

What Happens to Your Blood Pressure When You Don't Get 8 Hours of Sleep

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Key Takeaways

- Getting less than six hours of sleep a night can increase your risk of high blood pressure (hypertension).
- It does so by affecting your body's circadian rhythm (internal clock), causing an imbalance in hormones that regulate blood pressure at night.
- If you have a sleep disorder, you may need treatment by a sleep specialist.

If you don't get the recommended hours of sleep—generally between seven and nine hours a night—your blood pressure can rise, contributing to high blood pressure (hypertension). Lack of ample sleep throws off your body's internal clock, triggering a surge in stress hormones that cause blood vessels to narrow and blood pressure to rise.

How Does Sleep Affect Blood Pressure?

Sleep provides the body with a period of rest to repair and recharge itself. During sleep, the body cycles through processes to remove waste, repair tissues, boost the immune system, and regulate hormones essential for growth and recovery.¹

Lack of sleep can impair these and other vital functions. One function is the routine lowering of blood pressure at night, known as "nocturnal dipping," which helps ease pressure on the cardiovascular system, allowing it to repair itself.²

Over time, the lack of sleep can contribute to [hypertension](#), along with serious complications like a heart attack or stroke.²

The two main causes of this phenomenon are:

- **Circadian rhythm disruption:** Your blood pressure follows a 24-hour sleep-wake cycle, called the circadian rhythm. At night, the body releases the hormone [melatonin](#) that helps induce sleep and causes blood vessels to relax and widen (vasodilation). When you lack sleep, melatonin production is impaired along with the blood-pressure-lowering effects of vasodilation.³

- **Hormonal imbalances:** A lack of sleep causes an imbalance between melatonin and the hormone [cortisol](#) that promotes wakefulness as part of the sleep-wake cycle. The excessive release of cortisol activates the body's "fight-or-flight" response, causing the narrowing of blood vessels (vasoconstriction) and an associated increase in blood pressure.⁴

According to a 2023 study involving 66,122 adults, individuals who slept less than six hours a night were 10% more likely to develop hypertension than those who slept seven to eight hours.⁵

Moreover, participants who had trouble falling or staying asleep were 28% more likely to have hypertension compared to those who didn't.⁵

What Sleep Disorders Are Associated With Hypertension?

Hypertension is closely linked to sleep disorders that affect blood pressure in different ways. These include:

- **Insomnia:** This condition is characterized by persistent problems falling or staying asleep. When accompanied by a sleep duration of less than six hours, insomnia can independently increase the risk of hypertension by nearly fourfold.⁶
- **Sleep apnea:** This common disorder causes recurrent gaps in breathing during sleep. The resulting drop in blood oxygen triggers the "fight-or-flight" response, including the release of the hormone [norepinephrine](#) that induces vasoconstriction.⁷
- **Narcolepsy:** This chronic neurological disorder causes uncontrolled daytime sleepiness and can include sudden "sleep attacks." Around 44% of people with narcolepsy have hypertension, which occurs when daytime sleep disrupts nighttime sleep patterns.⁸
- **Restless leg syndrome (RLS):** This sleep-related movement disorder, characterized by an irresistible urge to move the legs, is caused by sporadic activation of the sympathetic nervous system that regulates the "fight-or-flight" response.⁹
- **Shift work sleep disorder (SWSD):** Engaging in shift work disrupts the normal sunrise/sunset pattern that influences the circadian rhythm. When accompanied by short sleep (fewer than 6 hours), SWSD more than doubles the risk of hypertension.¹⁰

What Other Factors Increase Your Risk?

Chronic lack of sleep can independently contribute to hypertension. Other factors can increase your vulnerability, including traditional risk factors. such as:¹¹

- Obesity
- Older age
- A family history of high blood pressure
- A diet high in sodium and low in potassium
- Physical inactivity
- High alcohol consumption
- Smoking

How to Fix Your Sleep Habits

Sleep deprivation is a modifiable risk that may be fixed with improved sleep hygiene. Sleep hygiene describes healthy habits, practices, and environmental factors that improve your circadian rhythm and promote high-quality sleep.¹²

Five key [components of sleep hygiene](#) include:¹²

- **Maintaining a consistent sleep schedule** by going to bed and waking up around the same time every day, including weekends.
- **Creating an ideal sleep environment** by keeping the bedroom quiet, cool, and dark with earplugs, air conditioning, blackout curtains, or sleep masks, if needed.
- **Avoiding stimulation before bedtime**, which includes turning off electronics 30 to 60 minutes before bedtime and steering clear of caffeine and nicotine.
- **Creating a winding-down routine**, such as reading a book, taking a warm bath, doing gentle stretching, or listening to calming music.
- **Stopping meals and fluids** two to three hours before bedtime. You should also avoid alcohol, which disrupts sleep and promotes urination.

If you have a sleep disorder, speak with a healthcare provider or a sleep specialist. Other interventions may be needed, including [continuous positive airway pressure \(CPAP\) therapy](#) for sleep apnea or prescription drugs for people with RLS, SWSP, or narcolepsy.¹³

When Should You See a Healthcare Provider?

Experts recommend that adults get between seven and nine hours of sleep a night. Health problems can arise if you consistently get less than seven hours, and may require investigation by a sleep specialist.¹⁴

Independent of blood pressure, you should see a sleep specialist if sleep problems persist for more than three months and are affecting your daily life.¹⁵

If your blood pressure is high, consider whether sleep problems may be a contributing factor. Advise your healthcare provider if:¹⁶

- You have difficulty falling or staying asleep.
- You wake up regularly in the middle of the night.
- You have (or are told you have) loud snoring or gasping at night.
- You awaken in the morning feeling unrefreshed.
- You have excessive daytime sleepiness or need caffeine to stay awake.

An [overnight sleep study \(polysomnogram\)](#) can be ordered to help diagnose sleep disorders based on your brain waves, heart rate, breathing, oxygen levels, and muscle movements.¹⁶

Citations

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