

Sleep and Heart Health

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Your Heart During Sleep

Sleep provides vital rest for the body as a whole. While the heart remains active around the clock, its pace typically decreases during the night. Sleep consists of two primary stages, each affecting the heart in distinct ways.

Rapid-Eye-Movement Sleep (REM) — This type of sleep accounts for about 20% of your total sleep time. During this stage of sleep, heart rate and blood pressure increase and decrease at slightly variable intervals.

Non-Rapid-Eye-Movement Sleep (NREM) — This type of sleep accounts for about 80% of your total sleep time. During this stage of sleep, heart rate, breathing, and blood pressure drop beyond waking levels.

Each time you wake up, even for a moment, your heart rate and blood pressure rise, increasing the workload on your heart. In the morning, these levels elevate and tend to remain higher throughout the day. Many scientists think that one of sleep's key roles is to give the heart a chance to recover from the stress it experiences while you're awake. If your heart isn't functioning well, it can make getting quality sleep more difficult. On the other hand, certain sleep disorders may contribute to or intensify heart-related issues.

How Can Sleep Disorders Affect Your Heart?

Obstructive sleep apnea and central sleep apnea are types of sleep-related breathing disorders that can significantly raise the risk of developing heart disease or worsening existing heart conditions.

Obstructive Sleep Apnea (OSA) — This type of sleep accounts for about 20% of your total sleep time. During this stage of sleep, heart rate and blood pressure increase and decrease at slightly variable intervals.

In obstructive sleep apnea (OSA), the airway located behind the nose, mouth, and throat becomes narrowed or collapses during sleep, repeatedly blocking airflow to the lungs. When this happens, the brain briefly wakes you to resume breathing, leading to frequent disruptions in sleep. These brief awakenings—often not remembered the next morning—can occur hundreds of times per night and result in fragmented, poor-quality sleep. If you have OSA, it's important to be aware of certain health conditions that may pose additional risks.

Hypertension (High Blood Pressure) —

Hypertension is common among individuals with obstructive sleep apnea (OSA). In fact, OSA can contribute to the development of high blood pressure over time, as repeated nighttime spikes in blood pressure may lead to consistently elevated levels during the day.



Effectively managing high blood pressure is essential, as it significantly increases the risk of serious heart conditions, including heart attacks, heart failure, and strokes. It's important for healthcare providers to explore all possible causes, including sleep disorders like obstructive sleep apnea (OSA). When a sleep disorder is left untreated, traditional approaches to managing high blood pressure may not work as well. In fact, many individuals with resistant hypertension are later diagnosed with undetected OSA. Treating OSA can lead to major improvements in blood pressure control and overall heart health.

Coronary Artery Disease — Coronary artery disease occurs when the blood vessels that deliver oxygen and nutrients to the heart become damaged or narrowed. Individuals with obstructive sleep apnea (OSA) are more likely to develop this condition, likely because of the repeated strain placed on the heart during frequent nighttime awakenings. OSA also raises the risk of dying from coronary artery disease. However, identifying and treating OSA can help lower this risk.

Congestive Heart Failure — Congestive heart failure occurs when the heart can't pump blood effectively. Sleep-related breathing disorders, like OSA, can both contribute to and worsen heart failure. Studies show OSA is a significant risk factor for developing heart failure, and if someone with existing heart failure develops OSA, their condition can worsen due to added strain on the heart. Treating OSA can improve heart function in these patients.

Stroke — OSA can both directly and indirectly lead to strokes. When the airway collapses during sleep, oxygen levels drop, which can directly contribute to a stroke. Indirectly, OSA can raise blood pressure, a known stroke risk factor. Additionally, people who have had a stroke are more likely to develop abnormal breathing patterns. Other effects of OSA, like excessive sleepiness and impaired thinking from disrupted sleep, can hinder stroke recovery.

Arrhythmias — Under normal conditions, your heart beats in a steady rhythm. However, if your heart is affected by disease, it can develop irregular rhythms, called "arrhythmias." A common type of arrhythmia is atrial fibrillation. People with obstructive sleep apnea (OSA) are more likely to experience arrhythmias. This could be due to the direct impact of OSA on the heart or its indirect effects through conditions like high blood pressure, coronary artery disease, and congestive heart failure. Treating OSA may help reduce the frequency of arrhythmias.

Heart Disease Could be Affecting Your Sleep

People with congestive heart failure often have trouble falling and staying asleep, likely due to the shortness of breath that accompanies the condition. This difficulty is often more pronounced when lying down, as blood from the legs flows back into the heart, potentially overwhelming its ability to pump effectively. Those with heart failure may also experience breathlessness upon lying down or may wake up feeling short of breath. These disruptions can make it feel like they have insomnia. Along with these physical challenges, patients often worry about the long-term effects of heart disease or heart attacks. This anxiety can, in turn, contribute to the development of sleep issues.

Quality Sleep, Healthy Heart

To maintain a healthy heart, focus on eating a balanced diet, staying at a healthy weight, exercising regularly, getting routine check-ups, and ensuring quality sleep. If you have a heart condition, be alert for signs of sleep-related breathing disorders like OSA or CSA, which can further stress your heart. If your doctor suspects a sleep disorder, they may refer you to a sleep medicine specialist who can assess your sleep quality and recommend treatment. Treating sleep disorders can improve heart health.