



@physicaltherapyresearch

# RAPID RESEARCH

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July 2021

## Inside This Week: Meniscus Injury & Treatments

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- ✓ Partial Meniscectomy Vs. Placebo: 5 Year Follow-up

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  - ✓ Structure and Mechanics of the Meniscus

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  - ✓ Special Tests for Meniscus Tears



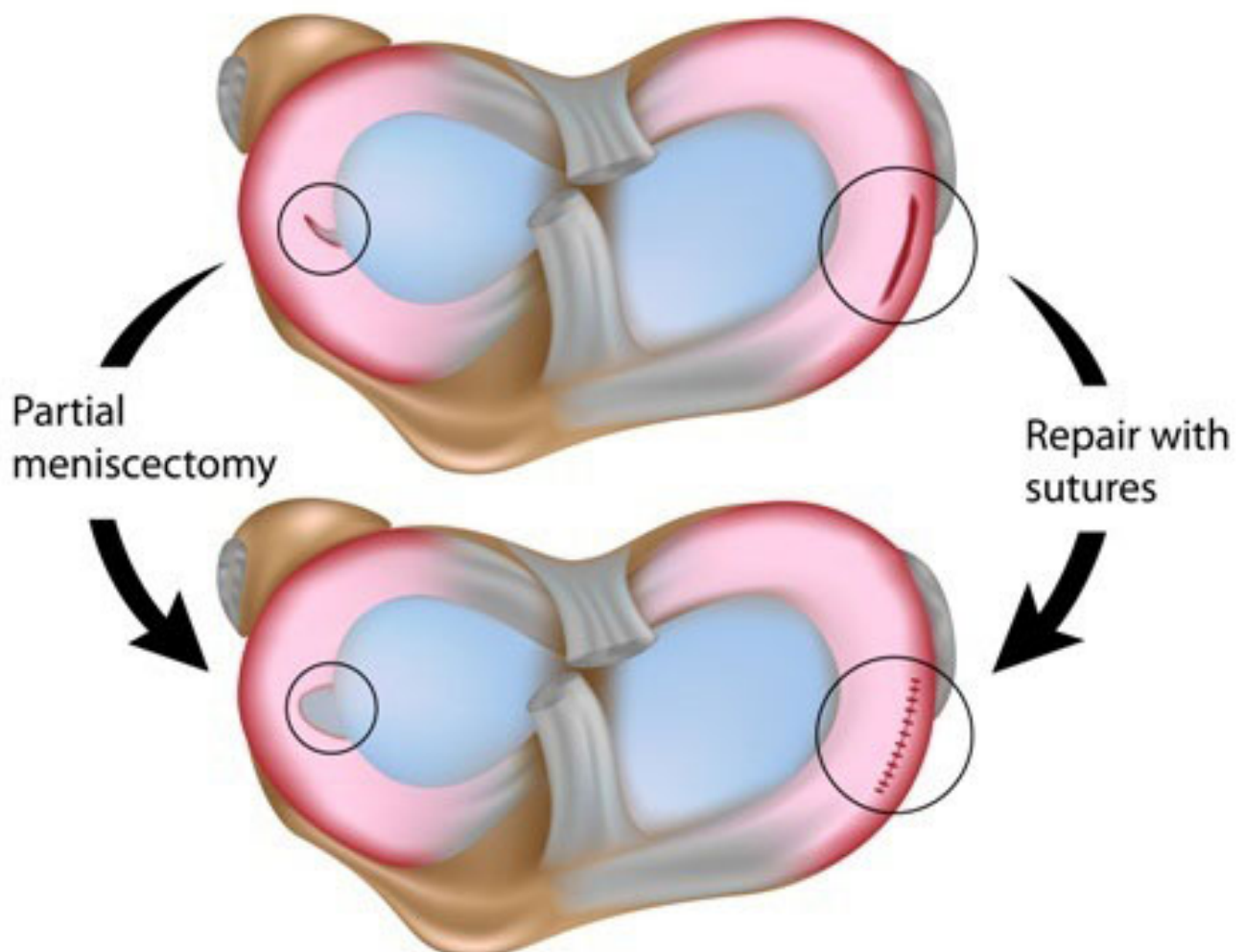
# PARTIAL MENISCECTOMY VS. PLACEBO: 5 YEAR FOLLOW-UP

[Full Text](#)

Shivonen et al.  
2020

(Click to Open)

This study assessed the long-term effects of arthroscopic partial meniscectomy (APM) on the development of knee OA, knee symptoms and function, at 5 years follow-up



# KEY FINDINGS

There was a consistent, **slightly greater risk for progression** of radiographic knee osteoarthritis in the APM group as compared with the placebo surgery group.

