

Sleep Apnea – The Other Silent Killer

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Snoring is a minor annoyance, but it may be signaling a potentially serious life-threatening problem called Sleep Apnea. The Greek word “apnea” literally means “without breath”.

There are three types of apnea: obstructive, central and mixed. Of the three, obstructive is the most common. Despite the difference in the cause of each type, people with untreated sleep apnea stop breathing repeatedly during their sleep. Each apnea event usually has a duration of 10 seconds or more—often a minute or longer. The rate at which they occur varies widely, with some people experiencing apnea events hundreds of times during the night.

Obstructive Sleep Apnea (OSA) is caused by a blockage of the airway, usually when the soft tissue in the rear of the throat collapses during sleep. Snoring begins when the airway is partially collapsed, as the vibration of the muscles and soft tissue creates the snoring sound. When the person goes into dream sleep, their throat completely closes up. This leads to the absence of airflow and the person stops breathing. The brain sends a signal to the muscles to breathe, and the person may wake with a snort. The noise is produced when the air rushes in through the partially opened airway. In Central Sleep Apnea (CSA), the airway is not blocked but the brain fails to signal the muscles to breathe. This is seen in people with stroke and rarely, in heart failure.

Mixed Apnea is a combination of the two apneas. Usually it starts as a central event and then progresses to an obstructive event, or vice versa. With each apnea event, the brain briefly arouses the person in order for them to resume breathing. Consequently, sleep is extremely fragmented and of poor quality.

Sleep apnea affects more than 18 million Americans, according to the National Institutes of Health. Risk factors include being male, overweight and over the age of forty, but sleep apnea can strike anyone at any age, even children. Sleep apnea is more common in people who smoke, drink alcohol or are overweight. It may also occur in people at high altitudes.

Symptoms and signs of sleep apnea include: loud snoring, snort arousals, stopping breathing several times at night, waking up several times in the middle of the night to go to the bathroom, tired and sleepy during daytime, falling asleep in inappropriate situations, irresistible sleep sensation and desire to nap during the day, waking up with headaches in the morning, poor memory and concentration, personality changes, irritability and mood changes.

Sleep apneas can be very dangerous, and if untreated can lead to serious consequences, especially related to the cardiovascular system: high blood pressure, irregular heartbeat, heart attack, heart failure and stroke. Sleep apnea may also cause memory problems and early dementia. Sufferers may find they have difficulty controlling other chronic diseases such as asthma, diabetes, high blood pressure and night-time heartburn. A person with sleep apnea is at more risk of having an automobile accident.

When you visit a sleep doctor, you will be asked to fill out a questionnaire about your sleep habits. After a thorough medical interview and examination, an overnight sleep study at a Sleep Center may be ordered to monitor apnea episodes and identify other possible causes of sleep disturbance. Sleep apnea is easily diagnosed and treatment is available.

If sleep apnea is suspected, a polysomnography, or sleep study, will be scheduled at a Sleep Disorder Center. You will be asked to come to the hospital late in the evening, at which time a sleep technician will place small sensors called electrodes on your scalp, face, chin, chest and legs. The application process is not painful and takes about 30 minutes. Most people have little difficulty going to sleep wearing the wires and sensors.

The data collected through all of the wires and sensors during a sleep study is used to help diagnose and evaluate abnormalities of sleep and/or wakefulness such as sleep apnea and narcolepsy, as well as to evaluate parasomnias (abnormal behaviors or movements during sleep) such as sleep walking, talking in one's sleep, nightmares and seizures.

An EEG (electroencephalogram) is used to measure the electrical activity across the brain. A series of small metal electrodes attached to the head tell us whether the subject is awake or asleep.

An EOG (electro-oculogram) records the movement of the eyes via an electrode attached near each eye, and is used to distinguish Rapid Eye Movement (REM) (dream sleep) from other sleep which is called Non Rapid Eye Movement (NREM). Some people have increased sleep problems in REM sleep.

An EMG (electromyogram) measures muscle activity through the placement of leads on the chin and the calves. Movement of chin muscles helps in determining REM sleep. Increased leg movements may signal periodic leg movement disorder.

An ECG (electrocardiogram) allows the monitoring of any irregularities of the heartbeat and rhythm during the night, and is measured by two electrodes placed on the upper chest near each of the arms.

Breathing, (normal and/or the temporary cessation of breathing) is measured by small heat-sensitive devices called thermistors that are placed in front of the nose and mouth. Breathing effort and possible interruptions are measured by loose elasticized velcro bands around the chest and abdomen. Blood oxygen levels are measured by an oximeter. A probe is attached to the finger or ear. Body position is measured by a device placed on the chest.

After a thorough medical examination, interview and sleep study, your sleep doctor will have all the information necessary to accurately make a diagnosis, and develop a treatment plan that you can live with—literally.

January 2007