



What causes snoring?

Snoring is noise produced during sleep by vibrations of the soft tissues at the back of your nose and throat. The turbulent air flow is related to a narrowing somewhere in the nose, mouth, or throat. Simple snoring represents a mild disorder where breathing can become very loud but the upper airway is only partially obstructed.

When can snoring become a serious problem?

Loud, constant snoring can indicate a serious medical disorder called sleep apnea that occurs because the airway is totally obstructed during sleep. The word "apnea" is derived from Greek to mean "without breath" and refers to episodes in which a person stops breathing for 10 seconds or more during sleep. With each episode, the sleeper's brain briefly wakes up in order to resume breathing. This results in poor quality of sleep. Sleep apnea is a serious life-threatening disease. On the average night's sleep, a sufferer of obstructive sleep apnea may experience 60 apneas per hour. This accounts for an average of 400 apneas per night!

The three types of sleep apnea:

1. Obstructive Sleep Apnea (OSA) is the most common. With OSA complete blockage of the airway occurs, usually when the soft tissue in the back of the throat collapses during sleep and air cannot reach the lungs.
2. Central sleep apnea is usually observed in people with central nervous system dysfunction. The airway is not blocked but the brain fails to signal the muscles to breathe due to instability in the respiratory control center.
3. Mixed sleep apnea is a combination of central and obstructive sleep apnea. This disorder initially occurs as central sleep apnea, where there is no brain signal to breathe. When the diaphragm suddenly begins moving, the airway is blocked by an obstruction.

What are the symptoms of obstructive sleep apnea?

Patients with sleep apnea usually do not remember waking up during the night. Many people with sleep apnea go undiagnosed and therefore untreated. Indications of OSA may include the following symptoms and associated features:

- Morning headaches.
- Excessive daytime sleepiness.
- Irritability and impaired mental or emotional functioning.
- Excessive snoring, choking, or gasping during sleep, which the sleeper may not be aware of but bed partner would notice.
- A dry mouth upon awakening
- Depression
- High blood pressure
- Obesity is strongly associated with sleep apnea and may at times be the cause of it.
- Rapid weight gain. Males over the age of 50 gain the average of 5 lbs. per year.
- Large neck or collar size is strongly associated with obstructive sleep apnea
- Leg swelling (if severe)
- Restless leg syndrome

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Complications from OSA include:

- Hypertension
- Heart failure
- Abnormal heart rhythm (arrhythmia)
- Excessive carbon dioxide levels (hypercapnia)
- Sleep deprivation
- Stroke
- Heart disease

People that have an untreated case of sleep apnea face a risk of stroke that is four times as likely as those who are not afflicted. Untreated sleep apnea sufferers are also three times as likely to have heart disease.

Who is at risk?

According to the National Institutes of Health, more than twelve million Americans are afflicted with sleep apnea. Although older obese men are at higher risk, it is estimated that 40% of people with obstructive sleep apnea are not obese. Sleep apnea can affect anyone at any age, including children. Two to four percent of all Americans have an undiagnosed case of sleep apnea. This accounts for approximately 1 in 50 individuals being undiagnosed.

How is OSA diagnosed?

If you have symptoms of sleep apnea, you should seek a professional evaluation from your doctor or dentist. The actual diagnosis of sleep apnea is dependant on a number of factors and tests. You may be require to take some routine blood tests. These tests check oxygen and carbon dioxide level as well as your blood hemoglobin. There are also some tests that can be performed at home under the guidance of your health care professional. If sleep apnea is suspected, it may be recommend that you stay overnight at a sleep clinic for an evaluation. This often includes a polysomnogram.

Polysomnography is a special sleep test that records your brain waves and breathing patterns while you sleep. Small wires are attached to your head, face, chest and legs. Stretchy bands are also placed around your chest and stomach to record your breathing. There may also be a video camera set-up to record you while you sleep.

Self-Test:

The Epworth Sleepiness Scale was developed by Dr. Murray Johns of the Epworth Hospital in Melbourne, Australia. This simple questionnaire can be used to measure daytime sleepiness and as a predictor for sleep disorder.

How is OSA treated?

There are a variety of treatment options for OSA, depending on the severity of the patient's condition and other factors. Some of these options include:

CPAP:

CPAP stands for continuous positive airway pressure. It keeps your airway open as you sleep by providing you with a steady stream of air. The CPAP unit is plugged into a wall and has a fan that pushes air through a tube. The tube is connected to a mask that you wear as you sleep.

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Oral Appliance Therapy:

Oral appliances are also called dental appliances. Patients with mild to moderate OSA are good candidates for this type of treatment. They are worn during sleep to prevent the collapse of the tongue and soft tissues in the back of the throat so that the airway stays open during sleep. The appliances work by keeping airway open in one of three ways: by pushing the lower jaw forward (a mandibular advancement device or MAD), by preventing the tongue from falling back over the airway (a tongue-retaining device), or by combining both mechanisms.

The OASYS™ is the first FDA approved dental device for snoring and sleep apnea that treats the two major causes of sleep disordered breathing. It is both mandibular repositioner for treatment of snoring and sleep apnea and a nasal dilator for improved ease of breathing. www.oasyssleep.com

TAP®: The Thornton Adjustable Positioner is a custom adjustable oral appliance. The appliance holds the lower jaw forward, preventing the tongue and the soft tissue of the throat from collapsing into the airway. www.amisleep.com

Surgery:

Surgery is used to create an open the airway for less obstruction during breathing. There are many types of surgery, but no guarantee that it will cure a patient's sleep apnea. Surgeries for OSA are painful and can require a lengthy healing time.

Somnoplasty is an office-based procedure performed using local anesthesia to treat upper-airway obstructions by shrinking or removing soft tissue in the upper airway including the base of tongue, the source of obstruction that is most difficult to treat.

Uvulopalatopharyngoplasty (UPPP) is the most common type of surgery for adults in which the soft palate and uvula are removed. UPPP may stop snoring, but apnea episodes may continue.

Tracheostomy is a surgical procedure to create an opening through the neck into the trachea (windpipe). A tube is usually placed through this opening to provide an airway. Tracheostomy almost always cures sleep apnea because the obstructed airway is by-passed altogether.

Self-help remedies:

It may be wise to also make some "life-style" changes if you are affected with a sleep disorder. Excessive weight is a significant factor with sleep apnea and losing the proper amount of weight can make a difference. Avoiding alcohol, sleeping pills, tranquilizers and other medications at bedtime that can interfere with normal breathing patterns, may also alleviate some of the symptoms of OSA. The same can be said for smoking. Keep in mind that it is necessary to follow your doctor's instructions and to use these suggestions in conjunction with the prescribed sleep apnea treatment.

Related links:

www.sleepapnea.org
www.sleepfoundtion.org
www.americanheart.org
www.sleepapneainfo.com

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