

SLEEP-RELATED BREATHING DISORDERS

Sleep disorders that involve difficulty breathing during sleep - such as snoring, obstructive sleep apnea, central sleep apnea, and sleep-related groaning - are classified as sleep-related breathing disorders. The most common sleep disorder is obstructive sleep apnea which is a respiratory disorder characterized by shallow breathing or cessation of breathing during sleep.

According to the National Center on Sleep Disorders, sleep disorders affect Americans of all ages, including about 25% of children between the ages of 1 and 5 years and approximately 50% of adults over the age of 65. Obstructive sleep apnea can occur in anyone, though it is more common in men, middle-aged and older adults, and obese persons. It is estimated that as many as 22 million Americans suffer from sleep apnea, yet up to 90% of the cases are undiagnosed and untreated.



Obstructive sleep apnea generally occurs when muscles relax during sleep, causing the soft tissue in the back of the nose, mouth and throat to collapse and block the upper airway, momentarily cutting off breathing. The most noticeable sign of obstructive sleep apnea is loud snoring. As the upper airway collapses, breathing becomes more difficult and noisy (snoring). Many people don't think of snoring as a sign of something potentially serious, and not everyone who snores has obstructive sleep apnea. However, obstructive sleep apnea can be a potentially serious sleep disorder in which breathing repeatedly stops and starts during sleep.

For a person with sleep apnea, breathing stops from 10 to 60 seconds at a time, and these attacks can occur up to 100 times per hour during sleep. As a result, oxygen levels in the bloodstream fall, which in turn may lead to high blood pressure, stroke, heart attack and/or abnormal heart rhythms. If breathing stops for even 5 to 10 times per hour, health consequences may be severe.

When breathing becomes impaired, the brain responds to the lack of oxygen by arousing the body from sleep. Upon awakening, the person may make a snorting, choking, or gasping sound. This pattern can repeat itself 5 to 30 times or more each hour, all night long. As a result of these disruptions, the ability to reach deep, restful phases of sleep is impaired, leading to poor sleep quality, and excessive daytime sleepiness.

Other signs and symptoms of obstructive sleep apnea may include awakening with a dry mouth or sore throat, morning headache, or becoming drowsy or falling asleep while driving. **Anyone can develop obstructive sleep apnea.** However, certain factors put you at increased risk, including:

- **Obesity:** Excess weight is the leading risk factor for obstructive sleep apnea. More than 50% of people with obstructive sleep apnea are overweight. Fat deposits around the upper airway obstruct the airway and impair breathing. However, not everyone who has obstructive sleep apnea is overweight; thin people can develop the disorder as well.
- **Diabetes:** Obstructive sleep apnea is three times more common in individuals with diabetes.
- **High blood pressure:** Nearly 50% of people with sleep apnea also have hypertension.
- **Anatomical features:** Narrow throat; large neck, tongue, tonsils and jaw
- **Nasal congestion.** Obstructive sleep apnea occurs twice as often in those who consistently have nasal congestion at night.
- **Smoking and alcohol consumption**

Persons most likely to develop sleep apnea include those who snore loudly and are overweight, have high blood pressure, or a physical abnormality of the nose, throat or other part of the upper airway. Obstructive sleep apnea is considered a serious medical condition. If left untreated, the disorder can have adverse consequences such as:

- Cardiovascular events: Sudden drops in blood oxygen levels during apneic episodes increase blood pressure and strain the cardiovascular system, which raises the risk of coronary artery disease, heart failure, and stroke. Persons with obstructive sleep apnea are 2 times as likely to have a stroke and 5 times more likely to have a cardiovascular event. The more severe the obstructive sleep apnea, the greater the risk of developing high blood pressure. Especially if there is underlying heart disease, the frequent drops in blood oxygen levels could lead to sudden death.
- Motor vehicle accidents: People with sleep apnea are twice as likely to have a traffic accident. Nearly 30% of accidents involving commercial truck drivers are caused by sleep-related factors.
- Cancer: Patients with severe sleep apnea are 4 to 5 times more likely to develop cancer than those who do not have the sleep disorder.
- Diabetes
- Depression
- Dementia

Several treatments exist for obstructive sleep apnea, the most common of which is PAP therapy which utilizes a PAP device to keep the airway open. Alternative treatments include oral appliance therapy, positional therapy, nasal valves, upper airway stimulation with an implanted device, and surgery. Certain lifestyle and behavioral changes, as for example, weight loss, may also alleviate the condition.

Other sleep-related breathing disorders include central sleep apnea and sleep-related groaning. The symptoms of central sleep apnea are similar to that of obstructive sleep apnea but the cause of the disorder is different. Central sleep apnea is caused by a problem in the brain or heart, rather than blockage of the upper airway. Sleep-related groaning, also called catathrenia, occurs when a prolonged sound that resembles groaning is made while exhaling during sleep. It is fairly rare and more common in men.