

Overview OSA

Obstructive sleep apnea (OSA) is a disorder in which patients are repeatedly aroused from sleep, though not necessarily to full awakening, because they have stopped breathing for at least 10 seconds. OSA is a condition with a wide range of serious health effects, from fatigue and impaired alertness to a heightened risk of heart disease and stroke.

Prevalence of OSA

OSA affects up to 10 percent of the adult population. An estimated 20 million people in the U.S. alone have OSA, and most are unaware of their condition.

Symptoms of OSA

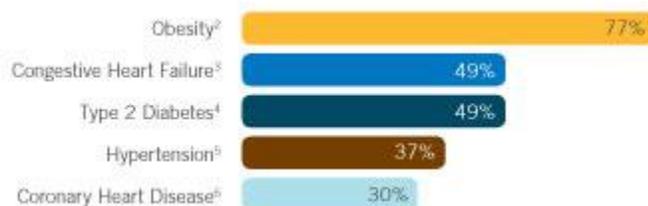
It is important to emphasize that, often, the person who has obstructive sleep apnea does not remember the episodes of apnea during the night. The main symptoms are usually associated with excessive daytime sleepiness due to poor sleep during the night. Often, family members witness the periods of no breathing.

A person with obstructive sleep apnea usually snores heavily soon after falling asleep. The snoring continues at a regular pace for a period of time, often becoming louder, but is then interrupted by a long silent period during which there is no breathing. This is followed by a loud snort and gasp, and the snoring returns. This pattern repeats frequently throughout the night.

Symptoms that may be observed include:

- Excessive daytime sleepiness, including falling asleep at inappropriate times
- Awakening unrefreshed in the morning
- Loud snoring
- Choking sensation during sleep
- Large neck circumference
- Morning headaches
- High blood pressure
- Memory difficulties or mental confusion
- Depression

Comorbidities and Health Risks



- **Obesity.** Research shows a strong connection between obesity and OSA. As many as 70 percent of obese people suffer from OSA. Also, OSA worsens with increasing obesity.
- **Heart Disease and CHF.** OSA is known as a significant risk factor for cardiac disease. Among cardiac patients, between 30 and 50 percent suffer from Obstructive Sleep Apnea. OSA is believed to increase the risk for congestive heart failure by two to three times compared to the general population.
- **Stroke.** About 60 percent of stroke patients have been found to suffer OSA. Obstructive sleep apnea is believed to increase the risk of stroke by one and a half times compared to the general population.
- **Hypertension.** OSA has been shown to be a factor in hypertension (high blood pressure).
- **Car Accidents.** Due to the fatigue associated with the condition, people suffering OSA have been shown to have three times the risk of car accidents compared to the general population.

Who has OSA?

There is no cut-and-dried profile for OSA patients. But those who experience the condition may share some characteristics:

- They maybe be middle-aged or older.
- They may appear to be unusually cranky or moody due to fatigue.
- They may be heavy snorers.
- They may be tobacco smokers or ex-smokers.
- They may share some of these physical characteristics: overweight, large (barrel) chests, large necks, heavy jowls, dark circles under their eyes.

Treatments

The goal is to keep the airway open so that breathing does not stop during sleep. Several methods and techniques have been found effective in the treatment and management of OSA:

- Due to its high correlation with obesity, diet and exercise programs are often effective in relieving OSA symptoms.
- Continuous positive airway pressure (CPAP) is the most widely used technique for treating OSA. CPAP works by delivering a constant flow of air to the patient's airway during sleep, thus preventing abnormal breathing.
- For the most severe cases, surgery may be recommended to relieve OSA symptoms.

Causes

Normally, the muscles of the upper part of the throat help keep the airway open and allow air to flow into the lungs. Even though these muscles usually relax during sleep, the upper throat remains open enough to let air pass by. However, some people have a narrower throat area, and, during sleep, relaxation of the muscles causes the passage to completely close. This prevents air from getting into the lungs. Loud snoring and

labored breathing occur. During deep sleep, breathing can stop for a short period of time (often more than 10 seconds). This is called apnea.

An apnea episode is followed by a sudden attempt to breathe, and a change to a lighter stage of sleep. The result is fragmented sleep that is not restful, leading to excessive daytime drowsiness.

Older obese men seem to be at higher risk, although as many as 40 percent of people with obstructive sleep apnea are not obese. The following factors may also increase your risk for obstructive sleep apnea:

- Certain shapes of the palate and jaw
- Large tonsils and adenoids in children
- Large neck or collar size
- Large tongue
- Narrow airway
- Nasal obstruction
- Recent weight gain
- Alcohol or sedative use before sleep

Tests and diagnosis

Your physician will perform a physical exam. This will involve carefully checking your mouth, neck, and throat. You will be asked about your medical history. Often, a survey that asks a series of questions about daytime sleepiness, sleep quality, and bedtime habits is administered. When sleep apnea is suspected, your physician may recommend a simple prescreening test called pulse oximetry. For most insurances to cover your equipment, a sleep study (polysomnogram) is used to confirm obstructive sleep apnea.

During polysomnography, you're connected to equipment that monitors your heart, lung and brain activity, breathing patterns, arm and leg movements, and blood oxygen levels while you sleep. You may have a full-night or split-night sleep study.

In a split-night sleep study, you'll be monitored during the first half of the night. If you're diagnosed with obstructive sleep apnea/complex sleep apnea/central sleep apnea, staff may wake you and give you continuous positive airway pressure for the second half of the night.

Polysomnography can help your doctor diagnose sleep apnea. It also can help your doctor rule out other sleep disorders, such as periodic limb movements of sleep or narcolepsy, which can cause excessive daytime sleepiness but require different treatment.

Doctors trained in nervous system diseases (neurologists), heart diseases (cardiologists) and others may be involved in evaluating your condition. Doctors may order imaging of your head or heart.