

Risk of Dislocation and Rerevision in Total Hip Arthroplasty with Change in Approach between Primary and Revision Surgery

Ryan O'Leary, Henry Ho¹, Robert Hopper, Robert A Sershon², Craig Joseph McAsey², Kevin B Fricka², C Anderson Engh, William George Hamilton

¹Anderson Orthopaedic Research Institute, ²Anderson Orthopaedic Clinic

INTRODUCTION: While there are many factors that influence the choice of surgical approach for revision total hip arthroplasty (THA), it remains unclear if changing the approach between primary and revision surgery influences the complication rate. Because this question has become more relevant with the increasing utilization of the direct anterior (DA) approach, the purpose of this study was to evaluate the influence of using the same or different approaches on the risk of dislocation and rerevision after revision THA.

METHODS: An institutional database was used to identify 783 revision THAs performed from 1999 to 2022 among primary THAs done at the same institution. The time from primary to revision was 10.1 ± 7.8 years (mean \pm standard deviation), age at revision was 65.0 ± 12.0 years, BMI was 28.4 ± 6.2 , and the follow up after revision was 5.8 ± 5.3 years. Cox regressions were used to examine the effect of patient and surgical factors on survivorship using dislocation and rerevision as endpoints. A p-value of 0.05 was defined as the threshold for statistical significance.

RESULTS: The overall rate of approach change was 18% (139/783). The 36% rate of approach change after primary THA using either the DA (33/92) or lateral approach (36/100) was higher than the 12% (70/591) rate of change following a PL approach ($p < 0.001$). Revision involving the stem was a significant factor associated with approach change after primary THA using the DA ($p < 0.001$). The overall dislocation rate was 10% (77/783) and the rate of rerevision was 11% (86/783) without significant differences between the same and different approach cohorts ($p = 0.68$ and 0.78 , respectively). Dislocation and rerevision were not associated with the primary approach, revision approach, revision diagnosis, or components revised ($p > 0.06$).

DISCUSSION AND CONCLUSION: Because changing approach for revision THA was not found to increase the risk of dislocation or rerevision, surgeons can utilize a familiar approach when undertaking revision surgery.