Snoring and sleep apnea

Snoring

Snoring can be a lot more than an irritant to a bed partner or others within earshot. It is often a symptom of a more serious, life threatening disorder called obstructive sleep apnea. A pattern of snoring interrupted by pauses then gasps may indicate the sleeper's breathing stops and restarts. It is estimated that approximately 45 percent of population snore and 25 percent are habitual snorers. One in 3 men and approximately 1 in 5 women who are habitual snorers suffer from some degree of Obstructive Sleep Apnea.

What causes snoring?

Snoring, noisy breathing through the mouth or nose during sleep, is usually caused by excessive vibration of the uvula and soft palate as air is forced through a narrowed airway. Sound varies with the degree of obstruction. Nasal congestion or a deformed nasal passage can cause one to breathe through the mouth. In open mouth breathing the position of the tongue is pushed back causing the uvula to press against the back of the throat. This results in a partial obstruction of the airway, which inhibits easy and normal breathing. Lax or swollen throat muscles can also cause a narrowing of the airway. This can be caused by alcohol, smoking, sleeping pills, sinusitis, enlarged tonsils, excessive body weight or allergies.

Treatment for snoring

There are numerous products advertised today for the treatment of snoring, everything from herbal sprays to "no-snore" pillows. Although some of these products may be of benefit for the occasional light snorer, they often provide little relief for others. You should see your family physician or a sleep specialist if you snore three or more times a week, snore in all positions or have been told of pauses in your breathing between snores. Other helpful tips:

- elevate head of bed approximately 6 to 8 inches
- lose weight
- avoid alcohol before bed
- do not eat a full meal before bed time
- stop smoking
- try sleeping in different positions
- Snorplasty injections can help minimize the flutter or vibration of the soft palate
- UPPP or UP3 is a surgical procedure where the uvula, soft palate and pharynx are altered to widen the opening at the back of the throat
- Somnoplasty is a procedure that scars the base or the tongue or palate to stiffen the soft tissue and stop vibration
- Laser-assisted uvulopalatoplasty is the removal of excess tissue from the soft palate and uvula.

Sleep apnea

Sleep apnea, from the Greek word meaning “without breath or want of breath,” is defined as a cessation of breathing during sleep for 10 seconds or longer. An estimated 18 million Americans (4 percent of middle aged men and 2 percent of middle aged women) have sleep apnea. People with sleep apnea often complain of excessive sleepiness during the day. They may have trouble concentrating, or become unusually forgetful, irritable, depressed or anxious. Many fall asleep at inappropriate times, such as during work or while driving. People with sleep apnea are two to five times more likely to be involved in a motor vehicle accident than those who don’t suffer from this disorder. Family members, employers or co-workers may be the first to recognize a change in behavior or mood. Often the sufferer seeks help because they have trouble sleeping. They may complain of frequent awakenings, gasping for air or thrashing about during sleep. Many sufferers awaken with a headache and dry mouth. There is often a decreased interest in sex and men may complain of erectile dysfunction. These problems can appear suddenly or over time, and are often downplayed or go unnoticed.

Sleep apnea can have serious effects on blood pressure and increase the risks of cardiovascular disease, strokes and mortality.

Sleep apnea is not confined to adults only. Children who are overweight , diabetics, or have enlarged tonsils and adenoids may have sleep apnea. Snoring is not normal for children. If a parent notices their child is snoring, squeaking, having difficulty breathing or is extremely restless during sleep they need to alert their health care provider. Older children with sleep apnea may appear sluggish, perform poorly in school or even fall asleep during class.

Types of sleep apnea

Sleep specialist recognize two basic types of sleep apnea; central and obstructive.

Central apnea, which is much less common, occurs when the brain fails to send out the appropriate instructions to the muscles that control breathing. The airway stays open but oxygen levels fall and signal the brain to wake the sleeper to restart breathing. This type of apnea can become more common with age, approximately 25 percent of people 60 years and older experience disturbed breathing during sleep. For most people this type of apnea is mild and causes few problems. It is more frequent and more severe in individuals with neurologic disorders or heart failure.

