AMERICAN ACADEMY OF SLEEP MEDICINE | PROVIDER FACT SHEET

The Link Between Obesity and Obstructive Sleep Apnea

Quick Facts:

Obstructive sleep apnea (OSA) is a sleep disorder characterized by complete or partial airway closure during sleep. Patients with obesity are at higher risk of OSA. The interrelationships between obesity and OSA are complex and bidirectional. Obesity places patients at higher risk for OSA and patients with OSA are likely to gain more weight than equally obese subjects without OSA. Weight loss is recommended in obese patients with OSA as it improves overall health and reduces the severity of OSA.

Are my patients at risk of OSA complications?

OSA is a cause of systemic hypertension (HTN) and is associated with an increased incidence of stroke, heart failure (HF), atrial fibrillation (AF), and coronary heart disease (CHD). Severe OSA increases all-cause mortality and cardiovascular mortality.

Why It Matters

- 10% of weight gain is associated with a 6-fold increase in risk of OSA.
- Increased body weight over time increases the risk for OSA and accelerates its progression.
- Plasma ghrelin levels (appetite or "hunger hormone") are significantly higher in OSA patients than in BMI-matched controls, but decrease to levels similar to those of obese patients without OSA after Continuous Positive Airway Pressure (CPAP) treatment.
- Weight loss improves OSA by several mechanisms, including reduction in fatty tissue in the throat (i.e. parapharyngeal fat) and the tongue. Loss of abdominal fat increases mediastinal traction on the upper airway making it less likely to collapse during sleep.
- Importantly, weight loss benefits commonly associated co-morbidities in obese OSA patients such as hypertension and insulin resistance.
- Studies have also shown that compliance with CPAP treatment improves leptin (hunger inhibitory hormone) imbalance.
- The National Institutes of Health (NIH) and the Canadian Task Force on Preventive Health Care recommend the use of BMI and waist circumference to screen adults for obesity.

What You Can Do

- Start the conversation about weight loss as part of education on OSA pathophysiology and treatment during the first visit once OSA is diagnosed.
- Do not delay CPAP initiation or other treatments in patients with OSA.
- Identify patients with co-morbidities such as hypertension, that can further benefit from weight loss.
- Weight-loss and weight-maintenance therapies should include a reduced-calorie diet, increased physical activity, and behavioral therapy.
- Consider the use of weight-loss medications as part of a multicomponent program in patients with a BMI greater than 27 kg/m2 and comorbid medical conditions.
- Consider using structured methods of follow up, such as The "5 As" (assess, advise, agree, assist, and arrange).

When to Refer?

Consider referral for further evaluation and treatment whenever the resources are insufficient to meet the patient's needs, the patient's BMI ≥ 40 kg/m2, or a BMI ≥ 35 kg/m2 and the patient has associated comorbid medical conditions, or has failed appropriate prior weight loss interventions. Board-certified obesity medicine specialists, certified diabetes educators, and physician nutrition specialists are available as referrals in many areas.

Referring Guidelines:

- sleepfoundation.org/ask-the-expert/losing-weight-sleep-apnea
- www.nhlbi.nih.gov/health-pro/guidelines/in-develop/obesity-evidence-review
- health.gov/dietaryguidelines/2015/guidelines/
- www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/obesity-in-adults-screening-and-management#citation11
- canadiantaskforce.ca/guidelines/published-guidelines/obesity-in-adults/

Patient Information Websites:

- health.gov/dietaryguidelines/2015/guidelines/
- www.choosemyplate.gov/
- www.supertracker.usda.gov/
- www.cdc.gov/bam/nutrition/
- www.cdc.gov/nccdphp/dnpao/
- www.niddk.nih.gov/health-information/communication-programs/win
- www.obesity.org/resources/facts-about-obesity/resources-for-consumers

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5. Buchwald H, Avidor Y, Braunwald E, et al. Bariatric surgery: a systematic review and meta-analysis. *JAMA*. 2004;292(14):1724-1737.
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