

Long Island Dental Sleep Medicine — Using Oral Appliance Therapy to Treat Sleep Apnea

By Jean B. Edwards

ALTHOUGH ANNOYING AND seemingly harmless, snoring has ruined countless careers and many relationships. However, now, it has caught the attention of physicians and other medical experts because lack of sleep is directly related to weight gain, hypertension and serious health issues, such as coronary artery disease, stroke and sudden death.

Uncovering the Problem

When weight loss and nighttime sedatives fail to address snoring and sleep issues, more and more physicians refer patients to sleep centers to determine whether their patients suffer from sleep apnea. The disorder occurs when a person's breathing is disrupted during sleep, and according to the American Academy of Dental Sleep Medicine, more than 20 million

Americans are deprived of a restful night's sleep because of sleep apnea.

Obstructive sleep apnea (OSA), the most common type, occurs when tissue in the back of the throat collapses, blocks the airway and reduces the amount of oxygen delivered to the heart and brain. People with obstructive sleep apnea may actually stop breathing for short periods of time — as much as 60 times an hour.

Left to right: Jeffrey Rein, D.D.S., FAGD, Diplomate of the American Board of Dental Sleep Medicine, and Neal Seltzer, D.M.D., FAGD, Diplomate of the American Board of Dental Sleep Medicine, of Long Island Dental Sleep Medicine



With the help of a polysomnogram, sleep centers can confirm the disorder. Patients generally have a choice of surgery, continuous positive airway pressure (CPAP) or an oral appliance to bring relief. CPAP involves breathing forced air that is administered through a mask. The mask, worn at bedtime, completely covers the patient's nose and mouth. A hose, connected to a machine, provides a steady stream of air that keeps an individual's airway open so they can breathe. Although CPAP is the gold standard in the treatment of sleep apnea, some patients cannot tolerate wearing the device because of discomfort or lack of acceptance from his or her bed partner.

According to the American Academy of Sleep Medicine "Practice Parameters for the Treatment of Snoring and Obstructive Sleep Apnea with Oral Appliances: Update for 2005," "Oral appliances are indicated for use in patients with mild to moderate OSA who prefer oral appliances to CPAP or do not respond to CPAP; are not appropriate candidates for CPAP or who fail treatment attempts with CPAP or treatment with behavioral measures such as weight loss or sleep position change."

In severe cases of OSA where CPAP is indicated but not tolerated by a patient, oral appliances can often reduce symptoms to acceptable levels.

Experts in Oral Appliance Therapy

Neal Seltzer, D.M.D., FAGD, Diplomate of the American Board of Dental Sleep Medicine, and Jeffrey Rein, D.D.S., FAGD, Diplomate of the American Board of Dental Sleep Medicine, of Long Island Dental Sleep Medicine are highly skilled experts on the forefront of oral appliance therapy to treat sleep apnea. The two are frequent consultants to many area hospital-based sleep centers and dozens of private sleep facilities. Their discipline, dental sleep medicine, focuses on reducing nighttime respira-

tory distress by using custom made oral appliances to open the airway. Since 1991, the two dentists have successfully used oral appliances to help patients get a good night's sleep. They are two of only a handful of dentists in the nation that are Diplomates of the American Board of Dental Sleep Medicine.

