



Thomas Jefferson University
Jefferson Digital Commons

Phase 1

Class of 2023

2-2021

Total Knee Arthroplasty in Patients with Prior Meniscus Surgery: A Matched Case Control Study

Lasya Rangavajjula

Steven B. Cohen, MD


Meghan E. Bishop, MD

Shyam Brahmabhatt, MD

Michael G. Ciccotti, MD

See next page for additional authors

Follow this and additional works at: https://jdc.jefferson.edu/si_ctr_2023_phase1

 Part of the [Orthopedics Commons](#), and the [Translational Medical Research Commons](#)

[Let us know how access to this document benefits you](#)

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Phase 1 by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.

Authors

Lasya Rangavajjula; Steven B. Cohen, MD; Meghan E. Bishop, MD; Shyam Brahmabhatt, MD; Michael G. Ciccotti, MD; Ashley Bassett, MD; and Christopher Hadley

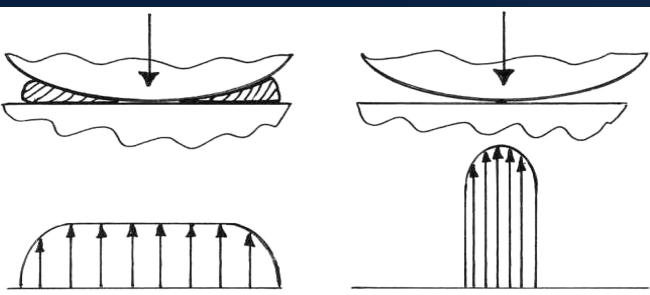
Total Knee Arthroplasty in Patients with Prior Meniscus Surgery: A Matched Case Control Study

Lasya Rangavajjula , Steven B. Cohen, MD; Meghan E. Bishop, MD; Shyam
Brahmabhatt, MD; Michael G. Ciccotti, MD, Ashley Bassett, MD; Christopher Hadley;
Kevin B. Freedman*, MD, MSCE

Disclosures

- I do not have any disclosures

- Approximately 500,000 meniscal surgeries are performed annually in the United States.¹
- Research points to an *association* of meniscal tears with the development of knee osteoarthritis.²⁻⁵
 - *Increased rate* of revision and periprosthetic knee infections in Total Knee Arthroplasty (TKA) patients with prior open knee surgery.^{6,7}
- *Piedade et al.* found that the rate of periprosthetic joint infection in TKA patients with prior knee arthroscopy was 3%, compared to 1.25% in TKA patients without prior knee arthroscopy.⁸
 - However, these findings were not statistically significant.



Introduction

- *Viste et al. and Issa et al.*, contrarily, showed that prior knee arthroscopy did not negatively affect outcomes.^{9,10}
- Long-term outcomes of a TKA following meniscus surgery have not been thoroughly investigated, warranting further research.



Table 1- Summary of Clinical Outcomes

	Arthroscopic Group Mean (Range)	Comparison Group Mean (Range)
Preoperative KSS		
Objective (points)	57 (42–69)	57 (25–76)
Function (points)	54 (20–70)	54 (10–70)
Postoperative KSS		
Objective (points)	92 (69–100)	91 (58–100)
Function (points)	89 (55–100)	88 (25–100)
Improvement		
Objective (points)	35 (9–50)	34 (2–75)
Function (points)	36 (20–60)	35 (5–70)

Objectives & Hypothesis

- **Research question**: How do the clinical outcomes of TKA compare between patients with prior meniscectomy history and patients without such history?
- **Hypothesis**: There will be no significant difference in clinical outcomes between TKA patients who have and have not had previous meniscal surgery.

Approach & Results

- **Study Design:** Retrospective case-control study
- **Study Population:** The study population includes all patients undergoing TKA with prior isolated partial meniscectomy or meniscal repair.
- **Comparison group:** These patients will be compared to TKA patients without prior meniscal surgery history.
- **Outcome:** The outcomes will be compared based on postoperative complications, such as rate of revision, re-operation, infections, and clinical outcome score.
- **Data collection:** Includes patients from Rothman Institute who have had TKA & prior meniscal surgery on ipsilateral knee. Patients are matched on a 2:1 basis to a control group undergoing TKA without meniscal history.
- **Rationale for Approach:**
 - Facilitates data collection for long-term complication rates.
 - Allowed for exposure of “risk factor” to be recorded prior to TKA outcomes.
 - Greater availability of data
 - Increased sample size

Approach & Results

- Analysis
 - 1028 patients met the inclusion criteria for the study population and were available for analysis.
 - To date, 111 patients have been analyzed.

- Findings

Outcome	Total number	Percentage
No Complication	108	97.3%
Complication-revision	3	2.7%
Total (n=111)	111	100%

- Statistical analysis between the study and control group complication rates is pending.

Conclusions

- Preliminary data shows that 97% (108) of the study population experienced no TKA complications.
- 2.7% (3) of the analyzed patients experienced TKA complications, warranting revision.
- The results implicate that there is no statistical difference between the two cohorts, which may support the hypothesis & current literature.
- This data might serve as a point of education for TKA patients and provide modifiable risk factors for meniscectomy patients.

Future Directions

- Next steps include:
 - Continue chart review
 - Run statistical analysis with control group & compare complication rates
 - Long-term outcomes can be discussed preoperatively with patients
 - Secondary aims include analysis of leading complication causes

Acknowledgements

- Thank you!
 - To Dr. Freedman, Chris Hadley, and Sam Rao
 - To Dr. Boelig