

Obstructive Sleep Apnea : An Updated Overview

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Obstructive sleep apnea (OSA), the most common type of sleep apnea affects about 4 % of men and 2 % of women. Men in the middle ages are more likely to have changing anatomy in their neck and soft tissues, whereas women could be at reduced risk due to higher levels of progesterone, but they are more likely to suffer symptoms during pregnancy and after menopause. About 90 % of individuals with OSA leave OSA suffering and often go undiagnosed. Twenty-five million United States adults have OSA. The “apnea” in sleep apnea is usually 10 - 20 seconds of breathing cessation, which can cause fragmented sleep and low blood oxygen levels. OSA occurs when the muscles in the back of the throat relax and block the airway, despite the efforts to breathe. When the airway is either partially or completely blocked, breathing cessation developed. The combination of disturbed sleep and oxygen starvation may contribute to cardiac diseases, hypertension, and mood and memory problems. The brain panics when this happens and stimulates the body to restart normal breathing, sometime with a loud snort or choking sound. In general, this is a very brief awakening that most individuals don’t even observe or remember. This can occur over 30 times an hour al throughout the night. Overweighting, aging, enlarged tonsils or adenoids, genetically narrowed throat, decreasing in muscle tone, smoking, and frequent alcohol use are the risk factors and causes of sleep apnea. OSA is classified into three types as the following: 1) mild OSA, which the suffer experiences 5 - 14 episodes of interruptions in breathing in an hour, 2) moderate OSA, which the suffer experiences 15 - 30 episodes of interruptions in breathing in an hour, and 3) severe OSA, which the suffer experiences 30 or more episodes of interruptions in breathing in an hour. Typically clinical manifestations include breathing cessation and snoring throughout the night, which is usually noticed by someone else, dry mouth and sore throat in the morning, morning headaches, insomnia (problems staying asleep, and/or restless sleep, chest pain upon waking up, waking up in the middle of the night short of breath, excessive sleepiness during the day, contributing to difficulty with concentration and focus, mood instability like frequent bouts of anxiety, depression, or excessive irritability, and hypertension. Children with OSA may suffer from malnutrition, hyperactivity, and failure to thrive, which contribute to significant reduction of their growth rates. Some scientific evidences indicate that snoring for years at a time can contribute to the development of lesions in the throat, as the vibrations from snoring can contribute to neuron or nerve lesions all around the body.

Diagnosis of OSA is made by physical examination, polysomnography, and home sleep tests. Home oximetry unfortunately does not measure apnea events or arousals, thus it could be difficult to diagnose OSA with a home oximetry. Treatment of OSA includes oral appliances (tongue retaining mouthpieces and mandibular advancement devices (MADs)), positive airway pressure (PAP) therapy (automatic positive airway pressure (APAP), bilevel positive airway pressure (BiPAP or BIPAP or BPAP), nasal expiratory positive airway pressure (Nasal EPAP, for mild OSA), variable positive airway pressure (VPAP or BPAP), and continuous positive airway pressure (CPAP)), neurostimulation, and surgery (adenotonsillectomy, uvulopalatopharyngoplasty, nasal surgery, hyoid suspension, bariatric surgery, and maxil-

lomanibular advancement (MMA)). Untreated OSA can contribute to long-term serious complications, such as obesity, diabetes, daytime fatigue, mood and psychiatric disorders, and eye and vision problems.

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