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What Is Sleep Deprivation?

Sleep deprivation occurs when a person is not able to get enough sleep. The amount of sleep needed to feel refreshed and function well depends on the individual and varies across the ages. Getting enough sleep every night is important. Some experts also believe that sleep gives our body a chance to repair itself, so the lack of sleep can have harmful health effects.



How common is sleep deprivation?

Sleep deprivation is very common. 35% of adults in the US report sleeping less than 7 hours during a typical 24-hour day. 73% of US high school students report getting less than 8 hours of sleep on school nights, while 58% of US middle school students report getting less than 9 hours of sleep. The National Sleep Foundation recommends the following sleep duration for different age groups:

Age	Recommended duration of sleep
Newborns (<i>including naps</i>)	14 to 17 hours
Infants (<i>including naps</i>)	12 to 15 hours
Toddlers (<i>including naps</i>)	11 to 14 hours
Preschoolers (<i>including naps</i>)	10 to 13 hours
School-aged Children	9 to 11 hours
Teenagers	8 to 10 hours
Adults	7 to 9 hours
Older Adults	7 to 8 hours

What causes sleep deprivation?

Not getting enough sleep is the most common cause of sleep deprivation. Other causes include:

- poor sleeping habits
- circadian rhythm disturbance (e.g. delayed sleep phase syndrome, jet lag when traveling across multiple time zones, late shift work)

- sleep disorders like insomnia, restless leg syndrome and sleep apnea
- use of medications or drugs

In children and teens, causes of sleep deprivation can also include:

- the onset of puberty
- large adenoids and tonsils, which can cause breathing problems during sleep
- physiologic shift in sleep onset to later times of the night
- disorders such as Attention Deficit Hyperactivity Disorder (ADHD) or autism spectrum disorder.

What are the common signs and symptoms of sleep deprivation?

- feeling sleepy during the day, especially while performing quiet activities, like watching TV, or reading
- changes in mood (irritability, depressed mood)
- forgetfulness and difficulty learning new concepts
- inability to concentrate or focus on a task
- weight gain

What happens to my body and my daily functioning with sleep deprivation?

The common negative effects of sleep deprivation include feeling too sleepy during the day, accidents from lack of attention, mood changes, and change in appetite. Reducing your sleep time by even **1 hour** can affect your thought process and reaction time the following day. Lack of sleep can lead to chronic fatigue, which can affect work or school performance.

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Sleep deprivation has also been associated with several medical conditions including diabetes, heart disease, stroke, high blood pressure, kidney disease, and mood disorders.

Diabetes: It is known that people who sleep less at night are less able to process glucose (sugar) compared to those who get enough sleep and have increased chance of developing type 2 diabetes.

Heart Disease and Stroke: Sleep deprivation leads to increased blood pressure, inflammation, and other bodily stress reactions. Adults who sleep less than 6 hours a night have a 48% greater chance of developing heart disease and a 15% greater chance of stroke.

Thinking: A sleep-deprived person's brain needs to use a lot more effort to complete a specific task than the non-sleep deprived brain. Work accidents and car crashes can be the result of poor attention due to sleep deprivation.

Mood: Mood changes are common in people who are sleep deprived. People who do not get enough sleep may have depressed mood, low energy and irritability.

Growth: Sleep deprivation causes a decrease in growth hormones, which can have harmful effects, particularly in children, such as decreased height growth and poor weight gain.

Weight changes: Hormones that control appetite and glucose breakdown can be changed due to sleep deprivation. Getting too little or too much sleep has been associated with abnormal weight gain.

Pain: Getting a good night sleep can reduce pain scores (how one rates one's own pain), and reduce the need for pain medicines.

How is sleep deprivation diagnosed?

If you think you have sleep deprivation, it is important to talk to your healthcare provider. Keep a sleep diary for a couple of weeks. Make notes on when you get into and out of bed each day, when you sleep (including naps), and how much caffeine, alcohol, or nicotine you take in throughout the day. This allows you to look into your sleep pattern and see what affects or limits your sleep. Also, make a note of any over-the-counter medications, herbs, or supplements. If you are unsure of your sleep pattern, a trained sleep medical professional can help you evaluate your sleeping habits. They may use a medical device called an actigraph. This device can be worn around your wrist and will measure your body movements and exposure to light.

How is sleep deprivation treated?

The mainstay treatment of sleep deprivation is to increase total sleep time. What you can do to improve your sleep time depends on what is interfering with your sleep. You need to make sleep a priority. Work to adjust your daily life schedule to allow for more sleep. Talk with your healthcare provider or sleep specialist if you can't sleep or do not sleep well. You should also be evaluated for sleep disorders and poor sleep habits that can decrease total sleep time.

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Rx Action Steps

- ✓ Make sleep a priority every day. Get 7-9 hours of sleep each day or enough sleep so that you wake up feeling refreshed.
- ✓ Follow good sleep habits.
- ✓ Talk to your healthcare provider if you think you have a sleep problem and are not getting enough sleep.
- ✓ Never drive or operate heavy machinery if you are sleepy.

Healthcare Provider's Contact Number:

Resources

American Thoracic Society

www.thoracic.org/patients

- Circadian rhythm
- Healthy sleep in adults
- Healthy sleep in teens
- Healthy sleep in children
- Insomnia
- Sleep and performance
- Obstructive sleep apnea

National Sleep Foundation

<https://sleepfoundation.org/how-sleep-works/how-much-sleep-do-we-really-need>

Centers for Disease Control and Prevention

<http://www.cdc.gov/sleep/>

Sleep education—American Academy of Sleep Medicine

www.sleepeducation.com/

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