

The Reimbursement Gap in Complex Knee and Hip Arthroplasties: Toward Equitable Compensation

Steven Denyer, Joyee Tseng, Nicholas M D'Ambrose, Meredith Jeanne Benson, Daniel Schmitt, Nicholas Michael Brown

INTRODUCTION: Revision total knee and hip arthroplasty procedures (TKA/THA) require increased operative time, surgical expertise, and perioperative resources. However, current work Relative Value Unit (wRVU) reimbursements fail to reflect this increased complexity, potentially influencing surgeon participation and limiting patient access to specialized care. This study examines disparities in reimbursement in relation to surgical effort using national outcomes data.

METHODS: A retrospective cohort study of 944,407 patients from the NSQIP database (2006–2023) was conducted. Primary, conversion, and revision total knee and hip arthroplasties (TKA, THA) were analyzed. Baseline characteristics, 30-day complications, operative times, and reimbursements using 2025 Medicare conversion rates were compared. Propensity score matching was used to control for confounding factors.

RESULTS: Operative times were significantly longer in all complex procedures versus primary arthroplasties ($p < 0.0001$). Complication rates increased with complexity: primary TKA had a 6.4% complication rate versus 41.5% for first stage revision ($p < 0.0001$); primary THA had an 8.3% complication rate versus 50.0% for 1-stage septic femur revision ($p < 0.0001$). Readmission, reoperation, and mortality were also significantly higher in both component aseptic and septic revision groups compared to primary groups ($p < 0.0001$). Despite these increases, reimbursement per operative minute was substantially lower for complex cases (e.g., 2-stage revision TKA: \$4.71/min vs TKA: \$8.28/min or 1 stage septic femur revision \$4.70/min vs THA: \$8.32/min). Inflation-adjusted analysis showed a 35–45% real-term decline in TJA reimbursement since 2006.

DISCUSSION AND CONCLUSION: Current reimbursement undervalues revision THA and TKA, creating financial disincentives that may limit patient access to care. Surgeons performing these procedures face a financial penalty despite higher patient risk and technical demands. A time ratio-based adjustment to wRVUs would ensure equitable compensation, helping to preserve access to specialized revision arthroplasty care.