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Understanding the Causes and Symptoms of Obstructive Sleep Apnea

Analysis by Dr. Joseph Mercola | June 05, 2026

STORY AT-A-GLANCE

- Obstructive sleep apnea (OSA) affects nearly a billion people worldwide. It causes breathing interruptions during sleep that prevent you from reaching restorative sleep stages
- Common symptoms include loud snoring, gasping/choking during sleep, morning headaches, daytime fatigue, difficulty concentrating, and mood changes that are often mistaken for normal tiredness
- Risk factors for OSA include age, excess throat tissue, weak throat muscles, structural airway abnormalities and vitamin D deficiency, which affects sleep regulation and quality
- Untreated sleep apnea leads to serious health complications including cardiovascular disease, Type 2 diabetes, cognitive decline, weakened immune function, and increased accident risk
- Treatment options include CPAP therapy, oral appliances, orofacial myofunctional therapy and lifestyle changes like optimizing breathing habits, maintaining healthy weight and adjusting sleep position

Waking up feeling exhausted, struggling to stay awake during the day or being told you snore loudly might seem like minor annoyances. But what if these seemingly harmless issues were actually signs of a serious health condition? If this sounds familiar, obstructive sleep apnea (OSA) may be silently disrupting your sleep.

OSA affects nearly a billion people between ages 30 and 69 worldwide.[1] Many mistake their symptoms for harmless snoring or everyday fatigue, ignoring the deeper toll it takes on their body and mind. Left untreated, sleep apnea can contribute to serious health risks that impact your performance, overall health and quality of life. Recognizing its symptoms and addressing its root causes early is key to reclaiming your sleep and vitality.

What Is Obstructive Sleep Apnea?

Obstructive sleep apnea is a serious sleep disorder that interrupts your breathing while you sleep. It occurs when the muscles in your throat relax too much, causing the soft tissues to collapse and block airflow. This oxygen deprivation forces your brain to briefly wake you up, restarting your breathing but disrupting your sleep cycle in the process.[2]

- **Your sleep is repeatedly disrupted —** Even if you don't fully wake up, these breathing interruptions prevent you from reaching deep, restorative sleep, leaving you tired and unfocused the next day.
- **OSA is the predominant form of sleep apnea —** OSA accounts for up to 80% of all cases of sleep apnea syndrome.[3] Another type of sleep apnea is central sleep apnea (CSA), which occurs when your brain fails to send proper breathing signals. Some people have mixed sleep apnea, a combination of both conditions.[4]
- **OSA is more common than you think —** Studies estimate that between 9% and 38% of adults have obstructive sleep apnea, yet up to 85% of cases remain undiagnosed.[5]
- **It affects more than just your sleep —** Untreated OSA increases your risk of serious health problems, including high blood pressure, heart disease, diabetes and cognitive decline.[6]

What Are the Symptoms of Obstructive Sleep Apnea?

OSA symptoms often go unnoticed by the affected person, as they occur during sleep. However, those who share a bed or household may observe distinct warning signs. Some of the symptoms of OSA include:[7,8,9,10]

- **Loud, persistent snoring —** One of the most common and noticeable symptoms, this is often accompanied by pauses in breathing.
- **Gasping or choking sounds during sleep —** These occur when your airway temporarily closes, causing oxygen levels to drop. Your brain then triggers a sudden gasp or choking reflex to reopen the airway.
- **Frequent awakenings —** Sleep apnea repeatedly forces your brain to briefly wake up throughout the night to restore breathing. You may not recall these awakenings, but they prevent you from reaching deep, restorative sleep.
- **Morning headaches and dry mouth —** Oxygen fluctuations and mouth breathing contribute to frequent morning headaches, sore throat, or dry mouth upon waking.
- **Daytime fatigue and difficulty concentrating —** Because OSA disrupts normal sleep cycles, you may experience chronic fatigue, irritability, and difficulty focusing during the day. Many people with undiagnosed OSA report falling asleep during routine activities, such as watching TV or even driving.
- **Mood changes and poor emotional regulation —** Chronic sleep deprivation due to OSA affects brain chemistry, leading to increased stress, anxiety, and irritability. Some people even experience symptoms of depression.

Recognizing these early warning signs is essential for seeking a proper diagnosis and treatment before OSA leads to further health complications.

Are You at Risk?

OSA affects people of all ages, but certain anatomical, hormonal and lifestyle factors increase your risk. Understanding these influences helps you take proactive steps to lower your risk and improve your sleep quality:[11,12]

- **Age and sex —** OSA occurs at any age, but the risk increases with age as fatty tissue builds up in the neck and tongue, which narrows the airway. Men are more likely to develop sleep apnea at a younger age than women, though the risk for women rises after menopause.

- **Excess tissue in the throat —** If you have enlarged tonsils, a thick neck or excess fat deposits around your airway, these physically block airflow, making it harder to breathe during sleep.

- **Weak or overly relaxed throat muscles —** As you sleep, the muscles in your throat naturally relax, but in some cases, they collapse too much and obstruct the airway. This risk increases with age and is worsened by alcohol consumption, sedatives and certain medications that further relax airway muscles.

