



Paper #47

Periprosthetic Joint Infection after Primary THA or TKA in Patients with a History of Prior PJI

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Introduction: After the successful treatment of periprosthetic joint infection (PJI), patients may present with end-stage DJD in another joint requiring arthroplasty. The objective of this study is to determine whether patients with a history of treated PJI at one site will have the same or increased risk of PJI in a second arthroplasty site.

Methods: A retrospective case control study was performed to identify all patients at four high-volume arthroplasty centers that had undergone treatment for periprosthetic joint infection and who then underwent a primary THA or TKA of another joint. Patients were matched (1:1) to controls who had no history of PJI after their first arthroplasty. The demographics and incidence of PJI at the of the second joint arthroplasty was compared. Multivariate logistic regression was used to identify risk factors for developing an infection at the second arthroplasty, both between groups and within the group with a history of PJI.

Results: The 90 patients identified with a history of successfully treated PJI who underwent a second primary arthroplasty had an infection rate of the second joint of 11.1% (10/90) compared to 0% ($p < 0.01$) in controls. There were no differences in age (64yo), gender (53% F), BMI (32), ASA (2.6), Charlson comorbidity index (3.5), or prevalence of diabetes (17%) between groups. The only risk factor for PJI at the second arthroplasty site was a history of PJI at the first site. There were no identifiable factors to predict a second infection in patients with a PJI history.

Conclusion: The rate of PJI in a subsequent primary THA or TKA in patients with a history of PJI was 11% in this study. Patients and surgeons must be aware of the alarmingly high rate of this devastating complication prior to proceeding with a second arthroplasty.
