

Periprosthetic Joint Infection: Are Patients Still Better Off Than If Primary Arthroplasty Had Not Been Performed?

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INTRODUCTION:

This study sought to evaluate the joint-specific patient reported outcome measures (PROMs) before primary total joint arthroplasty (TJA) and after successful treatment for periprosthetic joint infection (PJI), with the hypothesis that patients still demonstrate clinical improvement despite the occurrence of PJI.

METHODS:

A single tertiary academic center's institutional database was retrospectively reviewed for patients that underwent primary total joint arthroplasty, developed PJI, and were managed for PJI from January 2019 to December 2023. Patients who did not have PROMs recorded were excluded from the study. Pre- and post-operative generic and joint-specific PROMs were collected. Patient pre-primary and post-final revision surgery for PJI PROMs were subsequently compared. Minimum follow-up after PJI treatment was 6 months.

RESULTS: A total of 55 patients (31 TKA and 24 THA) were included with a mean follow-up of 1.8 years (range: 6 months to 4.5 years). All PJIs were managed via debridement, antibiotics, and implant retention (DAIR), 1-stage, 1.5-stage, 2-stage revision, or resection arthroplasty. After final revision surgery for PJI in TKA, patients had lower median patient reported outcome measure information system (PROMIS) pain interference (PI) scores than before their primary surgery (62.0 [55.0, 67.0] versus 67.0 [65.0, 70.5]; $p<0.001$). However, median pre-primary PROMIS physical function (PF) and post-final revision for PJI were similar (38.0 [33.0, 42.0] versus 34.0 [29.5, 40.0]; $p=0.08$). After final revision surgery for PJI in THA, patients had lower median PROMIS PI scores than before their primary surgery (57.5 [53.8, 64.0] versus 68.0 [66.5, 74.0]; $p<0.001$). After final revision surgery for PJI, patients also had higher median PROMIS PF scores than before their primary surgery (39.5 [33.5, 48.2] versus 29.5 [28.8, 34.2]; $p=0.002$).

DISCUSSION AND CONCLUSION:

This is the first study to compare pre-primary TJA PROMs to PROMs post-successful treatment for PJI. Results suggest that patients generally have better PROMs after successful management of PJI when compared to their pre-primary TJA baseline. This is an important consideration worth noting as the CMS mandate for PROM reporting is enacted, and high-risk patients whose surgery is complicated by infection still demonstrate improvement in their clinical outcomes after successful treatment.

