How should we diagnose and treat obstructive sleep apnea?

Keith B. Holten, MD
University of Cincinnati College of Medicine, Cincinnati, Ohio

- **What are the risk factors for obstructive sleep apnea (OSA)?**
- **What is the standard for diagnostic testing?**
- **How does management of mild OSA differ from severe OSA?**
- **Can other illnesses complicate OSA?**

Obstructive sleep apnea is underdiagnosed.[1] These recommendations (from the Institute for Clinical Systems Improvement's Respiratory Steering Committee) can help providers more accurately identify adults who have OSA through a sleep study evaluation, prescribe appropriate treatment, document cases for appropriate follow-up, and increase patient understanding of related health risks. The target audience is physicians, nurses, advanced practice nurses, and physician assistants. The target population is adults.

The evidence categories for this guideline are diagnosis, evaluation, management, risk assessment, and treatment. Outcomes considered are signs and symptoms of OSA; patient risk factors, including comorbidities; accuracy of diagnostic tests; effects of treatment on apnea-hypopnea index and other measures; patient compliance and satisfaction with treatment; and complications of treatment. Their rating scheme has been updated to comply with the SORT taxonomy.[2]

Correspondence: Keith B. Holten, MD, Clinton Memorial Hospital/University of Cincinnati Family Practice Residency, 825 W. Locust St., Wilmington, OH, 45177. E-mail: keholtenmd@cmhregional.com.

RELEVANCE AND LIMITATIONS

OSA affects more than 12 million people in the US, 2% of women and 4% of men aged >35 years. The patient with OSA commonly consults a physician after a sleep partner reports loud snoring and irregular breathing. The methods used to collect and select evidence is not stated.

DEVELOPMENT AND REVIEW

This guideline was accessed through the National Guideline Clearinghouse (www.ngc.gov). The Institute for Clinical Systems Improvement is an independent, nonprofit organization sponsored by 6 Minnesota health plans.

The authors completed an electronic search of databases. Data were analyzed by systematic review with evidence table and were validated by clinical validation-pilot testing and internal peer review. The methods used to make the recommendations were not discussed. Quality and strength of evidence were weighted according to a rating scheme furnished in the guideline. Two excellent algorithms are attached to this guideline: diagnosis and treatment. There are 92 references.

GUIDELINE SOURCE

Institute for Clinical Systems Improvement. *Diagnosis and Treatment of Obstructive Sleep Apnea.* Bloomington, Minn: Institute for Clinical Systems Improvement; 2003. 53 pages.

OTHER GUIDELINES ON OSA

• **Practice parameters for the use of auto-titrating continuous positive airway pressure devices for titrating pressures and treating adult patients with obstructive sleep apnea syndrome.** Standards of Practice Committee. *Sleep* 2002; 25:143–147 [29 references]. Web access at: www.aasmnet.org/PDF/autotitratingreview.pdf.

This is an excellent detailed guideline for the use of auto-titrating CPAP for OSA.

• **Practice parameters for the use of portable monitoring devices in the investigation of suspected obstructive sleep apnea in adults.** Chesson AL Jr, Berry RB, Pack A. Practice parameters for the use of portable monitoring devices in the investigation of suspected obstructive sleep apnea in adults. *Sleep* 2003; 26:907–913 [11 references]. Web access at: www.aasmnet.org/PDF/260719.pdf.

Not very useful for primary care physicians. Recommendations regarding 2 different types of portable monitoring devices (attended and unattended) for the diagnosis of OSA. Not currently approved by Medicare for diagnosis.

• **Clinical practice guideline: diagnosis and management of childhood obstructive sleep apnea syndrome.** *Pediatrics* 2002; 109:704–712 [63 references]. Web access at: www.aappolicy.aappublications.org/cgi/content/full/pediatrics;109/4/704.

Good review of pediatric issues concerning OSA.

REFERENCES

1. Strollo PJ Jr, Rogers RM. Obstructive sleep apnea. *N Engl J Med* 1996; 334:99–104.
2. Ebell M, Siwek J, Weiss BD, et al. Strength of recommendation taxonomy (SORT): A patient-centered approach to grading evidence in the medical literature. *Am Fam Physician* 2004; 69:548–556.

PRACTICE RECOMMENDATIONS

Grade A Recommendations

- Large neck circumference, obesity, and hypertension are risk factors for OSA.
- OSA occurs frequently in patients with cardiovascular disease, coronary artery disease, and hypertension.
- Additional signs and symptoms of OSA include reports of choking by sleep partner, awakening with choking, intense snoring, severe daytime sleepiness (with driving impairment), and male gender.
- Polysomography should be performed to determine the diagnosis and is the standard for diagnosis. Unattended portable monitoring is a reasonable alternative when the patient has severe symptoms requiring prompt evaluation/treatment or for follow-up studies.
- Lifestyle modification, including weight loss, reduced alcohol consumption, and lateral sleep positioning are recommended for treatment.
- Severity of OSA is based on magnitude of sleepiness, hypoxia, and the Apnea-Hypopnea Index (AHI).
- Mild OSA can be treated with oral appliances, positive airway pressure devices, or surgical procedures.
- Moderate to severe obstructive sleep apnea should always be treated with positive airway pressure devices, continuous positive airway pressure (CPAP) most commonly.

Grade B Recommendations

- Unattended portable monitoring may be acceptable for rural areas where polysomography is unavailable.
- Surgical procedures (septoplasty, nasal polypectomy, tonsillectomy, turbinoplasty, and uvulopalatopharyngoplasty) to correct anatomical obstructions might be necessary for treatment of mild OSA prior to a positive pressure device.
- After initiating treatment patients should be seen in follow-up in 1 month to assess snoring and sleepiness.