

# Dental Sleep Medicine – The Time Is Now



by Gy Yatros, DMD

*Second opinions are common in health care; whether a doctor is sorting out a difficult case or a patient is not sure what to do next. In the context of our magazine, the first opinion will always belong to the reader. This feature will allow fellow dental professionals to share their opinions on various topics, providing you with a "Second Opinion." Perhaps some of these observations will change your mind; while others will solidify your position. In the end, our goal is to create discussion and debate to enrich our profession.* — Thomas Giacobbi, DDS, FAGD, Editorial Director, *Dentaltown Magazine*

My timing can be remarkably bad. I bought tech stocks, and then watched the dot-com bubble burst. I purchased "investment properties" just before the mortgage meltdown. But the one thing I know I've done right is getting my dental practice involved in the treatment of snoring and sleep apnea. I've lowered my stress level, grown my practice income steadily throughout the recession (while other dentists in my area are down 30-50 percent) and, most importantly, I've been saving lives.

I have been a dentist for more than 20 years, but treating patients with snoring and obstructive sleep apnea (OSA) throughout the last 10 years has been the most gratifying time in my career. I'll never forget when my grumpiest, sleep apnea-suffering patient came into my office with tears in his eyes. I thought he was going to punch me – but instead he hugged me and, overcome with emotion, thanked me for how I had changed his life.

Dental sleep medicine is the fastest growing area in dentistry, and for good reason. Dentists are not just tooth doctors anymore. Research continues to elucidate the connection between poor oral health and poor general health. Sleep is among the hottest topics in both dentistry and medicine. You can't pick up a trade journal or grocery store magazine these days without seeing an article on some sleep-related topic. Dentists are the perfect health-care providers to recognize, screen for, lead patients toward testing and treat this progressive disease. The opportunities for personal satisfaction and financial growth in this field are tremendous.

## Pathophysiology of Obstructive Sleep Apnea (OSA)

A partial or complete closure of the upper airway during sleep, from a few seconds to more than a minute, depletes the blood of oxygen and disrupts sleep. Normal airway patency is restored after activation of the sympathetic nervous system and

increased respiratory effort. Apneas (no air moving at all) and hypopneas (labored, decreased air movement) are added together and indexed per hour of sleep, resulting in an Apnea Hypopnea Index (AHI). Mild (AHI 5-15), Moderate (AHI 15-30) and Severe (AHI > 30) OSA is diagnosed by physicians who read the raw data from a full sleep study (polysomnogram) or a home sleep test (HST). Signs and symptoms of sleep apnea include snoring, excessive daytime sleepiness (EDS), gastro esophageal reflux disease (GERD), mood swings, impotence, morning headaches, insulin resistance, decreased mentation, glucose intolerance, increased risk of auto accidents and an overall decreased quality of life.<sup>1</sup> Cardiovascular consequences include hypertension, congestive heart failure, myocardial ischemia and infarction and stroke.<sup>2</sup>

## The Problem – Many Have It, But Few Know About It

Medical students get, on average, about an hour of lecture about sleep medicine. Fewer than half of all dental schools offer a one-hour "elective" course on the subject to their dental students. If doctors and dentists don't know about sleep apnea, how can we expect our patients to know? If you work in a dental office, you now have a unique opportunity to save lives through the recognition and treatment of sleep apnea in your patients.

Studies have estimated that as many as one in five adults has moderate OSA,<sup>3</sup> and that more than 90 percent of people with OSA might not know they have it.<sup>4</sup> This means there might be more than 30 million patients in the United States who don't know they have OSA. If you have 2,000 adult patients in your practice, then you might have close to 350 patients who have sleep apnea *and don't even know it*. And you can help them feel better and live longer. Talk about being in the right place at the right time!

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## Treatment Options for OSA

**Continuous positive airway pressure**, or CPAP, pneumatically “splints” the upper airway open during sleep. Although CPAP is the current preferred treatment among our physician colleagues,<sup>5</sup> it is a real inconvenience to wear – the mask, hoses, leaks and noise often result in poor compliance.<sup>6</sup> Poor compliance is considered to be the major drawback of CPAP; the more side effects a patient incurs with CPAP use, the less likely he or she is to utilize it.<sup>7</sup>

**Surgical options** for the treatment of OSA include operating on any part of the upper airway, basically from the nose and mouth down to about the Adam’s apple. Surgical interventions are normally reserved for patients on which conservative measures have failed (gross anatomic abnormalities being the exception). Surgeries aimed solely at soft tissue reduction (UPPP, tonsillectomy), although only moderately successful, remain popular in many circles today. Relapse occurs in a significant proportion of initially successfully treated patients.<sup>8</sup> More encouraging results have been realized with surgeries that reposition soft tissue by means of skeletal modifications, including genioglossal advancement, hyoidthyroidpexia or maxillomandibular advancement surgery,<sup>9</sup> but all of these surgeries carry substantial risk.

