Patient Information

Waking up to Sleep Apnea

Sleep *apnea* (**ap**-nee-uh) is a disorder that causes irregular breathing during sleep. People with this condition experience episodes—sometimes several hundred each night—in which they stop breathing for 10 to 20 seconds while they are asleep. Even when these episodes do not wake the person up completely, they cause shifts from a deep, restful sleep to a lighter, more restless sleep that can deprive the body of the rest it needs. This sleep deprivation can lead to such problems as low energy, lack of alertness, and poor mental health. Sleep apnea also can prevent the body from getting all of the oxygen it needs, which can result in more severe problems, such as heart disease and heart failure.

Most people who have sleep apnea have a type called obstructive sleep apnea, or OSA. In OSA, the problem stems from a blockage of the airway, usually in the throat. Under normal conditions, the throat remains at least partly open, even in sleep, to allow air to flow easily from the nose and mouth into the lungs. But when people with OSA sleep, the airway becomes blocked—due to their throat muscles relaxing too much, large tonsil size, too much fatty tissue in the throat, or other problems. Whatever the cause, the airway blockage forces the person to wake up or shift to a lighter sleep in order to start taking in enough oxygen again.

Central sleep apnea, or CSA, is a much rarer type of sleep apnea. CSA results from problems with the brain stem—the area of the brain that regulates breathing. Mixed sleep apnea is a combination of OSA and CSA.

How do I know if I'm at risk?

Although anyone can develop OSA, it is more common in men, people of certain races or ethnicities (including African American, Hispanic, and Pacific Islander), and those who have a family history of OSA. Factors that can restrict the size of your throat or narrow your airway also can increase your chances of developing the disorder. For example, aging can cause a loss of throat muscle mass—which is one reason why people over the age of 65 have two to three times the risk of developing sleep apnea compared to the rest of the population. In addition, being overweight or obese can lead to excess fatty tissue in the throat; drinking alcohol or using drugs that have a calming effect (called sedatives) can relax the throat muscles during sleep; and smoking can cause throat inflammation and narrowing—all of which can result in airway obstruction and OSA.

CSA is more common in men, people with heart or *neuromuscular* (nyur-oh-**muhs**-kyuh-luhr) disorders, and those who have had a stroke or brain tumor. The disorder also is more likely to occur when a person begins sleeping at a higher altitude than he or she is used to.

What are the warning signs?

Signs of OSA include snoring loudly, gasping, choking, or experiencing restlessness while asleep. As people with the condition may sleep through these signs

or forget them upon awakening, a spouse, family member, or roommate frequently is the one to notice them.

During waking hours, common signs include excessive sleepiness, morning headaches, forgetfulness, memory lapses, irritability, depression, mood swings, and sexual dysfunction. A dry or sore feeling in the mouth or throat upon awakening also can occur.

In children, snoring can be a sign of OSA. If you have a child who snores, tell his or her doctor about it so the cause can be evaluated properly.

What tests do I need?

The most common test for sleep apnea is a *polysomnogram* (pahl-ee-**sahm**-nuh-gram), or PSG, which records your brain activity, breathing, eye movement, heart rate, muscle activity, and blood oxygen levels while you sleep. A PSG can be carried out in a special sleep center located in a hospital or in your own home. In either case, a sleep technician will apply the monitoring devices that you will wear overnight. The test does not hurt, and you will sleep as usual while the equipment records your body's activity.

How can I avoid the problem?

Maintaining a healthy weight, avoiding alcohol, and refraining from taking sedatives can decrease your risk of developing OSA. If you smoke, ask your doctor for help to quit.

How is it treated?

As a first step in treating OSA, your doctor may recommend that you make such lifestyle changes as losing weight, avoiding sedatives and alcohol, or quitting smoking. In addition, he or she may suggest that you sleep on your side or stomach, as sleeping on your back can cause the blockage of your throat passage.

If these changes do not resolve the problem, continuous positive airway pressure, or CPAP, is a treatment option. CPAP involves sleeping with a mask that delivers a steady stream of pressured air into your nose to keep your airway open. An alternative to CPAP is to sleep with a plastic mouthpiece that adjusts your lower jaw and tongue in such a way that it helps maintain an open airway.

Sleep apnea also can be treated through several surgical procedures. In one, surgeons remove tissue from the back of the patient's mouth and the top of his or her throat, widening the airway and making breathing during sleep easier. Surgery to the nose also can be performed to correct any blockages that contribute to the condition.

In very rare cases, life threatening sleep apnea may need to be treated with a *tracheostomy* (tray-key-**ahs**-tuh-me). This procedure involves the insertion of a breathing tube through a hole in the neck and is used only when all other treatments have failed.

To learn more about sleep apnea and getting healthy sleep, visit the sleep disorders information page of the National Heart, Lung, and Blood Institute's web site (www.nhlbi.nih.gov/health/public/sleep/index.htm). ●

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