

Preferred Treatment

Commentary on Almeida et al. Mandibular advancement splint as short-term alternative treatment in patients with obstructive sleep apnea already effectively treated with continuous positive airway pressure. *J Clin Sleep Med* 2013;9:319-324.

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Since the earliest reports, investigators determined that patients often preferred oral appliance (OA) therapy over continuous positive airway therapy (CPAP).¹ The reasons were relative ease of use and a high rate of success, especially for relief of snoring and other symptoms of obstructive sleep apnea (OSA). While it was recognized that objective treatment response was less successful, patients' use was often better than CPAP, leading to the notion that treatment effectiveness, i.e., efficacy plus compliance, was comparable to CPAP. Of course this conclusion was tempered by the recognition that most OA users had less than severe OSA and that severe disease required the robust efficacy of CPAP, especially for oxygenation.

Population studies indicate that the majority of subjects with abnormal breathing in sleep would be classified less than severe² and might be considered for OA use by current guidelines.³ Why, then, are OA used by so few patients? Best estimates are well south of 10% of all patients with OSA. Patient selection undoubtedly plays a role, with severe cases more likely to present for diagnosis and treatment. Other factors include cultural barriers between dentists and physicians, the perception of excessive cost and other financial restraints; and on the other hand, the association of CPAP with sleep lab technology and vigorous promotion by the CPAP industry. Perhaps of greatest importance in recent years is the belief that untreated OSA is associated with cardiovascular disease,⁴ an association that has found resonance in the broader medical community and has created enthusiasm for a medical rationale to prevent stroke and heart disease with CPAP. However, this concept has not been validated by a prospective treatment trial, and the evidence of increased risk is weak in less than severe cases.

In this environment, the study by Almeida⁵ is a welcome reminder that OSA patients often prefer OA over CPAP. This relatively small group of 19 CPAP adherent patients who completed the trial included a broad range of OSA severities, including approximately half with AHI 30+ who would not be recommended for OA by current guidelines. OA treatment success was no different from previous studies of patients with similar severity: 47% achieved success (AHI 10-), 32% failed (AHI 20+), and the rest were in between. After initial adaptation to OA therapy, patients were given the option to use either therapy for 3 months. More patients preferred OA,

even though CPAP was recognized to be more efficacious. All patients used OA some of the time and 8 of 19 chose to use OA most of the time. OA use was correlated with OA treatment AHI, but the correlation explained only 21% of the variance. The authors' conservative conclusion is that OA can be used as an adjunct to CPAP, but I am impressed by the preference data, especially since it is based on actual use in addition to opinion.

How much should patient preference affect the choice of therapy? In this age of consumer empowerment, probably quite a lot. But are patients properly informed of their choice? And how is the choice presented by the doctor? Several reasons for incomplete or inaccurate communication come to mind including unfamiliarity with dental therapy by many MD clinicians. Financial incentives may influence the advice of sleep specialists who stand to gain by lab income and equipment fees from CPAP. On a higher plane, the wish to achieve normal breathing, as occurs more often with CPAP, would seem to argue in favor of CPAP. But is this goal necessary, and what are the health consequences of mild to modest OSA, e.g. AHI < 30?: by one outcome study of cardiovascular disease, nil⁶; by another of cognition and vigilance, not much.⁷

And the OA environment is changing. Financial barriers to OA therapy are coming down now that Medicare is reimbursing for the procedure. The number of dentists working in this field is increasing rapidly. New technology may improve the identification of patients likely to succeed with OA.⁸ For all these reasons OA therapy is likely to play a growing role in the treatment of OSA. In less than severe cases patient preference should be allowed to determine the choice of therapy.

CITATION

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DISCLOSURE STATEMENT

The author is on the Medical Advisory Board of Zephyr Sleep Technologies, a medical company working with oral appliance therapy of OSA.