- **Structural airway abnormalities —** If you have a deviated septum, a small jaw, an enlarged tongue, or a naturally narrow airway, your breathing will be partially restricted, making OSA more likely. Even if you're at a healthy weight, these anatomical factors lead to airway blockages during sleep.

- **Lifestyle influences —** Habits like smoking, excessive alcohol consumption, and a sedentary lifestyle increase inflammation, fluid retention, and poor muscle tone, all of which contribute to worsening airway obstruction. Poor cardiovascular health also increases your susceptibility to OSA and its long-term consequences.

- **Heart and kidney disease —** These conditions cause fluid retention in the neck, which obstruct the airway during sleep. Managing cardiovascular and kidney health helps reduce apnea severity.

- **Hormonal disorders and metabolic conditions —** Hormone levels influence the size and shape of the airway. People with polycystic ovary syndrome (PCOS), hypothyroidism or high levels of insulin or growth hormone are at a greater risk for developing OSA due to changes in airway structure and muscle tone.

- **Family history and genetics —** OSA often runs in families. Your genes help determine the size and shape of your skull, face and airway, influencing your risk. If you have relatives with sleep apnea, you are more likely to develop the condition.

OSA is more likely to develop when multiple risk factors are present, making early detection and intervention important for preventing long-term complications.

What's the Link Between Vitamin D and Sleep Apnea?

Believe it or not, another factor that increases your risk of developing OSA and other sleep disorders is vitamin D deficiency. In the featured video above, Dr. Stasha Gominak, a neurologist and sleep coach, explains the often-overlooked connection between vitamin D and sleep regulation.

- **Vitamin D influences deep sleep and sleep paralysis —** Your ability to enter and maintain deep sleep relies on a neurotransmitter called acetylcholine, which helps regulate REM sleep and sleep paralysis. Because vitamin D plays a vital role in acetylcholine production,[13] a deficiency can disrupt your sleep cycle and contribute to disordered breathing during sleep.

- **The brainstem is covered in vitamin D receptors —** The brainstem also regulates sleep patterns and muscle paralysis during REM sleep, which prevents movement while dreaming. Research has shown that the brainstem is rich in vitamin D receptors, suggesting that having optimal vitamin D levels is necessary for normal sleep function.

- **Low vitamin D levels are linked to sleep apnea and poor sleep quality —** Gominak's research on sleep disorders found that many patients with poor sleep and chronic fatigue had undiagnosed vitamin D deficiencies. When vitamin D levels were optimized through supplementation, their sleep quality and sleep apnea severity improved.

- **Vitamin D influences all sleep disorders —** While sleep apnea is one of the most recognized sleep-related conditions, Gominak's research found that vitamin D deficiency is linked to insomnia, chronic fatigue, daily headaches, epilepsy and overall poor sleep efficiency. This suggests that correcting vitamin D levels is a key factor in restoring healthy sleep patterns.

Learn more about the importance of vitamin D for sleep quality in "**Fixing This Vitamin Deficiency Can Help You Sleep Better**."

Health Risks of Untreated Obstructive Sleep Apnea

If you suspect you have obstructive sleep apnea but haven't sought treatment, it's important to understand that this condition affects far more than just your sleep. Ignoring OSA can have serious, long-term health consequences, such as:

- **Cardiovascular disease —** Every time your airway becomes blocked, oxygen levels drop, forcing your heart to work harder. This strains your cardiovascular system, increasing your risk of high blood pressure, heart attacks, strokes, and irregular heart rhythms (arrhythmias).[14]

- **Type 2 diabetes and metabolic issues —** OSA disrupts your body's ability to regulate blood sugar levels. Frequent oxygen drops and sleep fragmentation contribute to insulin resistance, weight gain and a higher risk of developing Type 2 diabetes.[15,16]

- **Cognitive decline and memory problems —** When your brain is repeatedly deprived of oxygen, cognitive function declines over time. You may struggle with memory, focus, and problem-solving, and studies have linked untreated OSA to an increased

risk of dementia and Alzheimer's disease.[17,18]

- **Weakened immune system —** Sleep is when your body repairs and regenerates, but if your sleep is constantly disrupted by OSA, your immune function suffers. This makes you more vulnerable to infections, slows recovery from illnesses, and increases inflammation throughout the body.[19,20]

- **Increased risk of accidents —** Excessive daytime drowsiness affects your ability to stay alert and react quickly, putting you at a higher risk of car crashes, workplace accidents and performance errors. Many people with untreated OSA unknowingly fall asleep during routine tasks, further increasing their risk of harm.[21,22,23]

How Is Sleep Apnea Treated?

Treating obstructive sleep apnea involves maintaining an open airway during sleep to prevent breathing interruptions. Several treatment options are available, each catering to different levels of severity and patient preferences.

