

# Rest, Repeat: Your Guide to a Good Night's Sleep



## Understanding the Importance of Sleep Health

Sleep regulates your body and mind — keeping you healthy, alert, and energized for life's responsibilities.

Lack of regular, quality sleep can lead to long-term physical and psychological damage. This can put you at greater risk for physical injury, disease, and mental health conditions.

In today's fast-paced world, a full night's rest is often hard to come by. Millions of Americans each year say they suffer from a lack of sleep, according to the [National Sleep Foundation](#). The foundation estimates that 10% of Americans suffer from chronic insomnia. Millions more report suffering from similar sleep disorders.

Lack of sleep is linked to preventable disasters, such as aviation and driving accidents. Chronically sleep-deprived people face a greater risk of heart and kidney disease, high blood pressure, stroke, and obesity.

Symptoms of sleep deprivation vary by age, but adults often experience memory loss, confusion, and trouble focusing. You may find yourself more irritable than usual or easily frustrated.

The [American Academy of Sleep Medicine](#) recommends adults sleep at least seven hours per night for good health. More than one-third of American adults fail to meet that goal.

Even if you think you're getting enough sleep, the quality of sleep also plays an undeniable role in regulating your body's internal clock. If you wake up often during the night, rise hours early, or toss and turn, you may suffer from disordered sleep.

But there's a lot you can do to improve your sleep, from lifestyle changes and breathing exercises to medication.

Consider this guide a one-stop shop for all your sleep health needs. It can help you better understand how and why you should prioritize a good night's rest.

### In this guide you'll find information about:

- Sleep cycles.
- Effects of sleep deprivation on the body and mind.
- Sleep-related language.
- Over-the-counter and natural sleep aids.
- Breathing exercises to support sleep.
- How screen time affects sleep.
- How to prepare for good sleep.
- Completing a better sleep checklist each night.

# Understanding Sleep Cycles



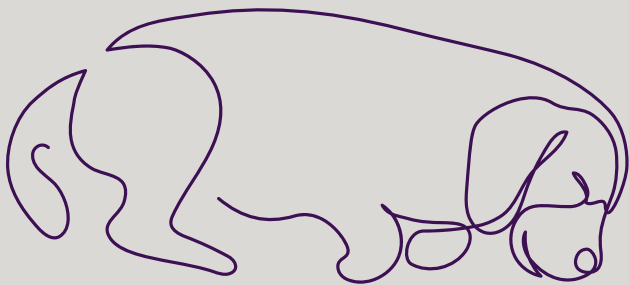
A person's sleep patterns will shift throughout their lifetime. The amount of nightly rest needed varies from childhood to adulthood.

The American Academy of Sleep Medicine recommends adults 18 years and older get seven to nine hours of sleep nightly. Your body needs to cycle through both rapid eye movement (REM) sleep and non-REM sleep to function properly.

Although naps can boost short-term energy, they don't deliver the health benefits of a full night's rest. They also can affect the body's sleep-wake rhythm. Circadian rhythms are a biological clock, regulating metabolism and body temperature and determining when someone feels tired via environmental cues like light.

Sleep-wake rhythms remind the body to sleep, and each person has a certain rhythm.

Age, health, substance use, and sleep disorders can all influence sleep cycles.



During sleep, our body must cycle through four stages throughout the night:

- **Stage 1:** Light non-REM sleep as we first begin to slumber. This lasts for several minutes, during which breathing, heartbeat, eye movements, and brain waves slow and muscles begin to relax.
- **Stage 2:** Non-REM sleep that lasts for up to an hour before entering deeper sleep. This is a deeper transition than Stage 1, where body temperature drops and eye movements stop. Brain activity slows with short bursts of electrical activity.
- **Stage 3:** Deep, non-REM sleep lasting between 20 and 40 minutes that takes place during the first half of a night's sleep. Heartbeat, breathing, and brain waves are at their slowest. Deep sleep is necessary to awake feeling refreshed.
- **Stage 4:** REM, or rapid eye movement, sleep that usually takes hold about an hour and a half after falling asleep. As the name suggests, your eyes move rapidly behind the eyelids, your brain activity increases, and your breathing and heart rate spike. This is when most dreaming happens. Your arm and leg muscles are temporarily paralyzed to keep you safe during intense dreaming.