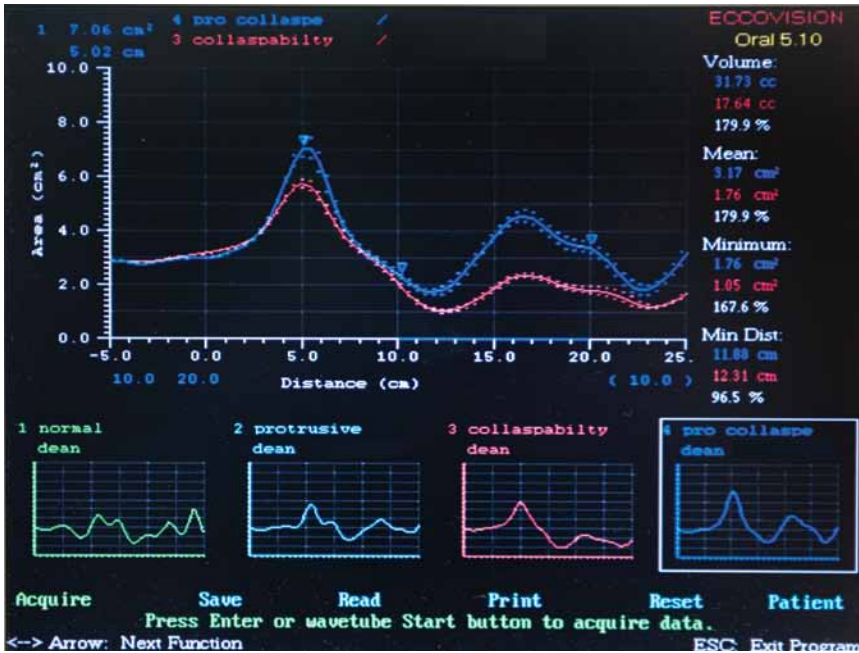
"We believe that dentists who specialize in oral appliance therapy can offer significant insight and support for patients that have breathing problems related to sleep apnea," says Dr. Rein. "As dentists, we are not licensed to diagnose sleep disorders. That's the job of a sleep

center. Our role at Dental Sleep Medicine is to work with sleep centers, primary care physicians, otolaryngologists, pulmonologists, cardiologists and psychiatrists as part of a broad team and offer alternative solutions for patients. All the patients we see come to us through medical referrals, and we require a prescription before we can develop any oral appliance."

One area of oral appliance therapy that is expanding is combination therapy in which oral appliances are used in conjunction with various CPAP masks. This expands the capabilities of both treatment modalities.

Dr. Seltzer using the acoustic pharyngometer to help gain information regarding the size, structure and collapsibility of the oral airway





Acoustic pharyngometer recordings displayed on monitor. These readings show marked improvement of airway opening with mandibular advancement.

“For example, sometimes the pressure required to open a patient’s airway can be very forceful. But when we add an oral appliance to a CPAP mask, it reduces the air pressure and the uncomfortable feeling in the patient’s throat,” he explains.

This will greatly enhance the number of patients who can be treated.

How Oral Appliance Therapy Works

Oral appliance therapy involves the selection, fitting and use of a custom-designed oral appliance to eliminate or minimize snoring. The device, similar to a sports mouth guard, is worn in the mouth while a patient sleeps.

The goal of oral appliance therapy is to:
 + reposition the lower jaw, tongue, soft



Dr. Rein consulting with a patient on the etiology and mechanics of obstructive sleep apnea

palate and uvula;

+ stabilize the lower jaw and tongue; and

+ increase the muscle tone of the tongue.

“Once we have consulted with the patient’s medical team, we examine and evaluate each patient to determine the most appropriate oral appliance to use. It is critical that the appliance is comfortable, fits properly and provides maximum performance,” emphasizes Dr. Rein.

Using an acoustic pharyngometry enables Dr. Seltzer and Dr. Rein to help pinpoint the location and degree of airway obstruction so they can titrate the oral appliance to determine the most optimal and effective position.

“We’re looking for the sweet spot that provides the best airway so the patient can breathe better at night. Often, we ask patients to try the device in our office by moving around like they might when they are sleeping. This helps us determine what impact these movements have on the patient’s airway. Successful titration can be accomplished with one office visit or may require slow, incremental adjustments over time. This is where our skill, experience, creativity and research come into play and set us apart from other practices,” explains Dr. Seltzer. “We believe that oral appliances, when fitted properly by the right person, are a safe, viable option for patients that choose not to undergo surgery or who do not respond well to CPAP therapy alone.”

Although there are many different designs of oral appliances on the market, Dr. Seltzer says they only use devices that are approved by the U.S. Food and Drug Administration and offer the most success for their patients.

“Choosing the correct appliance for each individual is where experience comes into play,” he explains.

Dr. Seltzer examining and adjusting a custom oral appliance to improve the titration process



Follow-Up Care Is Critical

“After we have fitted a patient with the appropriate oral appliance, we firmly believe they should return to a sleep center and get a second sleep study performed so they can be re-evaluated to quantify the success of the device,” says Dr. Rein. “We also provide ongoing clinical feedback to our patients to ensure they get the maximum results from their oral appliance.”