There were **no relevant between-group differences in the three patient-reported outcomes:**

Adjusted absolute mean differences.

WOMET Test.

Lysholm knee score.

Knee pain after exercise.

The corresponding adjusted absolute **risk difference in the presence of mechanical symptoms was 18%.**

There were **more symptoms reported in the APM group.**

All other secondary outcomes comparisons were similar

# MAIN TAKEAWAYS

Arthroscopic partial meniscectomy (APM) provided no more benefit for knee symptoms or function than placebo surgery.

Arthroscopic partial meniscectomy was associated with a slightly increased risk of developing radiographic knee osteoarthritis at 5 years after surgery.

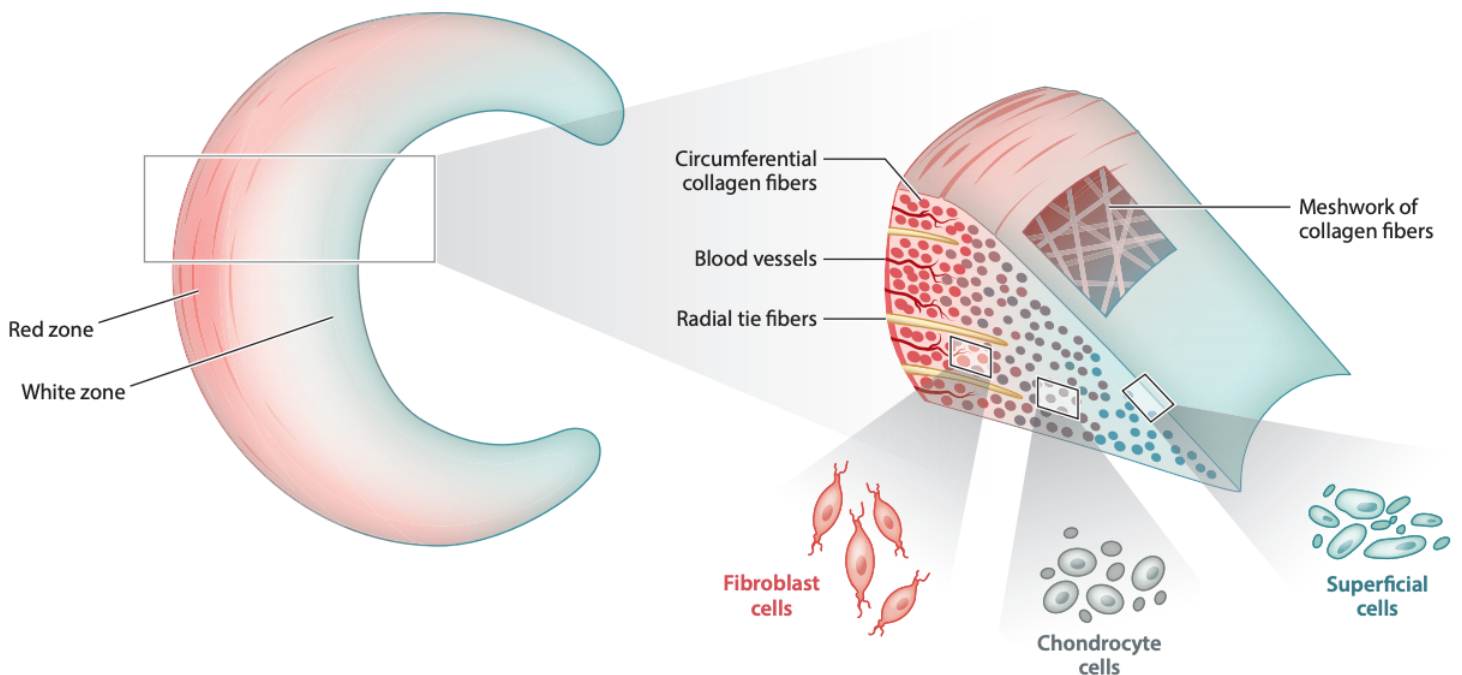
# STRUCTURE AND MECHANICS OF THE MENISCUS

[Full Text](#)

[Murphy et al.](#)  
[2019](#)

[\(Click to Open\)](#)

The treatment of meniscus injuries has recently shifted toward tissue engineering, This review focuses on the structure and mechanics associated with the meniscus.



