Article

Addressing sleep apnea: A critical step in cardiovascular risk management

At a glance:

- Obstructive sleep apnea (OSA) is highly prevalent among patients with cardiovascular disease (CVD), particularly those with hypertension, arrhythmias, heart failure and stroke.[1]
- Untreated OSA contributes to increased risk of cardiovascular morbidity, mortality and healthcare utilization.[2-4]
- Treating OSA is associated with improved cardiovascular outcomes and lowers all-cause mortality.[5]
- Primary care management of OSA delivers outcomes comparable to specialist care at a lower cost.[6]

Obstructive sleep apnea is one of the most underrecognized contributors to cardiovascular disease (CVD), despite being present in up to 40–80% of patients with CVD, depending on the condition.[1] Identifying and managing OSA offers a critical opportunity to reduce cardiovascular risk and improve patient outcomes.

The bidirectional link between OSA and cardiovascular disease

Recurrent apneic episodes in OSA trigger intermittent hypoxia and surges in sympathetic activity, inflammation and oxidative stress, all of which impair endothelial function and accelerate vascular damage.[3]

OSA affects 40–60% of patients with cardiovascular disease[4] and up to 80% of those with resistant hypertension[1] or symptomatic heart failure.[7] It is also linked to atrial fibrillation[2] and stroke.[8] In severe cases, OSA further heightens the risk of cardiovascular morbidity[9] and mortality.[1]

The relationship is bidirectional, particularly in heart failure patients, where fluid shifts during sleep can worsen OSA.[3] Additionally, untreated OSA can impair recovery following a heart attack or stroke.[10,11]

Consequences of underdiagnosis

As many as 80% of moderate-to-severe OSA cases go unidentified despite adequate access to healthcare.[12] The consequences are substantial and include:

- Higher mortality: Severe, untreated OSA nearly triples all-cause mortality risk.[13]
- More hospitalizations: Research shows that untreated OSA is an independent risk factor for hospital readmission within 30 days of discharge.[14]
- Greater economic burden: Untreated OSA is associated with higher healthcare utilization and productivity loss.[15]

Early identification and treatment can reduce cardiovascular risk, lower healthcare use and improve outcomes across comorbid conditions.[5,15-16]

Clinical benefits of OSA treatment

Positive airway pressure (PAP) therapy remains the gold standard for OSA treatment. It effectively relieves OSA-related symptoms and has been shown to reduce cardiovascular risks.[17]

Evidence across large-scale studies shows that PAP therapy to treat OSA reduces atrial fibrillation recurrence,[17] lowers blood pressure in resistant hypertension[18] and could support post-stroke recovery.[11] Consistent use is however critical.

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Patients who use PAP therapy for at least four hours per night experience significantly lower rates of major adverse cardiac or cerebrovascular events (MACCE).[16]

A 2025 meta-analysis of more than one million adults reported a 37% reduction in all-cause mortality and a 55% reduction in cardiovascular mortality with positive airway pressure therapy, confirming that treating OSA with PAP therapy does more than relieve symptoms, it protects the heart and prolongs life.[5]

Early diagnosis of OSA supports better management. In addition, regular PAP therapy use to treat OSA has been shown to improve blood pressure control, reduce left ventricular hypertrophy and help reduce the risk of adverse cardiovascular events, including myocardial infarction and stroke.[15]

OSA screening as part of standard cardiovascular care

Primary care providers (PCPs) already screen for cholesterol, diabetes and hypertension as part of cardiovascular prevention. OSA belongs on that list. Because PCPs routinely manage overlapping conditions like obesity, diabetes and resistant hypertension, they are ideally positioned to identify subtle warning signs such as fatigue, snoring or poorly controlled blood pressure. Validated tools such as the STOP-BANG, Berlin[19] or Epworth Sleepiness Scale are quick to administer and can even be completed by patients ahead of their appointment.[20]

The 2023 Japanese Circulation Society guidelines recommend targeted screening for sleep-disordered breathing. Screening is recommended for patients with treatment-resistant hypertension and may be considered in those with nocturnal symptoms or unexplained left ventricular hypertrophy. The guidelines also support screening in patients with conditions such as atrial fibrillation, ischemic heart disease, stroke, aortic disease, peripheral artery disease, pulmonary hypertension and bradyarrhythmia. Screening can be performed using simple questionnaires and home sleep testing.[21]

Similarly, the American Heart Association recommends screening for OSA in all patients with resistant hypertension or pulmonary hypertension. For other conditions, such as atrial fibrillation and heart failure, they advise screening only in specific scenarios — for example, when atrial fibrillation recurs after treatment or when a heart failure patient has symptoms that suggest sleep-disordered breathing.[1] Together, these recommendations reflect a growing international consensus to integrate OSA screening into cardiovascular care.

For many patients, sleep apnea is the missing link in their cardiovascular care. Recognizing and treating it early can prevent complications and improve long-term outcomes. By making OSA screening a routine part of heart health management, primary care providers can help close one of the biggest gaps in cardiovascular risk management and improve the quality and longevity of their patients' lives.

References

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