Obstructive apnea is the most common and severe form of sleep apnea. In this form of apnea the upper airway becomes blocked or obstructed and airflow is

limited or stopped completely. Breathing becomes labored and noisy (snoring). Periods of snoring interrupted by silence and followed by gasping or snorting sounds are indicators of stopped breathing during sleep. Sleep is temporarily interrupted which activates the throat muscles and "uncorks" the blocked airway. These interruptions in sleep are generally so brief and incomplete that the sufferer does not remember they happened. These brief interruptions may happen hundreds of times during the night. During these events, the oxygen level in the blood may fall and the heart works harder to circulate the blood. This can cause an increase in blood pressure as well as irregular heartbeats. Irregular or pauses in heart rhythm may account for some deaths during sleep in people who went to bed in apparent good health. Also, arousals or awakenings may not occur and people can die from not breathing.

Individuals most likely to develop obstructive sleep apnea include those who snore loudly, are overweight, have high blood pressure or have some physical abnormality in the nose, throat or other parts of the upper airway. Overweight, middle-aged men appear to be more susceptible to sleep apnea than pre menopausal women. After menopause the gap between the two sexes decreases, although it never disappears completely. This may be due to a change in female hormones. Sleep apnea seems to run in some families, indicating a possible genetic link with the disorder.

What causes sleep apnea?

When an individual is awake the muscles in the throat keep the airway open and air moves freely into and out of the lungs. However, with obstructive sleep apnea there is a blockage or obstruction in the airway causing brief or prolonged pauses in breathing. These blockages can happen when your throat muscles and tongue relax more than is normal, the tonsils and adenoids are large, when there is extra soft tissue in the throat or even when the shape of the head and neck results in a somewhat smaller opening in the mouth and throat.

Diagnosing sleep apnea

If you think you or someone you know may have sleep apnea, discuss your concerns with your health care provider. Your physician will take a medical history and check your mouth, nose, and throat for extra or large tissues (tonsils, uvula, soft palate). You may be referred to a sleep specialist who may order a sleep study or polysomnogram (PSG) to determine a diagnosis. Sleep studies monitor brain activity, eye movements, muscle activity, breathing and heart rate, how much air moves in and out of your lungs and oxygen in your blood while you sleep during your sleep study. The results are then analyzed to determine the best course of treatment.

Treatment of sleep apnea

Treatment for sleep apnea is aimed at restoring normal breathing during sleep and relieving symptoms such as loud snoring and daytime sleepiness. If the sleep study indicates mild apnea, some lifestyle modification may be all that is needed. If you are diagnosed with moderate or severe sleep apnea you may need to make these changes and receive further treatments such as those listed below.

- Continuous Positive Airway Pressure is air to the back of the throat. The increased airway pressure acts as a splint to keep the throat open while you sleep.
- A mouthpiece called a mandibular advancement splint is custom made by a dentist or orthodontist and worn over the upper and lower teeth. This adjusts the lower jaw and tongue forward to decrease the resistance to airflow into the throat and lungs. (This is only for very mild sleep apnea.)
- Surgery. The type of surgery needed to relieve sleep apnea depends on what is causing the apnea. Removal of the tonsils and adenoids is especially helpful in children and only in select adult patients.
- UPPP or UP3 is surgery that removes the tonsils, uvula and part of the soft palate.
- Tracheotomy is a surgical treatment for the most severe sleep apnea that is unresponsive to other treatments. A small hole is made the trachea (wind pipe) and a small tube is inserted. Airflow is through the tube, by-passing the area causing the obstruction.
- Other types of surgeries include rebuilding the lower jaw, rhinoplasty (reconstruction of the nose) and surgery to treat obesity.
- Weight loss.

Currently, there are no medications for the treatment of sleep apnea.