

## **Retaining Well-Balanced Articulating Metal on Polyethylene Total Knee Spacers for PJI: A Potential Alternative to Two-Stage Exchange**

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**INTRODUCTION:** Although the gold standard for PJI treatment is two-stage exchange, patients may elect to retain a well-functioning spacer. The aim of this study was to evaluate the survivorship and outcomes of retained articulating total knee arthroplasty (TKA) spacers.

### **METHODS:**

All PJI patients from a tertiary care academic center who received a balanced articulating metal on polyethylene (MOP) TKA spacer with patellar component replacement were retrospectively reviewed. After stage-one spacer, all patients were offered a second-stage exchange within 6-months, with some electing to retain their spacer. Reoperations, recurrent infections, complications, and patient reported outcome measures (PROMs) were compared between scheduled second-stage revisions within 6-months and retained-spacers beyond 1-year. Minimum follow-up was 1-year from stage-one spacer. Independent t-tests were used for comparisons, and descriptive statistics included means and standard deviations (SD).

**RESULTS:** 48 patients were included with 23 undergoing scheduled second-stage revision and 25 electing to retain their spacer beyond 1-year. In the retained-spacer cohort, one died from unrelated causes at 47-months. Of the 24 living patients, mean follow-up was 29-months (SD 19-months), compared to 32-months (SD 14-months) in the scheduled second-stage cohort. 5 of the retained-spacers went on to second-stage reimplantation for aseptic loosening of the spacer (none catastrophic), of which 1 patient (4%) had reinfection after reimplantation. No other reinfections, dislocations, periprosthetic fractures, or reoperations occurred in the retained-spacer cohort. Although underpowered, 17% (4 patients) of the scheduled second-stage cohort had infection recurrence compared to 4% of the retained-spacer cohort ( $p=0.18$ ). There were no differences in final PROMs between cohorts.

### **DISCUSSION AND CONCLUSION:**

Patients with retained TKA spacers had low infection recurrence, no catastrophic failures, and comparable PROMs to those undergoing scheduled second-stage revision. Well-balanced articulating MOP spacers may offer a durable solution for the treatment of PJI following TKA, with relatively low rates of re-revision and recurrence of infection.