Circadian rhythm sleep disorders, according to the American Academy of Sleep Medicine, include:

- **Delayed sleep phase disorder:** When your standard sleep cycle is delayed two hours or more.
- **Advanced sleep phase disorder:** When your standard sleep cycle is moved up several hours.
- **Irregular sleep-wake rhythm:** When your sleep-wake cycle is scattered or divided into naps.
- **Shift work disorder:** When a person works during their standard sleep cycle.
- **Jet lag disorder:** When travel through time zones upsets the body's standard sleep cycle.

# The Effects of Sleep Deprivation



## What is sleep deprivation?

You may suffer from sleep deprivation if you:

- Don't get enough sleep for your body to function properly (usually at least seven hours a night for adults).
- Sleep at the wrong time of day, throwing off your body's natural rhythm.
- Don't sleep well (i.e., cycling through both non-REM and REM sleep.)
- Have a sleep disorder that prevents you from getting a good night's rest.

Conditions that may affect sleep patterns include narcolepsy, insomnia, night terrors, restless legs syndrome, sleep apnea, sleepwalking, and snoring.

## What are the signs of sleep deprivation?

Sleep deficiency can impair focus, learning, and reaction times. Other signs of sleep deprivation include:

- Excessive sleepiness, yawning, and daytime fatigue.
- Irritability, emotional outbursts, or mood swings.
- Issues with memory and decision-making.
- Frequent illness.



## What are my treatment options?

A sleep diary can help you keep track of your sleep quality. Some good sleep hygiene habits include:

- Avoiding large meals, caffeine, and alcohol before bed.
- Going to bed and waking up at the same time every day, including weekends.
- Creating a dark, relaxing, and temperature-controlled bedroom atmosphere.
- Removing all electronics before bedtime.
- Getting proper daytime exercise and adhering to a healthy diet.
- Establishing a better sleep checklist.

Other treatment options for occasional sleep trouble may involve over-the-counter sleep aids like melatonin, antihistamines, or herbal supplements.

If you suffer from chronic sleep deprivation or a sleep disorder like sleep apnea or insomnia, treatment options may include:

- **Chronotherapy:** A technique to gradually readjust a person's sleep-wake pattern with the environment.
- **Cognitive therapy:** For some insomnia patients, cognitive therapy can correct thoughts or beliefs contributing to sleep problems.
- **CPAP:** A continuous positive airway pressure device designed for people with sleep apnea that pushes air into the airways and promotes breathing.

If these don't work and you're experiencing symptoms of chronic sleep loss, it's time to talk to your doctor. Experts at the [UPMC Sleep Medicine Center](#) can help identify the cause of your sleep problems and offer treatment plans.

# Glossary:

## Understand the Language of Sleep Health

- **Circadian rhythm:** A 24-hour period of biological function that regulates the sleep-wake cycle.
- **Excessive daytime sleepiness:** Trouble staying awake and an increased need to sleep during the day.
- **Insomnia:** A sleep disorder making it difficult to fall and stay asleep.
- **Narcolepsy:** A chronic sleep disorder linked to sudden, uncontrollable bouts of sleep and daytime drowsiness.
- **Non-rapid eye movement (Non-REM) sleep:** Cycles of “quiet” sleep where eye movements, heartbeat, and brain waves slow.
- **Rapid eye movement (REM) sleep:** A sleep cycle that usually occurs about 90 minutes into sleep. Characterized by rapid eye movement and increased brain activity, heart rate, and breathing, this is when most dreaming happens.
- **Sleep apnea:** A sleep disorder during which breathing repeatedly stops and starts.
- **Sleep quality:** A measurement of how well you’re sleeping, including mental and physical restoration.
- **Sleep deprivation:** Consistent lack of quality, restful sleep.
- **Sleep debt:** Calculated as the amount of sleep you need minus the amount of sleep you get each night. If you sleep fewer hours than your body needs, your sleep debt compounds over time and creates health issues.
- **Sleep hygiene:** Habits and factors necessary for a person to get a good’s night rest.



### Blue Light and Screen Time: How Devices Affect Sleep

Sleep scientists for years have warned that the blue light on LED-backlit electronics can seriously disrupt sleep patterns, making it harder to fall asleep and rise the next morning.

Televisions, computers, tablets, and cell phones produce higher concentrations of blue light than natural light. This can throw off our body’s circadian rhythm by altering how much melatonin our body produces before bed.

Red, yellow, and orange light have little effect on nighttime hormone production when dimmed. But studies show that exposure to blue light in the hours before bed can disrupt when you fall asleep, the quality of your sleep, and how rested you feel when you wake up.

