

Primary TKA in Patients with Concurrent Post-traumatic and Post-septic Arthritis: High Risk of Reinfection

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INTRODUCTION: Post-traumatic and post-septic arthritis both independently increase the risk of periprosthetic joint infections (PJIs) after primary total knee arthroplasties (TKAs). Even worse, a subset of patients suffers from both pathologies. The goals of this study were to describe the patient survivorship, implant survivorship, complications, and clinical outcomes of patients with a prior history of both post-traumatic and post-septic arthritis undergoing primary TKA.

METHODS: Between 1974 – 2018, 48 primary TKAs were performed at a single tertiary care academic medical center in patients with both post-traumatic and post-septic arthritis. Mean time from injury and/or infection to TKA was 19 years. Hardware was removed before TKA in 51%. Most common host and extremity grade was A2 (45%). Mean age at TKA was 61 years, 81% were male, and mean BMI was 32 kg/m². Posterior-stabilized designs were most common (69%), followed by varus-valgus constraint in 19%. Adjuvant stems were utilized in 35% of cases. Mean follow-up was 10 years.

RESULTS: The 10-year survivorship free of any revision was 81%, and free of any reoperation was 72%. There were 13 revisions with the most common indications being for reinfection (9), instability (1), and aseptic loosening (1). In addition to those 13 revisions, there were 11 other reoperations, most commonly irrigation and debridement (I&D) with implant retention (8), superficial wound I&D (2), and arthroscopic lysis of adhesions (1). The risk of PJI was 26% at 10 years. The mean Knee Society score increased from 41 preoperatively to 79 (p<0.05) at last follow-up.

DISCUSSION AND CONCLUSION: Patients with concurrent post-traumatic and post-septic arthritis undergoing a primary TKA have high rates of revision, reoperation, reinfection, and revision and reoperation for PJI. Further investigation into mitigation strategies is recommended.