



Understanding Obstructive Sleep Apnea in Adults

Obstructive sleep apnea (OSA) is a common sleep disorder where breathing repeatedly stops and starts during sleep. It occurs when the muscles in the throat relax too much, causing the airway to become blocked or narrowed.

These recurrent pauses in breathing during sleep are called apneas, which literally means “without breath”. Apneas can range from a few seconds in duration to up to a minute, and occur multiple times a night, which often leads to fragmented and non-restorative sleep. As a result, people with OSA often feel unrefreshed and excessively sleepy during the day.

OSA is estimated to affect between 10% and 30% of adults in the United States, making it the most common type of sleep apnea. While it may be common, it is not without long-term consequences.

Health Implications of OSA:

1. **Daytime fatigue:** Interrupted sleep due to OSA can lead to excessive daytime sleepiness, fatigue, and difficulty concentrating, which can affect work performance and increase the risk of accidents (at work or on the road).
2. **Alzheimer’s Disease:** OSA prevents the unbroken sleep you need to remove amyloid plaques from the brain (which are the same plaques that are found in the brains of people with Alzheimer’s).
3. **Cardiovascular Risks:** OSA is associated with an increased risk of hypertension, heart disease, stroke, and irregular heart rhythms.
4. **Stroke:** Sleep-disordered breathing is a major risk factor for both TIAs and stroke. 62% of TIA patients also have OSA
5. **Metabolic Issues:** OSA is linked to metabolic syndrome, insulin resistance, and type 2 diabetes.
6. **Obesity:** Obesity can cause OSA, but sleep disordered breathing can also cause obesity
7. **Cancer:** The more times a person stops breathing in an hour, the higher their risk of developing cancer; the lower the blood oxygen levels drop even without apneas, correlated a 30% increase in cancer risk.
8. **Autoimmune Disorders:** Sleep disordered breathing can be a trigger for the onset of autoimmune disorders, perhaps because of the way it can trigger excessive inflammation. People with OSA are almost twice as likely to develop an autoimmune disorder than people without OSA.
9. **Mental Health Concerns:** OSA may contribute to mood disorders like depression and anxiety.
10. **Decreased Quality of Life:** OSA can impair overall quality of life due to its impact on daily functioning and relationships.

Treatment Options:

1. **Continuous Positive Airway Pressure (CPAP):** CPAP therapy involves wearing a mask connected to a machine that delivers a continuous flow of air to keep the airway open during sleep.
2. **Oral Appliances:** These devices reposition the jaw and tongue to prevent airway obstruction. They are particularly useful for mild to moderate OSA or for patients who cannot tolerate CPAP.
3. **Lifestyle Changes:** Weight loss, regular exercise, avoiding alcohol and sedatives before bedtime, and sleeping on one’s side can help reduce OSA severity.
4. **Surgery:** Surgical procedures may be considered for severe cases of OSA or when other treatments have failed. These surgeries aim to remove excess tissue from the throat or reposition the jaw to widen the airway.
5. **Orofacial Myofunctional Therapy:** This therapy focuses on retraining the muscles of the face, mouth, and throat to improve breathing, chewing, and swallowing patterns. It can help strengthen the muscles surrounding the airway, potentially reducing the severity of obstructive sleep apnea.

Orofacial myofunctional therapy involves exercises and techniques designed to correct improper oral habits, such as mouth breathing, tongue thrusting, and incorrect oral rest posture, which can contribute to airway obstruction and exacerbate OSA. By addressing these underlying issues, orofacial myofunctional therapy aims to improve airway function and reduce the severity of sleep apnea.

Current literature demonstrates that myofunctional therapy decreases apnea-hypopnea index by approximately 50% in adults and 62% in children. Lowest oxygen saturations, snoring, and sleepiness outcomes improve in adults. Myofunctional therapy could serve as an adjunct to other obstructive sleep apnea treatments.

Signs of obstructive sleep apnea in adults include:

- Loud snoring
- Pauses in breathing
- Gasping for air during sleep
- Heavy breathing while sleeping
- Awakening with a dry mouth
- Morning headache
- Difficulty staying asleep
- Excessive daytime sleepiness
- Difficulty paying attention while awake
- Irritability

*If you have any of the signs listed above, contact us to see if an orofacial myofunctional evaluation is right for you!

References

- Camacho, M., Certal, V., Abdullatif, J., Zaghi, S., Ruoff, C. M., Capasso, R., & Kushida, C. A. (2015). Myofunctional Therapy to Treat Obstructive Sleep Apnea: A Systematic Review and Meta-analysis. *Sleep*, *38*(5), 669–675. <https://doi.org/10.5665/sleep.4652>
- Cao, M. T., Sternbach, J. M., & Guilleminault, C. (2017). Continuous positive airway pressure therapy in obstructive sleep apnea: benefits and alternatives. *Expert Review of Respiratory Medicine*, *11*(4), 259–272. <https://doi.org/10.1080/17476348.2017.1305893>
- Koka, V., De Vito, A., Roisman, G., Petitjean, M., Filograna Pignatelli, G. R., Padovani, D., & Randerath, W. (2021). Orofacial Myofunctional Therapy in Obstructive Sleep Apnea Syndrome: A Pathophysiological Perspective. *Medicina*, *57*(4), 323. <https://doi.org/10.3390/medicina57040323>
- Kuhn, E., Schwarz, E. I., Bratton, D. J., Rossi, V. A., & Kohler, M. (2017). Effects of CPAP and Mandibular Advancement Devices on Health-Related Quality of Life in OSA. *Chest*, *151*(4), 786–794. <https://doi.org/10.1016/j.chest.2017.01.020>
- Mayo Clinic. (2020, July 28). *Sleep apnea - Symptoms and causes*. Mayo Clinic. <https://www.mayoclinic.org/diseases-conditions/sleep-apnea/symptoms-causes/syc-20377631>
- Meghna Dassani. (2021). *Airway is Life*.
- Obstructive Sleep Apnea: Symptoms, Causes, and Treatments*. (n.d.). Sleepapnea.org. <https://www.sleepapnea.org/obstructive-sleep-apnea/>
- Yeghiazarians, Y., Jneid, H., Tietjens, J. R., Redline, S., Brown, D. L., El-Sherif, N., Mehra, R., Bozkurt, B., Ndumele, C. E., & Somers, V. K. (2021). Obstructive Sleep Apnea and Cardiovascular Disease: A Scientific Statement From the American Heart Association. *Circulation*, *144*(3), e56–e67. <https://doi.org/10.1161/CIR.0000000000000988>