

The State of Sleep and Obstructive Sleep Apnea

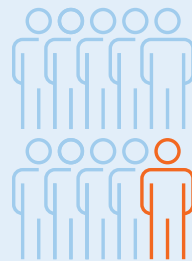
Myths and Facts

Obstructive sleep apnea (OSA) is a chronic health condition in which a person's airway partially or completely collapses during sleep, resulting in a temporary, yet repeated, decrease in oxygen saturation and subsequent arousal from sleep.¹ While poor sleep may seem like a mere nuisance, individuals with OSA face many health- and job-related risks. Below are some common myths and facts about sleep and OSA.

Sleep apnea is rare, isn't it? Don't most people know if they have it?

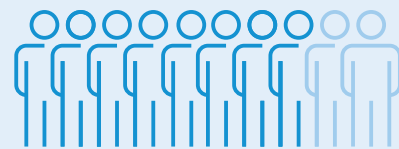


According to estimates, **nearly 30 million** adults in the United States, or **12% of the US adult population, have OSA.**² OSA is more commonly diagnosed in adults **ages 60 and above** and in **individuals who are obese.**³



More than 1 in 10 adults have been diagnosed with OSA, but **nearly 80% of adults who have OSA are undiagnosed.**²

80% UNDIAGNOSED



While OSA is **more commonly diagnosed in men,**³ compelling evidence suggests that **OSA is underdiagnosed and undertreated in women** due to **differences in OSA presentation** and the fact that **screening instruments are based on symptoms most commonly reported by men.**^{4,5}

Who should be concerned about sleep health?



Dentists should screen both pediatric and adult patients regularly for sleep-related breathing disorders, as recommended by the American Dental Association.^{6,7} During their regular review of a patient's medical and dental history, dentists (and allied dental professionals) may be the **first to identify symptoms** associated with OSA. Furthermore, dentists possess unique knowledge and expertise to provide patients with oral appliance therapy (OAT) for OSA, which involves custom-made oral devices worn by patients to adjust the position of their jaws, reducing OSA symptoms.^{6,7}



Primary care physicians should include regular discussions of sleep health when providing comprehensive health care to their patients. Poor sleep due to OSA is linked to higher risk of many comorbidities, including **hypertension,⁸ stroke,⁹ diabetes,¹⁰ adverse pregnancy outcomes,¹¹ depression,¹²** and several forms of **dementia.¹³** Obesity appears to have a bidirectional relationship with OSA, as obesity worsens the severity of OSA, and poor sleep associated with OSA is linked to a **higher risk of becoming obese.¹⁴**



Surgeons and other medical specialists should screen patients for OSA prior to all surgical procedures. OSA is a significant **risk factor for pulmonary and cardiac post-operative complications,** often requiring **longer hospitalizations, more intensive care support, and more need for ventilatory care** for patients with OSA.¹⁵



Employers should be concerned about their employees' sleep health. In addition to health comorbidities, excessive daytime sleepiness due to OSA is linked to **lower productivity, errors, absenteeism in the workplace,^{2,16}** and **increased numbers of traffic accidents.¹⁶**



Health insurance payors should be concerned about their enrollees' sleep health. According to the American Academy of Sleep Medicine, the estimated **cost burden of undiagnosed OSA for adults in the US in 2015 was nearly \$150 billion.^{2,17}** This estimate includes the cost of treating health comorbidities; loss of work productivity; and workplace and traffic accidents.² It is estimated that while it would **cost nearly \$50 billion to diagnose and treat all US adults who have undiagnosed OSA,** doing so would produce **projected savings of \$100.1 billion.^{2,17}**

Why should those who are concerned about health equity care about poor sleep?



- **Sleep health is an equity issue.** Thornton and colleagues found that in a study from an academic urban sleep center, **Black men were underrepresented in sleep assessments,** and they also presented with more severe OSA when tested, suggesting delayed diagnosis.¹⁸
- **Black adults are more likely than white adults to experience sleep that is insufficient in duration and more fragmented,** even when controlling for other comorbidities and socioeconomic factors.^{19,20}
- **Socioeconomic factors play a key role in sleep disparities.** Experiences of **discrimination,^{21,22}** as well as **neighborhood disadvantage, noise, and violence,^{23,24,25}** are linked to poor sleep and account for some racial differences in sleep quality.

What role can dental professionals play in improving the sleep health of their communities?



Dentists (and allied dental professionals) are optimally positioned to screen patients for OSA, through identifying anatomical risk factors for OSA (e.g., small upper airways).²⁶ Dentists can then refer at-risk patients to sleep medicine specialists for diagnostic testing.



While access to dental care is limited for many people, **it is still easier for individuals to visit a dentist than a sleep medicine specialist.**

While there were slightly more than **200,000 dentists** practicing in the United States in 2020 (61 dentists per 100,000 population),²⁷ there were only **7,500 sleep medicine specialists** in 2014 (fewer than 3 sleep specialists per 100,000 population).²⁸



For a patient diagnosed with OSA, a dentist can further **evaluate** the patient for the appropriateness of OAT, **advise** the patient about recommended appliances, **fit and adjust** the appropriate appliance as needed, and **monitor** the patient's adherence to its use.²⁶



By providing patients with these appliances, **dentists may help improve adherence to OSA treatment for patients who cannot tolerate continuous positive airway pressure (CPAP) treatment**, which requires wearing a mask over the nose and is found to be uncomfortable by some patients.²⁹ At the same time, OAT is often more cost-effective than CPAP treatment for OSA,^{30,31} which can help improve access to treatment that may otherwise be cost-prohibitive.³²

The systemic impact and key takeaway



Integration of oral health care with primary care and sleep medicine to diagnose and treat individuals with OSA has the potential to **improve access to OSA care, reduce sleep disparities**, and **save the health care system billions of dollars.**^{2, 17, 33}

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