

Survival and Outcomes of 1.5-Stage vs 2-Stage Exchange Total Knee Arthroplasty Following Prosthetic Joint Infection: A 5-Year Update

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INTRODUCTION: Though the two-stage exchange technique is considered to be the gold standard for periprosthetic joint infection (PJI) in total knee arthroplasty (TKA), it has high complication and reoperation rates. The 1.5 stage exchange technique, defined as the implantation of a permanent functional articulating antibiotic spacer, has been shown to be an effective alternative. To date, comparison of survival and outcomes of the two techniques at a mean follow-up of 5-years have not been examined in the literature. Thus, we assessed the following: (1) infection-free [survivorship](#); (2) 5-year surgical/medical outcomes; and (3) patient-reported outcomes (ie, [Knee Injury and Osteoarthritis Outcome Score](#) for Joint Replacement [KOOS JR]).

METHODS: We retrospectively reviewed all patients undergoing a 1.5-stage (between 2015 and 2019) and 2-stage exchange revision TKA (between 2011 and 2016) at a single institution by a cohort of four surgeons. A total of 162 knees were included (1.5-stage: 114; 2-stage: 48) with mean clinical follow-up of 5.02 years. We identified recurrent infections, revisions, and amputations.

RESULTS: At a mean follow up of 5.02 years following the initial revision procedure, the 1.5 stage cohort had a 9.56% higher infection-free survival rate (82.5 versus 71.9%, $P = 0.169$). Within the follow-up period, 26 patients in the 1.5 stage cohort required conversion to TKA (22.8%). KOOS Jr. scores improved significantly more from baseline in the 1.5 stage cohort ($\Delta 27.55$ versus $\Delta 19.68$, $P < 0.0001$).

DISCUSSION AND CONCLUSION: At a 5-year follow up, the 1.5-stage exchange TKA continues to demonstrate effectiveness as an alternative to the traditional 2-stage exchange technique, with higher survival rates and increased patient-reported outcomes.