A49

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## Assessing the Relationship Between Obstructive Sleep Apnea and Discharge Destination Following Total Hip Arthroplasty

Introduction: Discharge destination plays a crucial role in healthcare costs and resource utilization following total hip arthroplasty (THA), with institutional discharge often imposing higher costs and placing additional strain on healthcare systems. Evaluating these factors influencing discharge disposition is essential to optimizing care pathways and resource allocation. This study aims to explore the association between obstructive sleep apnea (OSA)—a prevalent yet underdiagnosed condition—and the likelihood of institutional discharge after THA, providing insights into its impact on post-discharge outcomes and healthcare burden.

Methods: We conducted a retrospective cohort study using the National Inpatient Sample (NIS) database, identifying THA cases performed between 2010 to 2021. Patients aged  $\geq 18$  years were categorized based on a preoperative diagnosis of OSA. The primary outcome studied was institutional discharge. Potential confounding variables included demographics, baseline health status, and surgical facility characteristics. Univariate analyses were performed to assess differences between cohorts. Multivariable regression analysis, adjusted for confounding, was used to assess the association between sleep apnea and institutional discharge disposition.

Results: Of the 819,733 THA patients selected, 94,835 (11.57%) had OSA. The highest proportion of patients across both cohorts had White race/ethnicity and were 60-69 years old. Most of the procedures were performed in large, urban-teaching, and private, non-profit hospitals. On multivariable regression analysis, patients with OSA had 1.13 times higher (95% CI, 1.11-1.15; p<0.001) odds of institutional discharge compared to patients without.

Discussion: Patients diagnosed with OSA have increased odds of institutional discharge following THA. These findings highlight the need for further research into specific institutional discharge destinations post-THA to optimize post-operative care.