



Conversion Total Hip Arthroplasty: Is it a Primary or Revision Hip Arthroplasty?

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Introduction: Total hip arthroplasty (THA) is an increasingly common procedure among elderly individuals. Although conversion THA is currently bundled in a diagnosis related group (DRG) with primary THA, no study has identified whether patients undergoing conversion THA better resemble patients undergoing primary THA or revision THA. The American College of Surgeons National Surgical Quality Improvement Project (ACS-NSQIP) database collects data from hospitals nationwide about preoperative characteristics, intraoperative factors, and 30-day postoperative complications. The purpose of our study was to use these variables in the ACS-NSQIP dataset to compare patients undergoing conversion THA to those undergoing primary and revision THA in order to ensure proper DRG classification of these procedures.

Methods: Between 2009-2014, the ACS-NSQIP database identified 2,009 conversion THA patients, 5,089 revision THA patients, and 67,854 primary THA patients. Univariate analysis was used to compare fifty-three preoperative, intraoperative, and postoperative variables among these groups. A conservative Bonferroni-adjusted p-value of 0.0003 was calculated, and a less conservative p-value of 0.01 was used for comparison.

Results: Seventeen variables exhibited a significant difference ($p \leq 0.0003$) only between conversion and primary THA, one variable exhibited a difference only between conversion and revision THA, and three variables exhibited a difference between both conversion and primary THA, and conversion and revision THA. With $p \leq 0.01$, twenty-three, zero, and six differences were observed, respectively.

Conclusion: The disproportionate number of differences between conversion and primary THAs suggests that patients undergoing conversion THAs better resemble patients undergoing revision THAs. DRGs are traditionally comprised of procedures that have similar diagnoses and require comparable levels of resources from a hospital, so these results suggest that conversion THA should rather be bundled in the same DRG as revision THA. With hospitals emphasizing cost-containment strategies, this reclassification would be a step forward in improving the documentation of procedures in order to receive appropriate institutional reimbursement.