

Sleep apnea: symptoms, causes and solutions

Sleep apnea affects roughly 18 million people in the United States and can lead to serious health conditions if left untreated. Sleep apnea is a disorder where breathing repeatedly stops and starts during a sleep cycle, causing a person to have interrupted sleep. Left untreated sleep apnea can have devastating consequences for physical and mental health. Untreated sleep apnea increases the risk of heart attack, heart failure, stroke, cardiac arrhythmias, eye problems such as glaucoma and high blood pressure.

Sleep apnea occurs when the muscles in the back of the throat relax too much during sleep and obstruct proper breathing. If breathing is disrupted oxygen levels in the blood drop signaling the brain to wake up and open the blocked airway by gasping or snorting.

Symptoms of sleep apnea include loud snoring, waking up gasping or choking, headaches upon waking up and difficulty focusing or moodiness during the day. Sleep apnea can also worsen high blood pressure.

Existing risk factors for sleep apnea include excess weight, older age, smoking, high blood pressure, inherited conditions like a narrow airway and constant nasal congestion.

The best way to determine if you are experiencing sleep apnea is to participate in a sleep study or polysomnogram. A sleep study is a test that is usually done at a sleep lab for best results but can be done as a home test. The test consists of sensors

being placed on the scalp, temples, chest and legs. The sensors are connected by wires to a computer and a small clip is placed on the ear or finger to monitor oxygen. The sensors measure brain waves, eye movements, breathing patterns and blood oxygen levels. A technician monitors your sleep throughout the night and looks at body position, chest and abdominal movements, limb movement and snoring. The results of a sleep study will be used to determine an Apnea-Hypopnea Index or AHI. The AHI is the number of apneas and disrupted breathing incidents during sleep. A normal AHI is less than 5 episodes of apnea per hour and a severe AHI is more than 30 apnea episodes per hour.

If you are diagnosed with sleep apnea, there are numerous treatment options.

Non-invasive treatments include weight loss, custom mouthpieces designed to keep the mouth open, nasal strips and CPAP machines. The CPAP or Continuous Positive Airway Pressure machine is a highly effective way to treat sleep apnea. The CPAP works by increasing air pressure inside the airway and lungs when inhaling. The use of a CPAP requires wearing a mask that covers the mouth, nose or both which is attached to a tube connected to a CPAP machine. This mask should be fitted by CPAP trained personnel to achieve a fit that is comfortable and effective. The CPAP machine and the CPAP settings must be prescribed by a

provider that is trained in sleep therapy.

Surgical treatments are also available and include tonsillectomy or adenoidectomy, somnoplasty (reducing soft tissue around upper windpipe), jaw surgery that affects the soft tissue around the airway and nasal surgery to increase nasal airflow and nerve stimulator treatment. Nerve stimulator treatment is a surgical procedure to treat sleep apnea that involves the placement of an electrode to the hypoglossal nerve under the jaw which controls tongue movement. The electrode is attached to a stimulator that is implanted under the skin near the collar bone which can be turned on and off with a remote device. If turned on the nerve stimulator sends an electrical current to the tongue to keep it from relaxing too much and blocking the airway. There is a similar type of nerve stimulation procedure for more severe central sleep apnea that affects the phrenic nerves. Stimulation of these nerves causes relaxation of the diaphragm muscles, increasing the ability to inhale and exhale.

Untreated sleep apnea can have unforeseen health consequences, so it is important to talk to a doctor if you think you may be experiencing symptoms. Fortunately, treatment for sleep apnea is available and most treatments are covered by insurance. Your healthcare provider can help you determine the best treatment option for you.



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