep. For instance, porpoises can sleep with one brain hemisphere at a time, while other animals take short naps and wake easily to respond to threats.



If you've ever been awakened suddenly during deep sleep, you know that human sleep involves stages where you are unaware of the environment, and unable to respond effectively if awakened.

So, humans have other mechanisms to manage this. We create protected environments to safeguard sleep, but there are also biological mechanisms that govern when sleep happens (i.e., when it is the least costly).

It is important to recognize that sleep is a biological process, not a choice. We often equate sleep with virtue, sayings like “early to bed, early to rise” have a moral message but the reality is that much of your sleep is determined by forces that are not under voluntary control. You can choose when you go to bed and when to turn off the lights, but not whether you fall asleep.

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## The Balance Between Sleep and Wakefulness

Sleep involves competing drivers: those that promote sleep and those that promote wakefulness. Sleep is primarily regulated by two factors: **sleep drive** and **circadian rhythm**. Meanwhile, wakefulness involves several different systems. Understanding these different drives can help you to have more control over your sleep patterns.

### SLEEP DRIVE

**Sleep drive** builds the longer you stay awake. This process is driven by a substance called adenosine, which accumulates over time. The more adenosine builds up, the more likely you are to fall asleep. Staying awake longer increases sleep drive, which is why keeping a consistent wake time and avoiding naps are often recommended for better sleep.

It's important to distinguish between feeling tired and feeling sleepy. Fatigue after physical or mental exertion is not the same as sleepiness. Sleep drive is simply a function of your time awake and going for a run or doing intense mental work may leave you feeling exhausted but can also make it harder to sleep.

## CIRCADIAN RHYTHM

Your **circadian rhythm** is your internal clock, regulated by light exposure. Morning light suppresses melatonin, a hormone that promotes sleepiness. Melatonin levels peak roughly 16 hours after exposure to morning light, signaling it's time for bed. Evening darkness reinforces this process, helping you feel sleepy when it's time to sleep.

Circadian rhythm also explains the afternoon lull many people experience—a mid-day dip in alertness caused by a temporary drop in wakefulness.

## WAKEFULNESS

Unlike sleep drive and circadian rhythm, **wakefulness** is maintained by multiple pathways. Neurochemicals like orexin, dopamine, histamine, and adrenaline promote alertness when this might be necessary. Processes can override our sleep drive and circadian rhythm when we are anxious, stressed or excited. Stress about not sleeping can lead to wakefulness, which leads to worse sleep, and more worry. This can lead to a vicious cycle of bedtime anxiety that is a common cause of insomnia. Substances can also promote wakefulness, the most common being caffeine, which blocks adenosine, a sleep-inducing chemical.



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## How much sleep do you need?

The amount of sleep you need is also largely determined by biology. People often aim for 8 hours but like any other human trait there are significant individual differences. Some people can benefit from 9 hours and others won't need more than 7. The truth is that the benefits of getting more sleep don't extend past a certain point. In fact, when we look at the risks associated with too little sleep, the risks associated with too much sleep are just as significant.

Your sleep needs change with age and other factors. For example, if you needed 9 hours at age 23 but wake refreshed after 7 hours at 43, you likely don't need to worry about missing that eight-hour target.

There is no one-size-fits-all amount of sleep and striving to get an amount more than what your body is telling you just adds to your stress. The best indicator of adequate sleep is waking up refreshed without needing an alarm. If, however, your mornings involve snooze-button battles and a bleary-eyed slog until you are adequately caffeinated, you may want to work on getting some more sleep.

## Sleep Hygiene Recommendations

If you need more sleep, these recommendations grounded in the biology of sleep can help:

### INCREASE SLEEP DRIVE

#### 1. Wake Up at the Same Time Every Morning

- Consistency in the time you wake up will help to connect your regular bedtime with maximum sleep pressure. Sleeping in reduces sleep drive and makes falling asleep harder at night.
- Many suggest using an alarm clock to promote waking up at the same time every day rather than a phone.

#### 2. Avoid Naps

- Napping reduces sleep drive. If naps are part of your routine, consider shorter naps and a later bedtime.

#### 3. Delay Bedtime if You're Not Sleepy

- Going to bed later can strengthen sleep drive, leading to quicker sleep onset.
- Slower blinks, heavy eyelids, and frequent yawns signal sleepiness, while restlessness and a racing mind may indicate stress or overstimulation rather than physical tiredness. If you're not sleepy, you may want to wait until your internal 'battery' is a little lower before trying to sleep.

### PROMOTE CIRCADIAN RHYTHM

#### 1. Get Morning Sunlight

- Early light exposure sets your melatonin to peak at bedtime.

#### 2. Dim Lights in the Evening

- Low light signals your body to wind down, preparing for sleep.

## REDUCE WAKEFULNESS

### 1. Avoid Caffeine and Stimulants Before Bedtime

- Caffeine promotes wakefulness and alertness by blocking adenosine, a sleep-inducing chemical.
- Caffeine sensitivity varies and can adjust based on consumption. While some recommend avoiding caffeine within eight hours of bedtime, the ideal timing depends on individual sensitivity. Be mindful of afternoon consumption.

### 2. Minimize Stimulating Activities in the Evening

- Avoid intense exercise or stressful conversations close to bedtime.
- Keep bright screens (blue light) out of sight 2–3 hours before bed, as blue light suppresses the body's release of melatonin.

### 3. Establish a Calming Bedtime Routine

- Commit to a relaxing pre-bedtime ritual (e.g., taking a warm shower, reading, or light stretching) at the same time every night. Predictability helps shift your body toward sleep readiness.

These recommendations are based on sleep biology, but they may not work for everyone. In fact, if you find yourself struggling with insomnia there are behavioural interventions that may be necessary to get sleep on track. In a future resource, we'll explore additional strategies for improving your sleep.

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Thank you to [Dr. Kyle Burns](#) for creating this [Anxiety Canada](#) resource.