

What Is Sleep Apnea?

Sleep apnea is a serious sleep disorder that happens when your breathing stops and starts while you slumber. If it goes untreated, it can cause loud snoring, daytime tiredness, or more serious problems like heart trouble or high blood pressure.

This condition is different from regular, or primary, snoring. Primary snoring can be caused by nose or throat conditions, sleep style (especially back sleeping), being overweight or of an older age, or the use of alcohol or other depressants. While primary snoring and sleep apnea-related snoring both happen when the tissues in the back of your throat vibrate, people with sleep apnea tend to:

- Snore much louder than those with regular snoring
- Pause while they breathe (for over 10 seconds)
- Take shallow breaths, gasp, or choke
- Be restless

What are the Different Types of Sleep Apnea?

There are three types:

Obstructive sleep apnea. This is the most common type. It happens when your airways repeatedly become completely or partially blocked during sleep, usually because the soft tissue in the back of your throat collapses. During these episodes, your diaphragm and chest muscles work harder than normal to open your airways. You may start to breathe with loud gasps or jerk your body. This can affect your sleep, lower the flow of oxygen to your vital organs, and lead to abnormal heart rhythms.

Central sleep apnea. With this type, your airway doesn't become blocked. Instead, your brain fails to tell your muscles to breathe because of issues in your respiratory control center. It's related to the function of your central nervous system. Central sleep apnea happens most often in people with neuromuscular disease such as amyotrophic lateral sclerosis (ALS, or Lou Gehrig's disease), those who've had a stroke, or in people with heart failure or other forms of heart, kidney, or lung disease.

Complex sleep apnea syndrome. This condition, which doctors also call treatment-emergent central sleep apnea, happens when you have both obstructive sleep apnea and central sleep apnea.

What Are the Symptoms of Sleep Apnea?

You usually won't notice your first symptoms of obstructive sleep apnea. Instead, your bed partner may make you aware of them. The most common signs and symptoms are:

- Snoring
- Fatigue or sleepiness during the day
- Restlessness while sleeping, or regular nighttime awakenings
- Dry mouth or sore throat when you wake up
- Waking up suddenly after gasping or choking
- Trouble concentrating, forgetfulness, or crankiness
- Depression or anxiety
- Constant need to go pee at night
- Night sweats
- Sexual dysfunction
- Headaches

People with central sleep apnea usually say they wake up a lot or have insomnia. But they also might have a choking or gasping sensation when they awaken. The symptoms might not be as obvious in children. Warning signs include:

- Sluggishness or sleepiness, which others may mistake as laziness in the classroom
- Poor school performance
- Trouble swallowing
- Daytime mouth breathing
- Inward movement of the rib cage when inhaling
- Sweating a lot at night
- Unusual sleeping positions, like sleeping on the hands and knees, or with the neck hyperextended
- Bedwetting
- Learning and behavioral disorders

How Do Doctors Diagnose Sleep Apnea?

Your doctor will want to rule out any other possible reasons for your symptoms before they diagnose you with sleep apnea. To do this, they'll:

- Ask if you take any medications, such as opioids or other drugs that could affect your sleep
- Look for other medical reasons or conditions that could cause symptoms
- Ask if you've traveled recently to altitudes higher than 6,000 feet. These locations have low oxygen, which could cause symptoms of sleep apnea for a few weeks after traveling.

A variety of things help determine sleep apnea:

Medical history

Your doctor will look at your signs and symptoms based on the information you give them. They'll review your family's history for sleep apnea or other sleep disorders, whether you have a risk factor for the condition, and if you have any complications of undiagnosed sleep apnea (like atrial fibrillation, hard-to-control high blood pressure, or type 2 diabetes).

Physical exam

Your doctor will perform a physical exam on you to look for signs of other conditions that can heighten your risk for sleep apnea (like obesity, narrowing of the upper airways, large tonsils, or large neck circumference). They may also look at your jaw size and structure as well as the size and position of your tongue.

They'll check your **lungs**, heart, and neurological systems to see if you have any common problems related to sleep apnea.

Sleep studies

Your doctor may refer you to a sleep specialist or a center for a sleep study. You can do these studies in a special facility or at home. The tests will:

- Identify any events during sleep that are related to sleep apnea (when your breathing stops or slows down as you sleep)
- Find low or high levels of activity in muscles that control your breathing
- Examine **blood** oxygen levels while you sleep
- Watch your heart and brain activity during rest
- Based on the number of sleep apnea events you had in an hour of the sleep test, your doctor can diagnose you with mild, moderate, or severe sleep apnea. People with mild sleep apnea have 5-14 apnea events in an hour, those with a moderate case have 15-29 in an hour, and doctors diagnose people with 30 or more apnea events in an hour with severe sleep apnea.
- Your doctor may also order other tests to look for medical conditions that may cause your sleep apnea. Blood tests can check your hormone levels and rule out endocrine disorders that may lead to your sleep disorder. A pelvic ultrasound can examine your ovaries and find any cysts, which can help find polycystic ovary syndrome (PCOS).

