

297 Sleep Apnea

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Obstructive sleep apnea (OSA) and central sleep apnea (CSA) are both classified as sleep-related breathing disorders. OSA and CSA share some risk factors and physiologic bases but also have unique features. Each disorder is associated with impaired ventilation during sleep and disruption of sleep, and each diagnosis requires careful elicitation of the patient's history, physical examination, and physiologic testing. OSA, the more common disorder, causes daytime sleepiness and impaired daily function. It is a cause of hypertension and is strongly associated with cardiovascular disease in adults and behavioral problems in children. CSA is less common and may occur alone or in combination with OSA. It can occur as a primary condition, as a response to high altitude, or secondary to a medical condition (such as heart failure) or medication (such as opioids). Patients with CSA often report frequent awakenings and daytime fatigue and are at increased risk for heart failure and atrial fibrillation.

■ OBSTRUCTIVE SLEEP APNEA/HYPOPNEA SYNDROME

Definition OSA is defined on the basis of nocturnal and daytime symptoms as well as sleep study findings. Diagnosis requires the patient to have (1) either symptoms of nocturnal breathing disturbances (snoring, snorting, gasping, or breathing pauses during sleep) or daytime sleepiness or fatigue that occurs despite sufficient opportunity to sleep and is unexplained by other medical problems; and (2) five or more episodes of obstructive apnea or hypopnea per hour of sleep (the apnea-hypopnea index [AHI], calculated as the number of episodes divided by the number of hours of sleep) documented during a sleep study. OSA also may be diagnosed in the absence of symptoms if the AHI is ≥ 15 episodes/h. Each episode of apnea or hypopnea represents a reduction in breathing for at least 10 s and commonly results in a $\geq 3\%$ drop in oxygen saturation or a