

Less Than 25% of PJIs of the Hip Meet Eligibility Criteria for a One-Stage Exchange Arthroplasty

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INTRODUCTION: Although two-stage exchange arthroplasty remains the gold standard for chronic PJI in the US, one-stage exchange is gaining popularity. It is unknown how many patients with total hip arthroplasty (THA) PJI are eligible for a one-stage exchange. The purpose of this study was to determine how many THA patients who previously underwent two-stage exchange would have met eligibility criteria for one-stage exchange, and to determine whether eligibility would have impacted outcomes.

METHODS: From 2000–2020, there were 368 two-stage exchanges performed for hip PJI at our institution. Mean age was 64 years, mean BMI was 33 kg/m², and 60% were males. Patients were considered eligible for one-stage exchange if they had unilateral PJI with susceptible bacteria identified preoperatively, were a McPherson A host, it was the index two-stage exchange, had absence of severe bone or soft tissue loss, and were not septic. Cumulative incidences of any reoperation, any revision, and revision for PJI were compared between groups utilizing a competing risk model. Mean follow-up was 4 years.

RESULTS: Out of 368 two-stage exchanges, only 23% would have met eligibility criteria for a one-stage exchange. The most common reasons for ineligibility were host grade (52%), unknown organism (25%), and severe bone loss (19%). The 2-year cumulative incidence of any reoperation was 18% for patients ineligible for one-stage and 15% for eligible patients (p=0.3). The 2-year cumulative incidence of any revision was 12% for patients ineligible for one-stage and 5% for eligible patients (p=0.03). The 2-year cumulative incidence of revision for PJI was 6% for patients ineligible for one-stage and 2% for eligible patients (p=0.1).

DISCUSSION AND CONCLUSION: Less than 25% of THA patients who underwent two-stage exchange would have met published criteria for a one-stage exchange. The 2.5-fold increased revision rate in patients ineligible for one-stage exchange should be considered when analyzing evolving data.