

Mortality After Revision Total Hip Arthroplasty for Periprosthetic Joint Infection

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INTRODUCTION: Periprosthetic joint infection (PJI) is a devastating complication after total hip arthroplasty (THA). Although morbidity associated with PJI is well-characterized, mortality estimates for revision THA for PJI vary widely. Therefore, this study examined all-cause mortality rates following revision THA for PJI.

METHODS: We identified 998 hips (977 patients) undergoing initial revision THA for PJI between 2000 and 2022. Mean age was 66 years, 44% were female, and mean BMI was 31 kg/m². Kaplan-Meier analyses were used to determine cumulative mortality proportions following revision THA for PJI. The overall and age-specific mortality rates were calculated as deaths per 100 person-years. Standardized mortality ratios (SMRs) were calculated as the observed mortality rate among the study cohort compared to the mortality rate in an age-, sex-, and calendar-year matched population. Mean follow-up was 8 years.

RESULTS: Mortality following revision THA for PJI was 1% at 30 days, 2% at 90 days, 5% at one year, 9% at two years, 19% at five years, and 38% at ten years. The overall mortality rate was 6 deaths per 100 person-years. Age-specific mortality rates per 100 person-years were 1 for patients less than 40 years old, 3 for 50-59 years, 4 for 60-69 years, 7 for 70-79 years, and 15 for patients older than 80 years. The standardized mortality ratio was 1.4 (p<0.001).

DISCUSSION AND CONCLUSION: Over one-third of patients died within 10 years following revision THA for PJI. Mortality rates doubled with each decade beyond age 60 and were significantly higher than age-matched population norms, highlighting the serious mortality risk associated with revision THA for PJI.