How Is Sleep Apnea Treated?

- If your doctor finds that you have sleep apnea, they'll suggest treatment based on how serious your condition is. For mild cases, you may only need to make lifestyle changes. They may ask you to lose weight, stop smoking, or treat nasal allergies (if you have any).

- If these don't ease your symptoms or if you have a moderate to severe case of sleep apnea, your doctor will recommend other treatments:
- Continuous positive airway pressure (CPAP). This machine sends air pressure through a mask while you're asleep. This air pressure is greater than that of the air around you, which helps keep your upper airway passages open to stop apnea and snoring. If your CPAP mask is uncomfortable, talk to your doctor about other options to help you sleep well.
- Other airway pressure devices. If a CPAP machine doesn't work for you, you can try another device that will automatically adjust the pressure while you sleep, called auto-CPAP. BPAP units, which supply bilevel positive airway pressure, are another option that gives your body more pressure when you inhale and less when you exhale.
- Oral appliances. You can also wear an oral appliance that can help keep your throat open. While CPAP is generally more effective, oral appliances may be easier to use. Your dentist can help you find one that's right for you.

Supplemental oxygen. You may need to use extra oxygen when you sleep if you have central sleep apnea. There are many forms of oxygen and different devices that can help deliver it to your lungs.

Treatment for other medical issues. Central sleep apnea may be caused by heart or neurotransmitter disorders. If you treat these conditions, you can also control the symptoms of your sleep apnea.

Adaptive servo-ventilation (ASV). This is a device that can "learn" your breath pattern. While you sleep, this airflow machine will use pressure to normalize your breath pattern and stop any pauses in your breathing. ASV seems to be more effective in complex sleep apnea treatment than other forms of positive airway pressure. But it may not be a good fit for those with central sleep apnea and advanced heart failure.

Surgery. If other treatment options don't help, your doctor may suggest surgery. You'll usually go forward with a procedure only if another form of treatment hasn't eased your sleep apnea for over 3 months or you have a rare jaw structure problem. Possible surgeries include:

- Tissue removal
- Tissue shrinkage
- Jaw repositioning
- Implants
- Nerve stimulation
- Tracheostomy (or creating a new air passageway)
- Surgery to remove large tonsils or adenoids and weight loss procedures may help lessen snoring and help with the overall treatment of sleep apnea.

Sleep Apnea Complications

- Untreated sleep apnea can cause serious medical conditions such as:

Daytime fatigue

Sleep apnea may cause you to repeatedly wake up. This can make it hard to get normal, healthy sleep. This can lead to daytime sleepiness and crankiness. Daytime fatigue can cause you to fall asleep at work or school and make it more likely to get in vehicle or workplace accidents.

High blood pressure or heart problems

Sudden drops in blood oxygen levels while you sleep can heighten your blood pressure and put stress on your cardiovascular system. Obstructive sleep apnea could also put you more at risk for recurrent heart attacks, strokes, or abnormal heartbeats.

Type 2 diabetes

Sleep apnea puts you at a higher risk for insulin resistance and type 2 diabetes.

Metabolic syndrome

Doctors found that this condition (which includes high blood pressure, abnormal cholesterol levels, high blood sugar, and a larger waistline) can lead to a higher risk of heart disease.

Issues with medications and surgery

Obstructive sleep apnea can cause people to have issues with certain drugs or after major surgery because they're more likely to have breathing problems (especially when under anesthesia or lying on their backs).

Liver complications

Sleep apnea can cause people to have abnormal results on liver function tests. Their livers are also more likely to show signs of scarring.

Are You at Risk for Sleep Apnea?

This condition can affect anyone, but some things put you more at risk:

- Being overweight
- A large neck circumference that could make your airways more narrow
- A narrowed airway that you inherited or developed from large tonsils or adenoids
- Being male
- Older age
- A family history of sleep apnea
- Smoking
- Use of alcohol, sedatives, or tranquilizers
- Nasal congestion
- Medical conditions such as type 2 diabetes, congestive heart failure, high blood pressure, Parkinson's disease, PCOS, hormonal disorders, prior stroke, or chronic lung diseases like asthma