



OBSTRUCTIVE SLEEP APNEA

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ABSTRACT

Obstructive sleep apnea is the most common sleep-related breathing disorder. People with obstructive sleep apnea repeatedly stop and start breathing while they sleep. There are several types of sleep apnea. Obstructive sleep apnea occurs when the throat muscles relax and block the airway. This happens off and on many times during sleep. A sign of obstructive sleep apnea is snoring.

Key words: Obstructive sleep apnea, Airway.

DEFINITION

Obstructive sleep apnoea (OSA) is a common disorder characterized by repetitive episodes of nocturnal breathing cessation due to upper airway collapse. OSA causes severe symptoms, such as excessive daytime somnolence, and is associated with a significant cardiovascular morbidity and mortality.

CAUSES

- Obstructive sleep apnea occurs when the muscles in the back of the throat relax too much to allow for proper breathing. These muscles support the back of the roof of the mouth, known as the soft palate. The muscles also support the tongue and side walls of the throat.
- When the muscles relax, the airway narrows or closes as you breathe in. This can lower the level of oxygen in the blood and cause a buildup of carbon dioxide.
- The brain senses this impaired breathing and briefly rouses from sleep so that can reopen airway. This awakening is usually so brief that don't remember it.
- may awaken with shortness of breath that corrects itself quickly, within one or two deep breaths. Or might make a snorting, choking or gasping sound.
- This pattern can repeat itself 5 to 30 times or more each hour, all night long. These disruptions impair ability to reach the deep, restful phases of sleep, and probably feel sleepy during waking hours.

Symptoms of obstructive sleep apnea include:

- Excessive daytime sleepiness.
- Loud snoring.
- Observed episodes of stopped breathing during sleep.
- Waking during the night and gasping or choking.
- Awakening in the morning with a dry mouth or sore throat.
- Morning headaches.
- Trouble focusing during the day.
- Mood changes, such as depression or being easily upset.
- Snoring loud enough.
- Waking up gasping or choking.

RISK FACTORS

- Excess weight. .
- Older age.
- Narrowed airway.
- High blood pressure, known as hypertension.
- Chronic nasal congestion. .
- Smoking. People who smoke are more likely to have obstructive sleep apnea.
- Diabetes. Obstructive sleep apnea might be more common in people with diabetes.
- Male sex. .
- A family history of sleep apnea.
- Asthma.

Diagnosis

A member of health care team evaluates condition based on symptoms, an exam, and tests. may be referred to a sleep specialist for further evaluation.

The physical exam involves an examination of the back of your throat, mouth and nose. neck and waist circumference may be measured. blood pressure also may be checked.

Tests

Tests to detect obstructive sleep apnea include:

- **Polysomnography.** During this sleep study, patient hooked up to equipment that monitors heart, lung and brain activity and breathing patterns while sleep. The equipment also measures arm and leg movements and blood oxygen levels.

In a split-night sleep study, be monitored during the first half of the night. If diagnosed with obstructive sleep apnea, staff members may wake and give continuous positive airway pressure for the second half of the night

- **Home sleep apnea testing.** Under certain circumstances, may have an at-home version of polysomnography to diagnose obstructive sleep apnea. Home sleep apnea testing kits monitor a limited number of variables to detect breathing pauses during sleep.
- **Surgical removal of tissue.** Uvulopalatopharyngoplasty (UPPP) is a procedure in which a surgeon removes tissue from the back of the mouth and top of the throat. The tonsils and adenoids may be removed as well. UPPP usually is performed in a hospital and requires a medicine that puts you in a sleep-like state. This medicine is called a general anesthetic.
- **Upper airway stimulation.** This new device is approved for use in people with moderate to severe obstructive sleep apnea who can't tolerate CPAP or BPAP.

A small, thin impulse generator, known as a hypoglossal nerve stimulator, is implanted under the skin in the upper chest. When you inhale, the device stimulates the nerve that controls the movement of the tongue. The tongue moves forward instead of moving backward and blocking the throat.

- **Jaw surgery, known as maxillomandibular advancement.** In this procedure, the upper and lower parts of the jaw are moved forward compared with the rest of the facial bones. This enlarges the space behind the tongue and soft palate, making obstruction less likely.
- **Surgical opening in the neck, known as a tracheostomy.** Other types of surgery may help reduce snoring and sleep apnea by clearing or enlarging air passages, including:
 - Nasal surgery to remove polyps or straighten a crooked partition between the nostrils, called a deviated septum.
 - Surgery to remove enlarged tonsils or adenoids.

COMPLICATIONS

- **Daytime fatigue and sleepiness.** Because of a lack of restorative sleep at night, people with obstructive sleep apnea often have severe daytime drowsiness, fatigue and irritability..
- Children and young people with obstructive sleep apnea might do poorly in school and commonly have attention or behavior problems.
- **Cardiovascular problems.** Sudden drops in blood oxygen levels that occur during obstructive sleep apnea increase blood pressure and strain the cardiovascular system. Many people with obstructive sleep apnea develop high blood pressure, which can increase the risk of heart disease.
 - The worse the obstructive sleep apnea, the greater the risk of coronary artery disease, heart attack, heart failure and stroke.
 - Obstructive sleep apnea also increases the risk of heart rhythm problems known as arrhythmias. Arrhythmias can lower blood pressure. If there's underlying heart disease,
 - Obstructive sleep apnea might be a risk factor for COVID-19. People with obstructive sleep apnea have been found to be at higher risk for developing a severe form of COVID-19. They may be more likely to need hospital treatment than do those who don't have obstructive sleep apnea.

CONCLUSION

Obstructive sleep apnoea (OSA) is a common disorder characterized by repetitive episodes of nocturnal breathing cessation due to upper airway collapse. OSA causes severe symptoms, such as excessive daytime somnolence, and is associated with a significant cardiovascular morbidity and mortality.

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