Obstructive sleep apnea is a major clinical and economic challenge in the postoperative period, affecting up to one-fourth of patients undergoing elective surgical procedures. The prevalence among orthopedic patients having joint arthroplasty may be especially high because obesity is a widespread comorbidity in this patient population. Obesity is 1 of the top risk factors for sleep apnea.

Despite these concerns, however, there is little information on the effect of sleep apnea on postoperative complications and resource utilization in orthopedic surgical patients.

This study, led by researchers from the Hospital for Special Surgery, New York City, assessed the association between sleep apnea and outcomes in patients who had total hip or knee arthroplasty in 400 US hospitals between 2006 and 2010.

Of 530,089 patients included in the analysis, 8.4% overall had a diagnosis of sleep apnea. The prevalence of sleep apnea increased from 6.2% in 2006 to 10.3% in 2010.

Increased odds for adverse outcomes
In multivariate analysis, the diagnosis of sleep apnea emerged as an independent risk factor for major postoperative complications (odds ratio [OR] 1.47).

In patients with sleep apnea:
• pulmonary complications were 1.86 times more likely to occur
• cardiac complications were 1.59 times more likely to occur
• mortality was 1.27 times more likely.

Increased resource utilization
In addition to increased odds for adverse outcomes, the researchers found an effect of sleep apnea on increased resource utilization.

Sleep apnea patients were more likely to:
• receive ventilatory support—mechanical ventilation (OR 10.26), noninvasive ventilation (OR 29.04)
• use intensive care (OR 1.85)
• use telemetry and stepdown services (OR 1.64)
• consume more economic resources (OR 1.13)
• have longer lengths of stay in the hospital (1.16).

The findings show that obstructive sleep apnea was associated with higher rates and odds of postoperative complications, utilization of resources, and length of stay, the authors say. More research is needed to identify sleep apnea patients at risk for complications and develop evidence-based practices to assist in the allocation of clinical and economic resources.

In an accompanying editorial, Francis Chung, MBBS, FRCPC, from the Toronto Western Hospital, University Health Network, Toronto, Ontario, Canada, a noted authority on obstructive sleep apnea, and Babak Mokhlesi, MD, MSc, from the University of Chicago, point out that this rate of complications provides strong evidence that “we need better guidelines for improving the care of patients with sleep apnea.”
Reference