- **CPAP therapy is the primary conventional treatment —** Continuous positive airway pressure (CPAP) therapy uses a machine that delivers a steady stream of air through a mask to keep the airway open.[24] While many users report significant symptom improvements, CPAP was never designed as a permanent solution.

  According to its inventor, Dr. Colin Sullivan, CPAP was always intended as a temporary measure while addressing underlying causes, such as obesity, anatomical obstructions or airway development issues.[25] While effective, CPAP therapy is not well-tolerated by everyone. Common complaints include claustrophobia, nasal congestion, dry mouth or pressure sores from the mask.[26]

- **Oral appliances as an alternative to CPAP —** Mandibular advancement devices (MADs) are custom-fitted mouthpieces designed to move the lower jaw forward, preventing the tongue and soft tissues from collapsing into the airway. Specialty-

trained dentists collaborate with sleep specialists to ensure optimal airway positioning without causing jaw discomfort.[27]

- **Orofacial myofunctional therapy (OMT) for airway strengthening —** OMT focuses on neuromuscular re-education of oral and facial muscles through targeted exercises and behavior modification techniques.

  This therapy corrects tongue placement, improves breathing mechanics, enhances chewing and swallowing functions, and promotes proper head and neck posture. OMT is particularly effective for mild to moderate sleep apnea, offering a noninvasive approach with lasting benefits.[28]

- **Emerging therapies —** Several alternative therapies target airway muscle tone and breathing mechanics. Neuromuscular electrical stimulation (NMES) devices help tone the tongue and airway muscles when worn for 20 minutes daily, strengthening them to prevent collapse during sleep.[29]

  In more severe cases, surgical intervention may be necessary to enlarge the upper airway by moving the upper and lower jaw forward. Additionally, training yourself to breathe through your nose instead of your mouth normalizes breathing volume, improving oxygenation of tissues and brain function.

To learn more about why CPAP became the dominant treatment for sleep apnea and how alternative therapies compare, read "**Why Is Everyone on CPAP Machines?**"

Five Lifestyle Changes That Help Reduce Sleep Apnea

Making targeted lifestyle changes significantly improves sleep apnea symptoms and overall sleep quality. While medical treatments like CPAP or oral appliances may be necessary for some, addressing underlying factors such as breathing patterns, weight and sleep habits reduces airway obstruction and support long-term relief.

1. **Optimize your breathing habits —** Dysfunctional breathing habits sabotage your health and worsen conditions like sleep apnea. I recommend consulting with a breathing behavior analyst to help you become conscious of your breathing habits, what's triggering them and how to resolve them.

2. **Maintain a healthy weight —** Excess weight, particularly around the neck and upper airway, contributes to airway obstruction. If you are overweight or obese, losing even 10% of your body weight leads to noticeable improvements in sleep apnea symptoms.

3. **Adjust your sleep position —** Sleeping on your back worsens sleep apnea by allowing your tongue and soft palate to fall backward and block your airway. Instead, try sleeping on your side or stomach, or elevating your upper body with a wedge pillow. To prevent rolling onto your back during the night, attach a tennis ball to the back of your pajamas or use strategically placed pillows.

4. Avoid alcohol **and smoking —** Alcohol relaxes throat muscles, increasing the likelihood of airway collapse, while smoking causes inflammation and fluid retention in the airway, making breathing more difficult. Avoiding alcohol consumption and quitting smoking significantly reduce apnea severity.

5. **Steer clear of benzodiazepines —** These medications further relax the throat muscles, increasing the risk of airway obstruction. If you take sedatives or benzodiazepines, consider talking to your doctor about safer alternatives for sleep support.

By making these adjustments, you take control of your sleep health, reducing apnea symptoms and lowering your risk of serious health complications associated with untreated OSA.

Frequently Asked Questions (FAQs) About Obstructive Sleep Apnea

Q: What is obstructive sleep apnea (OSA)?

A: OSA is a sleep disorder where the airway repeatedly collapses during sleep, causing breathing interruptions. This prevents deep, restorative sleep and increases the risk of serious health issues like heart disease, diabetes and cognitive decline.

Q: How do I know if I have sleep apnea?

A: Signs of sleep apnea include loud snoring, gasping for air during sleep, frequent waking, morning headaches, dry mouth, excessive daytime tiredness and trouble concentrating. Many people don't realize they have it until someone else notices.

Q: Who is more likely to develop sleep apnea?

A: Risk factors include being overweight, having a thick neck, aging, smoking, alcohol use, poor muscle tone, hormonal imbalances and a family history of sleep apnea. Structural issues like a small jaw or large tonsils also increase your risk.

Q: Can vitamin D help with sleep apnea?

A: Yes. Vitamin D plays a role in sleep regulation and muscle function. Low vitamin D levels have been linked to poor sleep quality and an increased risk of sleep disorders, including sleep apnea.

Q: How is sleep apnea treated?

A: CPAP therapy is the most common treatment, but alternatives include oral appliances and orofacial myofunctional therapy. To achieve long-term improvement, focus on resolving underlying issues like poor breathing habits, weak airway

muscles, excess weight and lifestyle factors.

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