

Total Hip Arthroplasty Surgical Approach Stratified by Sex and Body Mass Index: Minimal Short-Term Differences in Opioid Consumption and Patient-Reported Outcomes

Colin Neitzke¹, Sonia Kaur Chandi, Ranqing Lan, Elizabeth Gausden, Peter Keyes Sculco, Brian Chalmers²

¹Hospital For Special Surgery, ²Hospital for Special Surgery

INTRODUCTION: Total hip arthroplasty (THA) is commonly performed via posterolateral (PLA) and direct anterior (DAA) approaches. The influence of sex and body mass index (BMI) on perioperative outcomes following THA is unclear. The objective of this study was to compare perioperative outcomes of primary THA via DAA versus PLA when stratified by patient sex and BMI.

METHODS: We retrospectively identified 8,258 patients 18 to 80 years of age with BMI <40 who underwent primary, unilateral THA for osteoarthritis between February 2019 and April 2022 via DAA or PLA. Patients were stratified by sex and BMI (<30 or 30-40). Operative time, length of stay (LOS), opioid consumption and prescribing patterns, and achievement of Hip Injury and Osteoarthritis Outcome Score for Joint Replacement (HOOS JR) minimum clinically important difference (MCID), substantial clinical benefit (SCB), and patient acceptable symptom state (PASS), were compared between DAA and PLA for each cohort.

RESULTS: Median operative time was 6-11 minutes longer for DAA in all four cohorts. Median LOS was shorter for DAA in all 4 cohorts, with the largest difference being females with BMI <30 (19-hour difference, $P<.001$) and females with BMI 30-40 (20-hour difference, $P<.001$). In-hospital milligram morphine equivalents consumed were lower for DAA in males with BMI <30 (45 versus 53, $P<.001$), females with BMI <30 (45 versus 53, $P<.001$), and females with BMI 30-40 (60 versus 75, $P<.001$). There was no difference in HOOS JR MCID, SCB, or PASS achievement at 1 year postoperatively for any cohort.

DISCUSSION AND CONCLUSION: In this study, operative time for DAA was 6-11 minutes longer and females undergoing DAA THA experienced significantly shorter LOS by 19-20 hours. There were minimal clinical differences in in-hospital opioid consumption, 90-day opioid prescription patterns, and PROMs. Surgeons should consider patient sex and BMI during case scheduling and discharge planning for primary THA.