

# **No Difference in Reoperation, Revision, or Infection Eradication Rates in Patients Undergoing '1.5-Stage' Articulating Spacers for PJI Following TKA**

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## **INTRODUCTION:**

Several treatment modalities exist for prosthetic joint infections (PJIs) after total knee arthroplasty (TKA). A “1.5-stage exchange” can be utilized, which may have similar success rates in PJI eradication with decreased patient burden. Yet, current literature on the outcomes of this procedure is limited. The purpose of this study was to evaluate infection eradication and reoperation and revision rates in patients treated with 1.5-stage articulating spacers compared to those who underwent 1-stage or 2-stage exchange arthroplasty for PJI following TKA.

## **METHODS:**

We retrospectively reviewed a consecutive series of 411 patients from 2012-2023. Three cohorts were included: 1-stage, 1.5-stage, and 2-stage group. Patients who received an all-polyethylene tibial component with a real femoral component and did not undergo another revision surgery in 9 months were considered a 1.5-stage surgery. We collected data on reoperation and revision rates for PJI and overall causes. A Kaplan-Meier curve was used to evaluate time to failure between the 3 cohorts.

**RESULTS:** There were 39 (9.5%) 1-stage, 45 (10.9%) 1.5-stage, and 327 (79.6%) 2-stage patients. There was no difference in overall reoperation or revision rates or revision for PJI. 3 patients (7.69%) of 1-stage, 11 (24.4%) of 1.5-stage, and 44 (13.5%) of 2-stage exchanges underwent a subsequent surgery for PJI ( $p=0.067$ ). There was no difference in time to failure for PJI between the groups ( $p=0.477$ ). The estimated infection-free survival rate at 2 years was 94.9% (95% CI: 88.2-100), 82.2% (95% CI: 71.8-94.2), and 91.4% (95% CI: 88.5-94.5), respectively, ( $p=0.058$ ).

## **DISCUSSION AND CONCLUSION:**

We found no significant difference in reoperation or revision rates for PJI between 1-, 1.5-, and 2-stage exchange for the treatment of TKA PJI. With comparable infection eradication rates, 1.5-stage surgery may be a safe and appropriate treatment option, as it may be associated with decreased morbidity and health care costs compared to 2-stage arthroplasty.