By using night-time settings on your devices and minimizing blue light exposure two or three hours before bed, you can likely improve your sleep. And although the now-popular blue-light filtering glasses are not proven to help with digital eye strain symptoms like dry eye and headaches, [recent studies](#) do suggest the glasses [help with sleep](#) and work performance.

# Guide to OTC Sleep Aids: Are They Safe?



## What are OTC sleep aids? What are the risks?

There are dozens of over-the-counter sleep aids promising relief of occasional sleeplessness, each containing a different chemical makeup. Each comes with its own risk factors and side effects. Always consult your doctor before choosing a sleep medication, and make sure they're monitoring its use.

- **Melatonin:** A natural hormone produced in the brain as it gets dark. Most pharmacies offer over-the-counter melatonin supplements to help you fall asleep. There isn't much comprehensive research on the long-term effects of regular melatonin use, but doctors may suggest taking melatonin supplements for certain sleep disorders, jet lag, or occasional sleeplessness. The U.S. Food and Drug Administration considers melatonin a dietary supplement. Side effects include headache, drowsiness, nausea, and dizziness.
- **Diphenhydramine:** Often marketed as Benadryl®, this antihistamine is found in brand-name nighttime medications like Advil PM®, Excedrin PM®, Tylenol PM®, and ZzzQuil®. Known best for its allergy-

relieving properties, diphenhydramine may be recommended for casual bouts of sleeplessness. Chronic or higher-than-recommended use of diphenhydramine can lead to serious medical problems such as heart attack, seizures, and even death. Side effects include dry mouth, drowsiness, dizziness, nausea, appetite loss, and constipation. Because some of these sleep aids contain other pain-relief medications, excessive use can lead to other medical conditions, such as liver damage.

- **Doxylamine:** Another antihistamine with tranquilizing properties, doxylamine is often used in cold and flu medications like Unisom SleepTabs® and Medi-Sleep®. It may also be an ingredient in pain-relieving medications. Taking doxylamine for insomnia or sleep disorders should be avoided in the long term. After two weeks, people with sleep problems should talk to a doctor about other options. Chronic use of these medications can lead to poor health outcomes and organ damage.



## Natural ways to support sleep

- Yoga, meditation, massage, and acupuncture.
- Breathing exercises, earplugs, and blackout curtains.
- Cognitive behavioral therapy and other types of counseling.
- A magnesium-rich diet or magnesium supplements.
- Chamomile or black tea.
- A warm bath or shower near bedtime.
- Healthy diet, exercise, and screen habits.

# Breathing Exercises Before Bedtime



Breathing exercises can help trigger your body's relaxation response, helping you fall asleep faster by lowering your blood pressure and heart rate.

Here are a few to try before bed:

## Belly breathing

Also called diaphragmatic breathing, belly breathing reduces stress and opens our airways.

1. Place one hand on your upper chest and the other on top of your belly below the rib cage while lying down.
2. Inhale through your nose, and, while tightening your stomach muscles, exhale through your mouth, keeping your lips in a whistling position.
3. Repeat and modify as needed until you're feeling relaxed.

## 4-7-8 breathing

This more advanced technique helps with breath control.

1. Place the tip of your tongue right behind your front teeth.
2. Inhale through your nose for four seconds, and hold your breath for seven seconds.
3. Exhale through your mouth for eight seconds.
4. Repeat and modify to find a pace that works for you.

## Box breathing

This simple technique can help reduce stress and induce sleep.

1. Inhale for four seconds.
2. Hold your breath for four seconds.

Exhale for four seconds. Repeat.

## Counting breaths

Controlling your breathing and counting your breaths is often meditative, lulling you to sleep in a manner akin to counting sheep.

1. Start by inhaling and exhaling slowly, establishing a pattern.
2. After a minute, start counting every exhale from one to five, and then count down from five to one until you begin to fall asleep.
3. Enjoy a long, restful sleep!

## Better Sleep Checklist: How to Prep for Sleep

- Maintain a sleep routine, rising and waking at the same time each day.
- Avoid caffeine and other stimulants at least six hours before bed.
- Avoid spicy foods before bedtime.
- Exercise at least 30 minutes a day, but several hours before bed.
- Avoid daytime naps.
- Avoid alcohol or medications that may impair sleep.
- Avoid electronics (phone, TV, computer) at least an hour before bed.
- Keep a dark, quiet, temperature-controlled bedroom.
- Drink warm chamomile tea.
- Do breathing exercises or have a warm bath before bed.
- Manage daily stress.

