

## **Preoperative Factors to Consider for Same Day Discharge for Arthroplasty**

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### **INTRODUCTION:**

Same day discharge for total joint arthroplasty (SDA) has increased due to reduced costs and higher patient satisfaction. Most of the research on SDA was conducted prior to 2016 before popularity. We hypothesize the increase in SDA utilization is accompanied with reduction in the risk factors associated with readmission from inception to popularity of SDA.

### **METHODS:**

This retrospective cohort study examined 31,851 elective hip and knee arthroplasties from 2016 to 2020 in the National Surgical Quality Improvement Project that had a length of stay < 1 day. Univariable and multivariable logistic regression models were used to identify patient variables and preoperative comorbidities that contribute to postoperative medical complications and readmission with SDA. Adjusted odds ratios (AOR) and 95% confidence intervals (CI) were calculated. Alpha error was 5% for 30-day readmission.

### **RESULTS:**

Utilization of SDA increased from 1.4% in 2016 to 14.6% in 2020. Pre-operative dyspnea (AOR: 1.02, CI: 1.01-1.03,  $p < 0.001$ ), chronic obstructive pulmonary disease (COPD, AOR: 1.02, CI: 1.01-1.03,  $p = 0.002$ ), and hypoalbuminemia (AOR: 1.02, CI: 1.00-1.03,  $p < 0.001$ ) were associated with postoperative medical complications after SDA. Dyspnea (AOR: 1.02, CI: 1.01-1.03,  $p < 0.001$ ), hypertension (AOR: 1.01, CI: 1.01-1.03,  $p = 0.003$ ), chronic steroid use (AOR: 1.02, CI: 1.01-1.03,  $p < 0.001$ ), bleeding disorders (AOR: 1.02; CI: 1.01-1.03,  $p < 0.001$ ), and hypoalbuminemia (AOR: 1.01, CI: 1.00-1.02,  $p = 0.038$ ) were associated with readmission. Over time, fewer patients with hypoalbuminemia ( $p < 0.001$ ); no change in patients with COPD, hypertension, chronic steroid use, or bleeding disorders; and more patients with dyspnea ( $p > 0.001$ ) underwent SDA.

**DISCUSSION AND CONCLUSION:** Surgeons should consider keeping patients with hypertension, dyspnea, COPD, chronic steroid use, or a known bleeding disorder in the hospital longer to decrease the odds of a post-operative medical complication or readmission after SDA. Surgeons used pre-operative serum albumin over time to better stratify SDA candidates and consideration should be given to formal pulmonary screening as well.