

Predictors of Patient Function, Pain, and Satisfaction after Reimplantation for Infected Hip and Knee Arthroplasty

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Background/Hypothesis: Prevalence of periprosthetic joint infection (PJI) is expected to rise as hip and knee arthroplasty procedures increase. This study purpose was to evaluate factors affecting patient-reported outcomes after resection and reimplantation procedures.

Project Methods: 38 hips and 35 knees consecutively treated by a single surgeon were retrospectively reviewed. Prospectively collected preoperative and minimum one and two-year postoperative Knee Injury and Osteoarthritis Outcome Score/KOOS Jr., Hip Disability and Osteoarthritis Outcome Score/HOOS Jr., UCLA Activity Level, and satisfaction were compiled. Fifteen demographic variables and covariates of outcomes (sex, age, etc.) were accounted for in analysis.

Results: 47% of hip and 71% of knee patients were chronically infected poor hosts (McPherson stage III-B/C). In hips, worse McPherson stage was associated with lower activity levels at latest follow-up ($p=0.007$). Activity was higher in hip patients with constrained liners compared to dual mobility implants at one ($p=0.009$) and two-year ($p=0.001$) follow-up. The same result was observed in knees with varus-valgus constrained liners vs. hinged implants ($p=0.005$, $p=0.029$). However, varus-valgus constrained articulations were associated with more stair pain at one ($p=0.003$) and two ($p=0.012$) years. 83% of hip and knee patients were satisfied or very satisfied with their outcome at latest follow-up.

Conclusion/Potential Impact: Positive outcomes observed following reimplantation procedures will help establish patient expectations. It appears the increased joint stability imparted by hinged TKA and constrained liners in THA may offer advantage in stair pain and clinical function, respectively, in reimplantation arthroplasty after PJI.