



DIAGNOSIS

Do You Suspect Sleep Apnea? Evaluation and Management

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Chiropractic physicians are in a position to recognize the relationship between sleep and health, identify sleep quality concerns, administer sleep quality assessments, and determine appropriate referrals for further sleep quality evaluation. This is important because studies have shown that at least 50 percent of all primary care patients experience insomnia at some point; but only one in three will present the issue to their doctor while just one in 20 will seek therapy for it.¹

The U.S. Department of Health and Human Services created a Sleep Health Objective to "increase the proportion of adults who get sufficient sleep" in Healthy People 2020, a federal initiative to improve the nation's health. Chiropractors can and should be part of this initiative.



Obstructive sleep apnea (OSA) occurs in 6-17 percent of the population, and is as high as 49 percent in those of advanced age.² It has been linked to heart disease, hypertension, obesity, dementia,³ diabetes and depression; therefore, your management of short and poor quality sleep is critical to your patient's overall health.

The Clinical Sleep Workup

Exploring sleep quality and quantity as part of your workup is important for your patient's recovery and functional outcomes. The Epworth Sleep Scale (ESS) is the most commonly used patient-reported outcome measure to assess the impact of sleepiness and evaluate treatment. Other recommended tools include the Functional Outcomes of Sleep Questionnaire (FOSQ),⁴ the Pittsburgh Sleep Quality Index and STOP-Bang. A systematic review of the overall body of evidence confirms that advancing age, male sex, and higher body-mass index increase OSA prevalence.⁵

If mild to moderate sleep apnea is suspected, management of risk factors may be adequate. With more severe presentations, consider a home sleep study. These are becoming more common and can be easily ordered, but they have limitations and are not as comprehensive as the gold standard testing of polysomnogram (PSG) to confirm the diagnosis.

If a single home sleep apnea test is negative, inconclusive or technically inadequate, PSG should be performed for the diagnosis of OSA. In the setting of significant cardiac or respiratory disease or chronic opioid medication use, begin with referral for PSG.⁶

Addressing the Patient's Weight (if Relevant)

The existing evidence addressing obesity has been systematically reviewed and finds that weight

loss could be clinically relevant in some patients by reducing obstructive sleep apnea severity.⁷ In addition, weight change was a stronger predictor of OSA severity reduction than change in fitness, suggesting weight loss should be emphasized in the behavioral treatment of OSA regardless of change in fitness.⁸

However, general conditioning exercises can also be effective. Exercise as a treatment option has been found to improve OSA indices.⁹ If you don't do so already, include weight management into your treatment plan when necessary.

Conservative Referral Options to Consider

Although CPAP is considered first-line therapy for symptomatic or moderate-to-severe obstructive sleep apnea, and mandibular-advancement devices and various surgical options are other approaches, compliance is an issue, so supportive treatment options should be considered.¹⁰ One such treatment option is acupuncture, which is effective for OSA patients in reducing apnea / hypoxia index (AHI) and ESS; and in improving the SaO₂, especially in moderate and severe OSA patients.¹¹

Another supportive treatment endorsed by current literature is myofunctional therapy, a program to address patterns of muscle function for swallowing, breathing and chewing. Myofunctional therapy has been shown to decrease AHI by approximately 50 percent in adults and 62 percent in children. Myofunctional therapy referral could serve as an adjunct to other obstructive sleep apnea treatments.¹²⁻¹³

Referral for dental consultation for a mandibular-advancing oral appliance should be considered. Current guidelines recommend that sleep physicians consider prescription of oral appliances, rather than no treatment, for adult patients with obstructive sleep apnea who are intolerant of CPAP therapy or prefer alternate therapy.¹⁴

Clinical Pearls

- Exploration and management of OSA as part of your treatment plan can benefit your patient's recovery of their primary condition and significantly improve their overall well-being.
- Start by making sleep history part of every examination.
- If you do not provide any of these specific interventions, find health care professionals in your area to whom you can refer.

References

1. American College of Physicians (ACP) Internal Medicine Annual Meeting: Philadelphia, PA, 2019.
2. Senaratna C. Prevalence of obstructive sleep apnea in the general population: a systematic review. *Sleep Med Rev*, 2017 Aug;34:70-81.
3. Baril AA, et al. Biomarkers of dementia in obstructive sleep apnea. *Sleep Med Rev*, 2018 Dec;42:139-14.
4. Weaver TE, Laizner AM, Evan LK, et al. Functional Outcomes of Sleep Questionnaire (FOSQ): an instrument to measure functional status outcomes for disorders of excessive sleepiness. *Sleep*, 1997;20(10):835-843.
5. Senaratna CV, Perret JL, Lodge CJ, et al. Prevalence of obstructive sleep apnea in the general population: a systematic review. *Sleep Med Rev*, 2017;34:70-81.

6. Kapur VK, Auckley DH, Chowdhur S, et al. Clinical Practice Guideline for Diagnostic Testing for Adult Obstructive Sleep Apnea: an American Academy of Sleep Medicine clinical practice guideline. *J Clin Sleep Med*, 2017 Mar 15;13(3).
7. Hosseini Araghi M, et al. Effectiveness of lifestyle interventions on obstructive sleep apnea (OSA): systematic review and meta-analysis. *Sleep*, 2013 Oct;36(10):1553-62.
8. Kline CE, et al. The Effect of changes in cardiorespiratory fitness and weight on obstructive sleep apnea severity in overweight adults with type 2 diabetes. *Sleep*, 2016 Feb;39(2):317-325.
9. Aiello KD, Caughey WG, Nelluri B, et al. Effect of exercise training on sleep apnea: a systematic review and meta-analysis. *Respir Med*, 2016;116:85-92.
10. Veasey SC, Rosen IM. Obstructive sleep apnea in adults. *N Engl J Med*, 2019;380:1442-1449.
11. Wang L. Acupuncture for obstructive sleep apnea (OSA) in adults: a systematic review and meta-analysis. *BioMed Research Int*, published online 2020 Mar 5.
12. Camacho M, Certal V, Abdullatif J, et al. Myofunctional therapy to treat obstructive sleep apnea: a systematic review and meta-analysis. *Sleep*, 2015;38(5):669-675.
13. Lorenzi-Filho G, Almeida FR, Strollo PJ. Treating OSA: current and emerging therapies beyond CPAP. *Respirol*, 2017;22(8):1500-1507.
14. Ramar K, Dort LC, Katz SG, et al. *Clinical Practice Guideline for the Treatment of Obstructive Sleep Apnea and Snoring with Oral Appliance Therapy: an update for 2015*. *J Clin Sleep Med*, 2015;11(7):773-827.

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