**Oral appliance therapy** continues to gain popularity as an alternative to CPAP and surgery.<sup>10</sup> Oral appliance therapy (also called dental device therapy) aims to reposition the mandible, tongue and pharyngeal structures, thereby preventing collapsibility of the upper airway during sleep. Patients tend to prefer oral appliances to CPAP in most randomized trials.<sup>11,12</sup> In fact, a literature review in February 2006 of *Sleep* states: “Oral appliances (OAs) are indicated for use in patients with mild to moderate OSA who prefer them to CPAP therapy, or who do not respond to, are not appropriate candidates for or who fail treatment attempts with CPAP.”<sup>13</sup> As the primary providers of oral appliances for OSA, dentists are in a unique position to offer these less invasive, nonsurgical treatment options to their patients.

## Functional Classification of Oral Appliances

There are three basic functional classifications of oral appliances. They are mandibular advancement devices (MADs), tongue retaining devices (TRDs) and combination CPAP/dental device therapy.

**Mandibular advancement devices (MADs)** comprise the majority of devices used by dentists. There are approximately 30 dental devices that have FDA approval for the treatment of snoring and sleep apnea. They vary in materials, method of retention and advancement mechanism. Research comparing one appliance to another is severely inadequate in our field.



Fig. 1: CPAP device used in the treatment of OSA.



Fig. 2: Oral Appliance (left) versus CPAP (right). Which do you think your patients will prefer?



Fig. 3: SomnoMed dorsal design oral appliance made by SomnoDent.

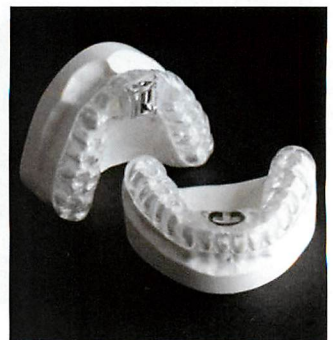


Fig. 4: TAP 3 appliance made by Airway Management, Inc.



Fig. 5: SUAD appliance made by Strong Dental.



Fig. 6: Patient wearing his SUAD mandibular advancement device.



Fig. 7: Aveo tongue retaining device made by Glidewell Laboratories.



Fig. 8: This is one of the easiest things to get your patients to say “yes” to in your practice.

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However, custom-made, adjustable dental devices have been shown to be as or more effective than CPAP at treating non-severe OSA.<sup>14</sup>

What works best in your hands and comfort for the patient are of paramount importance. That being said, some of my most used dental devices include the dorsal design (SomnoDent and Respire Medical), the EMA, the TAP3 and the SUAD.

**Tongue retaining devices (TRDs)** directly manipulate the tongue to dilate the airway. They are much more difficult to accommodate and are therefore used less frequently. They can be utilized when patients have inadequate dentition, severe TMJ problems or as a temporary appliance during restorative dental work.

**Combination CPAP/dental devices (hybrid therapy)** is reserved for severe OSA, patients who have had problems with CPAP or patients who were not treated successfully with a dental device alone. Hybrid therapy is a great opportunity to work with medical professionals in your area. Hybrid therapy results in lower CPAP pressures, fewer mask leaks and the ability to use masks without straps.

### How to Become Involved

If you want to start treating snoring and OSA in your practice, I highly recommend you first become educated on the subject. There are many resources at your fingertips.

For formalized training, the American Academy of Dental Sleep Medicine (AADSM) is a good place to start ([www.aadsm.org](http://www.aadsm.org)). The AADSM is the fastest growing sleep organization in the country; membership comes with many perks, and they offer educational courses about three times a year. I also encourage you to work toward becoming a diplomate of the American Board of Dental Sleep Medicine (ABDSM).

### What Are You Waiting For?

There has never been a better time to become involved in the treatment of snoring and sleep apnea, and never before have dentists been able to serve as a first line of treatment for patients diagnosed with sleep apnea. This is truly one of the easiest services to get patients to say "yes" to in your practice.

Most people would prefer a dental device over any other viable treatment option for OSA. We just need more dentists who are properly trained to help deliver this service and become leaders in the field.

Not only is treating snoring and OSA rewarding to you and your patients, but you can also create higher profit margins with an easier workload in your practice. To sum up my experience: becoming involved in dental sleep medicine is financially rewarding, physically non-demanding and provides the best opportunity for patient gratification (more than anything else in dentistry) So what's stopping you? Whether you just screen patients and help them get diagnosed, or you decide to dedicate your practice solely to dental sleep medicine, please just do it! We need to educate ourselves and the public, and I promise you (and your patients) won't regret it. ■

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### Author's Bio

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