

Do You Snore?

Snoring is an indication that there may be something wrong with your breathing during sleep. Snoring is often worse when you sleep on your back, which is one reason you may get a middle-of-the-night elbow to turn onto your side. Loud snoring on a nightly basis can be a warning sign of a serious medical problem- obstructive sleep apnea (OSA).

What is Obstructive Sleep Apnea (OSA)?

As the name suggests, obstructive sleep apnea is when the throat becomes obstructed (closes off) during sleep. The result is an apnea (breathing stops). The muscles that stiffen and open the throat tend to relax during sleep in normal adults and children. For most people this does not cause a problem. For people with OSA, the muscles relax too much and the airway narrows to the point that breathing becomes restricted. The brain senses that not enough air is moving in and out of the throat, so the brain signals the throat muscles to become more active. The airway opens again and normal breathing resumes. The pattern of airway opening and closing can occur dozens or even hundreds of times during the night. When the airway narrows, the oxygen level in the blood may drop. When the airway opens again, the oxygen level comes back up, but the effort to reopen the airway may also cause an arousal from sleep. These arousals are so brief that they may not be remembered the next morning.

So what does snoring have to do with OSA? Snoring may be the first sign that the airway is narrowing. Loud continuous snoring can lead to brief (10-20 seconds) periods when the snoring sound diminishes. This is when the airway narrows even more, resulting in an apnea. The brain senses that all is not well- the oxygen level is dropping and the heart rate may be slowing. If you watch someone sleeping who is having an apnea, it may appear that they are not breathing. The chest and abdomen may be moving up and down, trying to get more air through a very narrow airway. When the airway opens and normal breathing resumes, there may be a loud snort or gasp. People with OSA often have very restless disturbed sleep.

What Causes OSA?

Since the throat muscles relax in everyone during sleep, why do some people develop OSA while others do not? There are risk factors that may contribute to the development of OSA or make existing OSA worse. These include:

- The structure of the upper airway- enlarged tonsils, a smaller than normal jaw, or tissue in the back of the throat that blocks the airway.
- Weight- if you are overweight and have a lot of weight around the neck.
- Age- as you get older, OSA may worsen even if your weight remains the same.
- Sex- obstructive sleep apnea is more common in men. However, women who are past menopause have almost the same risk as men their age.
- Body position during sleep- obstructive sleep apnea is often worse when sleeping on the back
- Alcohol- consumed close to bedtime, alcohol can further relax the muscles in the back of the throat and worsen OSA.
- Pain medicine- Certain pain medicines, such as narcotic analgesics, can worsen OSA.

What are the Warning Signs of OSA?

- Loud snoring
- A pattern of snoring, interrupted by pauses, then gasps, is a sign that breathing stops and restarts
- Excessive sleepiness or fatigue during the day, especially during sedentary activities (for example, while reading, watching TV or working at the computer).
- Restless, non-refreshing sleep.
- Trouble concentrating, forgetfulness or irritability during the day.
- Mouth breathing during sleep and waking with a dry mouth
- Morning headache.

How is OSA Diagnosed?

Since OSA only happens when you are asleep, your breathing needs to be monitored while asleep. You will need to spend the night at one of our affiliated sleep labs. A sleep study is like spending the night at a hotel, complete with a private room, bathroom and TV. Rather than room service, a sleep technician will attend to your needs. Every effort will be made to keep you comfortable while your breathing, brain waves, heart rate, muscle tone and body position are monitored. This means that electrodes and other devices will need to be attached to you. But don't worry, everything is placed on the skin- no needles!

The sleep labs use what is termed a "split-night" protocol. If you have very severe sleep apnea that shows up right after you fall asleep, you will be awakened and started on CPAP (for a description of CPAP, see below). If you sleep the whole night and do not get CPAP (pronounced see-pap) during the night, it does not mean that you do not need CPAP. This means that the sleep apnea was not severe right from the start. It may also mean that even though you have sleep apnea that needs to be treated with CPAP, you may not have slept that well, took a long time to fall asleep, or the sleep apnea was only severe when you were on your back or when you were in dream (REM) sleep.

If you did use CPAP during your stay at the sleep lab, your sleep specialist will need to review the data and prescribe the correct pressure for you. You will not receive a CPAP machine from the sleep lab. The CPAP machine is prescribed by your doctor and comes from a Durable Medical Equipment (DME) company.

Does OSA Need to be Treated?

Obstructive sleep apnea is a serious medical problem. If left untreated, the frequent stops and starts in breathing, arousals from sleep, and repeated drops in oxygen level put a tremendous strain on the heart. This can lead to:

- Hypertension
- Heart attack
- Stroke
- Coronary artery disease

Excessive sleepiness due to OSA can increase the risk of causing a motor vehicle accident by dozing off while driving.

How is OSA Treated?

There are many treatment options available for OSA. Your doctor will decide which treatment is right for you. Some of the factors to consider are the severity of the sleep apnea, other medical problems you may have and how old you are.

Continuous Positive Airway Pressure (CPAP)

CPAP is the gold standard and the most widely prescribed treatment for moderate to severe sleep apnea. CPAP consists of a machine that delivers air into your upper airway through a hose that is connected to a mask. The mask is worn over the nose. The device forces air into the upper airway and splints it open so that it does not close off.

Oral Appliance Therapy

Oral appliances are dental devices similar to mouth guards that are worn in the mouth during sleep. These devices are adjustable and work by moving the lower jaw forward. This increases the amount of space in the back of the throat, keeping it open. Oral appliances are indicated for mild to moderate sleep apnea, or for patients who cannot tolerate CPAP.

Position Retraining

Sleep apnea may be worse on the back, or may only occur on the back. There is no fool proof way to keep you from sleeping on your back. There are devices that can help you with this, such as a tennis ball tee shirt.

Surgery

There are surgical procedures that reduce the amount of tissue in the back of the throat. Other types of surgeries correct problems in the nose to increase the size of the nasal passages. These types of surgeries may be helpful if the airway is very narrow, especially in younger people and people who are not overweight. However, if you have other risk factors for OSA, these types of surgeries alone may not be effective.

Weight Loss

Weight loss can cure sleep apnea or reduce the severity of the sleep apnea. However, sleep apnea may still be present until you reach a normal weight. Until then, if left untreated, you remain at risk for high blood pressure and other heart problems.

Good Sleep Habits

Avoid alcohol within 3 hours of bedtime. Alcohol relaxes the muscles in the back of the throat and can seriously worsen sleep apnea. Do not smoke close to bedtime or in the middle of the night. Smoking irritates the nasal passages which can worsen sleep apnea.