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Prevalence of Obstructive Sleep Apnea in Patients Presenting for Hip or Knee Replacement Surgery

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Introduction: The care of patients with obstructive sleep apnea (OSA) recovering from surgery has come under increasing scrutiny as the potential for serious pulmonary and cardiac complications was realized. Patients who are older and obese are at increased risk for OSA. These factors also predispose patients to lower extremity osteoarthritis. If OSA is a common comorbidity in individuals planning total joint arthroplasty, the burden of postoperative complications would justify more intense focus on preoperative screening for and postoperative management of OSA.

Methods: We performed a retrospective review of prospectively collected data on patients planning lower extremity arthroplasty at an academic medical center. All hip and knee replacement candidates were referred to this clinic regardless of comorbidities or health status. The Berlin questionnaire was completed by all patients at the time of their preoperative evaluation. Patients identified as high risk by the questionnaire were referred for formal overnight polysomnography (PSG). The chi-square test was used to compare our OSA prevalence with the prevalence in a literature control group.

Results: A total of 208 consecutive patients undergoing lower-extremity arthroplasty were examined. Thirty-six (17%) patients had prevalent OSA at the time of referral. The Berlin questionnaire categorized 35 additional patients as high risk for OSA. These patients were referred for PSG. Of the 35 high-risk patients screened, 27 (77%) refused testing. Four of the eight patients who underwent PSG were diagnosed with OSA. This yielded a 19% (40/208) prevalence of OSA in hip or knee replacement patients compared with a prevalence of 7% in the literature control group ($P < .0001$).

Conclusion: OSA is more common in patients undergoing hip or knee replacement surgery than was previously recognized. Routine screening is supported by the number of high-risk patients in the community who remain untested by PSG. Based on our high rate of PSG refusal, continued efforts should be made to find OSA screening alternatives. Development of best practice guidelines for the perioperative management of OSA is also needed to reduce the profound impact of OSA on patients recovering from lower-extremity arthroplasty.