



Assessment of the Impact of Anterior vs. Posterior Surgical Approach for Total Hip Arthroplasty on Post-acute Care Service Utilization

Michael Burns, MD, Paul Duwelius, MD,
Jim Gera, MBA, **Coles L'Hommedieu, MD,**
Owen O'Neill, MD, Jerry Rupp, PhD,
Jeffrey Salin, MD, John Tessier, MD

Introduction: Compare total hip arthroplasty surgical approach with post-acute care service utilization and cost for Medicare patients in the Bundled Payment for Care Improvement program.

Methods: Design: Cross-sectional study. Setting: Claims data derived from Medicare Bundled Payment for Care Improvement eligible participants. Participants: Data from 24,437 Medicare fee-for-service patients receiving total hip arthroplasties, DRG 470 (total joint replacement of the lower extremity), during the period January 2013 through December 2014 was collected. The posterior surgical approach (historic norm) was performed on 21,567 patients while 2,870 patients had the anterior surgical approach performed for total hip arthroplasty. Main Outcome Measures: Elective total hip arthroplasty complete episode and post-acute care costs; utilization rates (frequency and length of time) for inpatient rehabilitation facility, skilled nursing facility, home health and readmissions.

Results: The surgical approach for total hip arthroplasty showed no noticeable differences in post-acute care service utilization or cost. The anterior approach episode cost (\$21,479) and post-acute utilization for skilled nursing (incident rate 33.9% and length of stay 22.9 days), home health (incident rate 65.1% and length of service 25.4 visits) and readmission rates of 9.9% provided minimal variation from the posterior approach episode cost (\$21,267) and post-acute utilization for skilled nursing (incident rate 30.7% and length of stay 21.7 days), home health (incident rate 63% and length of service 25.7 visits) and readmission rates of 8.6% ($p = .001$).

Conclusions: Previous studies of anterior vs. posterior surgical approaches for total hip arthroplasty suggested that the tissue-sparing anterior approach would result in a more rapid recovery time requiring fewer post-acute services, ultimately decreasing overall episodic cost. The results of this study indicate that surgical approach alone is not the primary driver of post-acute care service utilization and cost. Others factors, such as physician-led, patient-focused care pathways are important in effective care redesign efforts.