Knee Arthroplasty with Prior Ligamentous Knee Surgery: A Matched Case Control Study

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Disclosures

• Steven B. Cohen, MD
  • I am a paid employee of Zimmer Biomet and receive royalties from Slack, INC.

• Nirav K. Patel, MD FRCS
  • I have no financial conflicts to disclose.

• Samantha Leite, BS
  • I have no financial conflicts to disclose.

• Christopher J. Hadley, BS
  • I have no financial conflicts to disclose.

• Shyam Brahmbhatt, MD
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Introduction

• Total knee arthroplasty (TKA) following prior ligamentous knee surgery (LKS) can be more complex, requiring special planning and techniques with potentially greater complications.

• There is however limited data on whether all types of LKS influences subsequent TKA outcomes. We aimed to evaluate the timing, operative details, and outcomes of TKA in these patients.
Materials and Methods

• All consecutive patients undergoing TKA with prior LKS at a single institution were identified from a large prospectively collected database.

• Patients were matched on a 2:1 basis (according to age, sex and body mass index (BMI)) to a control group of primary TKA patients without previous LKS.

• Medical records were reviewed for baseline demographics, prior LKS and operative details (blood loss, operative time, hardware management, implants used).

• Outcomes assessed included complications, further surgery and revision, in addition to clinical (12-item Short Form Survey (SF-12) and International Knee Documentation Committee (IKDC) scores) and radiological outcomes.

• Mean follow-up was 3.6 years (1-12.8).
Patient Demographics

• There were 132 patients: 44 cases of prior LKS and 88 controls with a mean age of 56.7 years (36-76) and 57.2 years (44-79) respectively (p=0.3).

• There were 31 (70.5%) males and 13 (29.5%) females with a mean BMI of 31.2 kg/m² (23-43), and no significant differences compared to controls.

• The LKS group had prior primary ACL reconstruction in 31, revision ACL reconstruction in 7, PCL reconstruction 3, LCL repair 2, MCL repair and posterolateral corner repair/ LCL repair 1.

• Thirty-four (77.3%) TKAs were cruciate sacrificing, 7 (15.9%) were cruciate retaining, 1 (2.3%) was super-stabilized and 2 (4.6%) were rotating platform implants, with significantly more cruciate sacrificing implants (34 (77.3%) vs. 27 (30.7%), p<0.001) than controls.
Results

• Mean operative time and blood loss were similar with 19 (43.2%) hardware removals in the LKS group only.

• The complication (9.1%) and further surgery (9.1%) rates were almost double than controls (p=0.03).

• There was 1 revision (2.3%) for polyethylene exchange in the LKS group (p=0.8).

• Mean difference in pre- to post-operative knee flexion and clinical outcome scores (SF-12, IKDC and Oxford knee) were similar between the two groups, with no cases of loosening or osteolysis.
Oxford Knee Score (OKS) and International Knee Documentation Committee (IKDC) outcome scores for the TKA/LKS and TKA only groups.
PCS-12 and MCS-12 Outcome Scores

PCS-12 and MCS-12 outcome scores for the TKA/LKS and TKA only groups.
Discussion

• Total knee arthroplasty with prior LKS often warranted hardware removal and generally more constrained implants, with no difference in operative times or blood loss.

• They have higher complication and further surgery rates centered around stiffness, but outcomes were comparable. We conclude that TKA with prior LKS should not be considered as routine surgery.
References


THANK YOU.