

Results Testimonial

Dear Dr. Sabo,

Thank you! All of us, at some point in our lives, meet an individual who significantly changes our lives. You have done so for me.

As you know, I live my life in a wheelchair, and while that has its own challenges, adding constant and unmitigated jaw pain made my life one of total misery. After years of countless doctors, neurologists, and pain management specialists, you found what they could not. You found the cause of my pain because you listened, investigated, and discovered the correct measures to end that pain.

When I say that you changed my life, you literally did. I no longer spend my days in a haze of medication and pain. I wake up and feel no jaw pain, I concentrate and feel no jaw pain, and I really, truly laugh again. Because of your expertise, I am living a life where I can enjoy foods (like popcorn and carrots) that have been long denied because of pain. Now I can read, write, and consult again because my mind is no longer focused on all of that pain. Believe it, you changed my life!

So, again, thank you and thank you for employing such a wonderful staff who echoes your dedication, professionalism, and true caring for your patients. Sincerely,

- Venita L. H.
DPA, MPA/ MBO



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Though this procedure is preferred, some sleep-lab technicians and physicians are reluctant to perform overnight oral appliance studies. Some are unfamiliar with the wide variety of oral appliances, while others are simply hesitant to awaken the patient over and over in order to adjust the device. However, with new technologies enabling technicians to titrate the devices remotely and precisely without contact with the patient — most notably Zephyr Sleep Technologies' MATRx system — this latter problem should be resolved over the next few years.

We wouldn't administer CPAP therapy with some arbitrary or subjective number in mind, so why should OAT be any different? Whenever possible, we should implement titration polysomnography into the procedure and watch as OAT treatment outcomes improve drastically.



Physician Update

March 2019

Bringing Objectivity to Oral Appliance Therapy for Obstructive Sleep Apnea

The Necessity of Titration Polysomnography in Optimizing Outcomes

By 2019, oral appliance therapy (OAT) has taken a central role in the treatment of obstructive sleep apnea (OSA). Though the use of continuous positive air pressure (CPAP) machines is widely recommended as a preferable first-line intervention, the use of oral appliance therapy has emerged as a widely used, clinically proven, and often equally efficacious treatment for sleep-disordered breathing.¹

New data continues to support this trend. In one 14-year retrospective study examining the records of more than 510 patients, OAT achieved an 80 percent success rate.² And contrary to typical thinking, the impact of OAT does not appear to be restricted to those with mild to moderate OSA. Another study found that in CPAP-resistant patients with severe OSA, two-thirds of those treated with OAT had a substantially reduced apnea-hypopnea index (AHI <10), and almost half had their AHI reduced to normal levels (AHI <5).¹

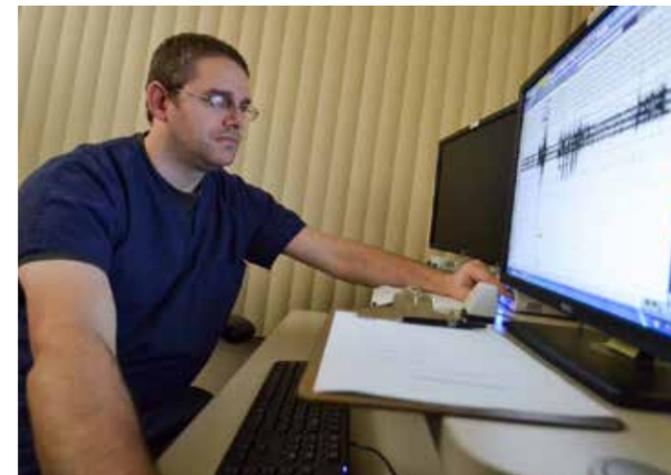
However, it's important to note that in these and other similar studies extolling the virtues of OAT, the oral appliances were titrated to patient-specific metrics, which were determined using best practices and post-treatment titration during an in-lab polysomnogram. To optimize oral appliances for the patient and maximize benefits, this in-lab polysomnogram is an essential part of the process, especially for patients with severe OSA.

To pinpoint the precise level of titration needed to optimize treatment, medical professionals require objective measurements. However, OAT is too often left up to subjective, patient-centric reports. The appliance is adjusted initially to an arbitrary level of mandibular protrusion — 50 percent, for example. Then, the patients are instructed to either adjust the devices themselves at home or alert the medical provider to subjective improvements, at which point they adjust the appliances accordingly. This method

can certainly achieve results, but studies like the ones cited above indicate that outcomes may be substantially improved by implementing titration polysomnography.

One 2009 study sought to determine whether a final round of titration polysomnography could improve OAT treatment outcomes in patients with an incomplete response. After weeks of OAT, 62.5 percent of patients had an AHI ≤10, indicating substantial results. This number was improved by as much as 30 percent after incomplete responders underwent a final titration polysomnogram. During this procedure, sleep technologists closely monitored AHI. If AHI climbed beyond 10, they would awaken the patient and advance the oral appliance mechanism, up to a maximum of three times across the night. At the end of the entire procedure, patients had achieved a total success rate of 95.6 percent!³

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¹Shrivastava D, Bixby JK, Livornese DS, Urena F, Bixby MJ, Jain V. Efficacy of Oral Appliance Therapy in the Treatment of Severe OSA in CPAP-Resistant Cases. *Sleep and Vigilance*. 2018;2(2):119-125. doi:10.1007/s41782-018-0044-y

²Mintz SS, Kovacs R. The use of oral appliances in obstructive sleep apnea: a retrospective cohort study spanning 14 years of private practice experience. *Sleep and Breathing*. 2018;22(2):541-546. doi:10.1007/s11325-018-1643-5

³Almeida FR, Parker JA, Hodges JS, Lowe AA, Ferguson KA. Effect of a Titration Polysomnogram on Treatment Success with a Mandibular Repositioning Appliance. *Journal of Clinical Sleep Medicine*. 2009;5(3):198-204.