MAYO CLINIC | Orthopedics and Sports Medicine

# Outcomes of Meniscus Centralization with Medial Meniscus Root Repair for Extruded Medial Meniscuses

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# Discloures

**Aaron J. Krych**:

Aesculap/B.Braun: Research Support

American Journal of Sports Medicine: Editorial or governing board

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Arthroscopy Association of North America: Board or committee member

International Cartilage Repair Society: Board or committee member

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Spinal Simplicity: Stock or stock options

**The remaining authors have nothing to disclose.**

# Background

- Repair of medial meniscus posterior root tears has been shown to improve clinical outcomes.[1]
- Medial meniscus extrusion, defined as 3 mm of greater of extrusion of the meniscus outside the border of the medial tibial plateau, can persist even after anatomic repair.[2]
- Biomechanical studies have demonstrated that meniscus centralization with root repair may help reduce extrusion and protect the root repair.[2]
- However, there is a lack of data on patient outcomes after medial meniscus root repair with concomitant centralization.



1. LaPrade et al. AJSM. 2017
2. Daney et al. AJSM. 2029

# Purpose

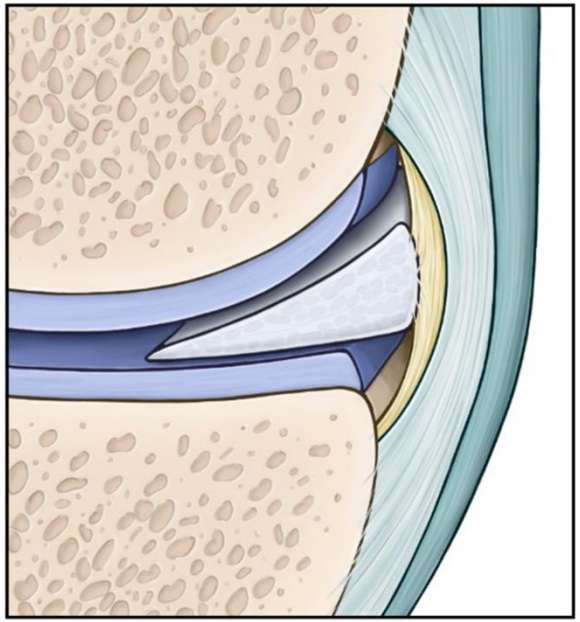
- Demonstrate patient-reported clinical outcomes following medial meniscus root repair with meniscus centralization.

- Determine common complications and provide provisional results at mean 2-year follow-up.

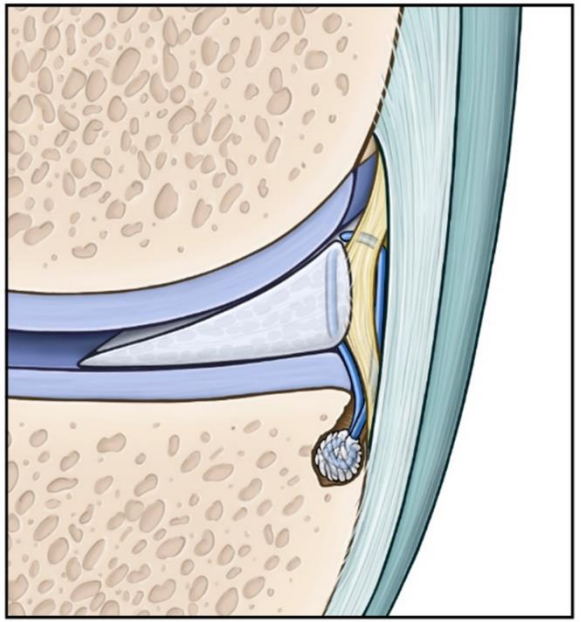
# Methods

- Patients who underwent medial meniscus posterior root repair and meniscus centralization from 2020 to 2022 were identified.
- Medial meniscus posterior root tears were defined as a tear in the medial meniscus within 10 mm of the posterior root.
- Thirty-six patients who met inclusion criteria were initially identified. Exclusion criteria consisted of patients with less than 1-year follow-up, which resulted in 25 patients in the final cohort.
- Patient-reported outcome scores including VAS for pain at rest and with use, IDKC, KOOS Jr., and Tegner were collected both preoperatively and postoperatively.

# Meniscus Centralization







# Patient Characteristics

- Age at surgery: 50 years old
- 76% female
- BMI: 33 $kg/m^2$
- Mean follow-up: 2 years

# Patient Characteristics

- Mean medial meniscus extrusion was 3.2 mm.
- Bone marrow edema was present in 44% of patients.
- Average time from onset of symptoms to surgery was 133 days.
- Mean Intraoperative Outerbridge Classification
  - Medial Compartment: 2.4
  - Lateral Compartment: 0.8
  - Patellofemoral Compartment: 1.5

# Outcomes at Mean 2-Year Follow-Up

- No significant osteoarthritis progression or postoperative change in alignment was seen.
- No patients progressed to total knee arthroplasty (TKA) or underwent revision meniscus surgery.
- One patient underwent lysis for adhesions at 4 months postoperatively.

# Patient-Reported Outcome Measures

| Patient-Reported Outcome Measure | Score | P-Value |
|---|---|---|
| **VAS Pain at Rest** | | |
| *Preoperative* | 2.2 | **0.003** |
| *Postoperative* | 0.5 | |
| **VAS Pain with Use** | | |
| *Preoperative* | 7.3 | **< 0.001** |
| *Postoperative* | 2.4 | |
| **IDKC** | | |
| *Preoperative* | 46.3 | **0.023** |
| *Postoperative* | 70.4 | |
| **KOOS Jr.** | | |
| *Preoperative* | 58.2 | **< 0.001** |
| *Postoperative* | 81.3 | |
| **Tegner** | | |
| *Preoperative* | 3.5 | 0.233 |
| *Postoperative* | 4.0 | |

# Likert Scale

| | |
|---|---|
| *Much Better* | 60% |
| *Slightly Better* | 28% |
| *No Change* | 8% |
| *Slightly Worse* | 4% |
| *Much Worse* | 0% |

# Patient Satisfaction

| | |
|---|---|
| *Very Satisfied* | 50% |
| *Satisfied* | 33% |
| *Neutral* | 17% |
| *Dissatisfied* | 0% |
| *Very Dissatisfied* | 0% |

# Conclusions

- At minimum 1-year follow-up and mean 2-year follow-up, patients undergoing medial meniscus root repair with meniscus centralization demonstrated significant postoperative improvements in pain, function, and quality of life and reported high rates of surgery satisfaction.

- There was no evidence of significant arthritic progression, and no patients underwent revision meniscus surgery or TKA.