“Dr. Rein and I are real sticklers about providing long-term follow-up care for patients. When

SYMPTOMS OF SLEEP APNEA

- + Loud snoring
- + Excessive daytime fatigue or sleepiness
- + Memory loss
- + Headaches
- + Hypertension
- + Decreased sex drive
- + Insomnia
- + Inability to concentrate
- + Irritability or depression
- + Erectile dysfunction
- + Choking or gasping for breath when awaking from sleep



One of many custom oral appliance designs approved by the FDA for the treatment of obstructive sleep apnea

ADVANTAGES OF ORAL APPLIANCE THERAPY

- + Appliances are comfortable and easy to wear.
- + Appliances are small, convenient and easy to carry when traveling.
- + Patients quickly adapt to the appliances.
- + It is a noninvasive treatment that is reversible.

treating patients with sleep disorders, it's essential to frequently check the condition of the appliance and evaluate how each patient responds to the appliance," says Dr. Seltzer. "Things change over time. People age and gain weight. Because these changes often impact how their oral appliance fits, we develop long-lasting relationships with our patients. We've been seeing some of our patients for more than 15 years, and good communication is critical for successful relationships."

Early Pioneers in Oral Appliance Therapy

Both Dr. Seltzer and Dr. Rein are early pioneers of oral appliance therapy.

"We got involved in this discipline long before it was an organized part of dentistry," notes Dr. Seltzer. "Back then, we were connecting with other dentists on the Internet and through various chat rooms where people had similar interests in oral appliances. These were creative, out-of-the-box thinkers who shared our quest to find a way to move a patient's lower jaw in order to create a better airway."

Eventually, the group evolved into the Sleep Disorder Dental Society. As membership grew, the society became more organized and advanced to become the American Academy of Dental Sleep Medicine. Today, the organization promotes research on oral appliances and the role these devices play in the diagnosis and treatment of sleep-related breathing disorders.

“One aspect that Dr. Rein and I really enjoy about our practice is the ability to consult with each other about difficult cases and confer on which appliances would work best for our patients,” says Dr. Seltzer. “Sometimes, we will take a standard appliance and create a hybrid approach to address the precise needs of a patient. We love the creativity that oral appliance therapy offers. It keeps our work motivating and exciting.”

The two dentists met while completing the same residency program at Bird S. Coler Memorial Hospital in New York and decided to open a dental practice in Williston Park back in 1984 to specialize in restorative dentistry.

“A poor night’s sleep has many negative consequences, and we feel confident that our knowledge and experience enables us to literally change people’s lives. We strive to remain on the leading edge of oral appliance therapy by continuously researching and staying abreast of the latest advancements in our field,” says Dr. Seltzer. “We have worked with hundreds of patients over the years who suffered from chronic headaches, fatigue and sleep apnea, and we’ve given them back their lives.”

One of Dr. Seltzer’s patients suffered for 20 years with sleep apnea. She was referred from place to place, and it seemed there was no solution to her problem. She tried a CPAP machine, even oral appliance therapy, but nothing worked.

“A sleep center referred her to our practice, and within two weeks, she was sleeping soundly. She told us she actually forgot what it was like to dream,” recalls Dr. Seltzer.

Another patient, a soldier who served during Operation Desert Storm, had such severe problems with snoring and sleep apnea that it disrupted the sleep of others in his unit. While home on leave, he was treated by Dr. Rein.

“We worked with him to identify the most beneficial oral appliance, and soon his snoring and apnea was alleviated,” he says.

Dr. Seltzer and Dr. Rein have successfully treated pilots, policemen, firemen and others who have fluctuating work shifts and also suffer from sleep apnea.

“We believe our practice really does change people’s lives,” adds Dr. Seltzer. “Oral appliance therapy is an extremely underestimated treatment modality for sleep apnea. We believe that in the right hands, with the right experience and knowledge, patients can have remarkable outcomes with oral appliance therapy.”

To learn more about Long Island Dental Sleep Medicine, visit www.longislanddentalsleepmed.com. ■



The highly qualified Long Island Dental Sleep Medicine staff