

## **Aseptic Reoperations Within One Year of Primary Total Hip Arthroplasty Markedly Increase the Risk of Later Periprosthetic Joint Infection**

**Ashton H. Goldman, MD**, Douglas Osmon, MD, Arlen D. Hanssen, MD, Mark W. Pagnano, MD, Daniel J. Berry, MD, Matthew P. Abdel, MD

**Introduction:** Despite the success of primary total hip arthroplasty (THA), a subgroup of patients will require an aseptic reoperation within the first year of the index THA. The goal of this study was to evaluate the risk of periprosthetic joint infection (PJI) in patients undergoing an aseptic reoperation within one year of a primary THA.

**Methods:** A retrospective review utilizing our total joint registry identified 213 primary THAs requiring aseptic reoperation within the first year following index arthroplasty. Septic reoperations and closed procedures were excluded. A control group of 15,357 THAs not requiring reoperation within the first year was identified. Patients were divided into 2 groups based on time from the index THA: 1) less than 90 days (n=112 THAs; 40% instability, 34% fracture, 8% contained hematoma/seroma); 2) 91 days to 365 days (n=101 THAs; 37% instability, 29% fracture, 14% aseptic loosening). Mean age at THA was 64 years, with 61% female. Mean follow-up: 5 years.

**Results:** Patients undergoing an aseptic reoperation within the first 90 days had a PJI rate of 4.7% at 2 years, while patients undergoing an aseptic reoperation between 91 and 365 days had a PJI rate of 3.1% at 2 years. In comparison, the control group had a PJI rate of 0.2% at 2 years. Compared to patients without a reoperation within the first year, patients who underwent reoperation within 90 days had an elevated risk of PJI (HR 12;  $p<0.0001$ ), as did patients who had a reoperation between 91 and 365 days (HR 14;  $p<0.0001$ ).

**Conclusions:** Aseptic reoperations within the first year following primary THA lead to a 8 to 13-fold increased risk of subsequent PJI. The risk was similar regardless of whether the aseptic reoperation was very early (within 90 days) or later (91 to 365 days).