



Patients Improve Less after Revision Total Knee Arthroplasty for Flexion Instability vs. Failures Related to Infection or Wear-Related Osteolysis

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Introduction: Instability has emerged as the most common non-infectious cause necessitating early revision total knee arthroplasty. While studies have documented improvement in outcomes with revision for flexion instability, it remains unknown how these patient outcomes compare to patients revised for other failure etiologies. The purpose of this study was to compare functional outcomes after revision TKA based on the cause of failure.

Methods: A retrospective review of our prospectively collected revision TKA database was performed on all patients who underwent revision TKA from 10/01/2010 to 11/19/2014. Demographic data and etiology of failure, along with preoperative and minimum 1-year Knee Society Scores (KSS) and UCLA Activity Level scores were obtained. Patients were grouped according to failure etiology and comparatively assessed for improvement in outcomes scores and patient satisfaction between groups.

Results: 177 consecutive revision TKAs were evaluated. To minimize confounding variables, knees revised with hingetype prostheses, isolated patella revisions or with polypropylene-mesh extensor mechanism reconstruction were excluded, leaving 114 revision TKAs. Most common categories of failure etiology were flexion instability (32.5%), global instability (3.5%), infection (23.7%), aseptic loosening (25.4%) and wear-related osteolysis (8.8%). The greatest mean improvement in satisfaction (≥ 30 points) was associated with revisions for wear/osteolysis, compared to flexion instability and the other failure etiologies (< 16 points) ($p = 0.001$). The greatest mean improvement in UCLA activity level was associated with revision for wear/osteolysis and infection (≥ 2 levels); the least improvement was associated with global instability and loosening (< 0 levels); with moderate improvement for flexion instability (1.6 levels) ($p = 0.018$). The KSS objective, function, and expectation scores did not differ based on failure etiology.

Conclusion: Patients and surgeons can expect improvement in satisfaction and activity levels after revision TKA for most diagnoses; however, revision for isolated flexion instability may only obtain modest improvement compared to wearrelated osteolysis and infection. Significance: Surgeons performing revision for isolated flexion instability should inform their patients that their degree of improvement measured with modern outcome metrics may be modest compared to their counterparts revised for infection and wear-related osteolysis.