

Anterior Approach Associated with Shorter Hospitalization but Similar 90-Day Opioid Prescription Patterns Compared to Posterior Approach in Single-Stage Bilateral Hip Arthroplasty

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INTRODUCTION: In selected patients with bilateral hip osteoarthritis, single-stage bilateral total hip arthroplasty (SSBTHA) offers advantages over staged procedures. However, the impact that the choice of surgical approach may have on postoperative outcomes remains uncertain. This study aimed to compare operative and hospitalization times, postoperative pain, and 90-day opioid consumption in patients who underwent SSBTHA using the direct anterior (DAA) or posterior approach (PA).

METHODS:

We identified 697 patients who underwent SSBTHA (226 DAA; 471 PA) for primary osteoarthritis at a single high-volume institution between 2016 and 2023. Data collected included length of surgery and hospitalization, in-hospital pain scores, and in-hospital, at discharge, and 90-day opioid prescription patterns. In-hospital opioid use and post-discharge prescriptions were converted to morphine milligram equivalents (MMEs). After univariate analysis of covariates, multivariable linear regression was performed to compare outcomes, adjusting for BMI, age, sex, ASA Class, race, year of surgery, smoking status, history of opioid use disorder, use of robotic-arm assistance, periarticular injection, and cement fixation.

RESULTS: The posterior approach was associated with increased surgical duration (Estimate: 22.7 minutes, 95% CI: 15.533–29.931, $p < 0.001$) and a longer length of stay (Estimate: 15.9 hours, 95% CI: 9.802–22.051, $p < 0.001$). Patients undergoing PA SSBTHA experienced higher average and maximum postoperative pain (Estimate: 0.22 NRS, 95% CI: 0.004–0.442, $p = 0.046$; Estimate: 0.37 NRS, 95% CI: 0.078–0.658, $p = 0.013$) during hospitalization. We did not find a significant difference in total in-hospital opioid use ($p = 0.063$), opioids prescribed at discharge ($p = 0.084$), or total 90-day MMEs ($p = 0.696$).

DISCUSSION AND CONCLUSION: PA SSBTHA was independently associated with longer surgical and hospitalization times. The small, yet statistically significant differences in highest and average pain are unlikely to be clinically relevant. Our analysis suggests that DAA leads to shorter surgical time and hospitalization with comparable opioid utilization.