# KEY FINDINGS

The meniscus is **72% water and 28% collagen fibers**, interposed with cells and an extracellular matrix.

In the USA, meniscal tears are **the most common knee injury** and the most frequent surgical procedure performed by orthopedic surgeons.

Recent evidence shows arthroscopic knee surgery has **little benefit for most patients with knee pain**.

Also, meniscectomy generates high contact stress on the articular cartilage, which **leads to degradation and development of OA**.

**Several scaffold materials, cells, and growth factors are currently being investigated for regeneration** or replacement purposes in an effort to find alternative treatments to meniscectomy

## MAIN TAKEAWAYS

Meniscus cartilage is **crucial for knee homeostasis, and clinicians are tending to treat meniscal tears with partial meniscectomy** so as to preserve as much tissue as possible.

However, this treatment is not sufficient to preserve appropriate contact biomechanics of the knee and **leads to OA**.

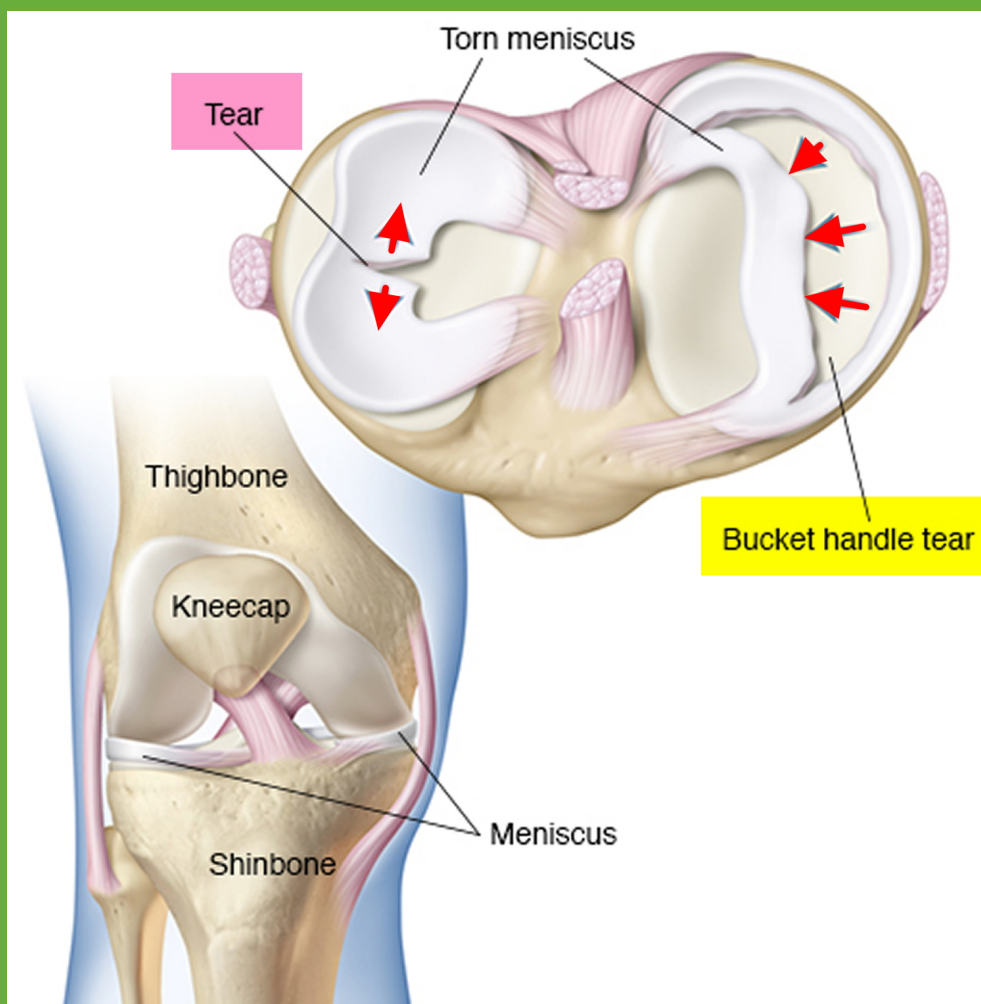
Physical therapy alone may be **more beneficial than partial meniscectomy**.



# SPECIAL TESTS FOR MENISCUS TEARS

**Full Text**  
Smith et al.  
2014  
(Click to Open)

This study systematically reviews research to synthesize the most current literature on the diagnostic accuracy of special tests for meniscal tears of the knee in adults.



# KEY FINDINGS

WEEK 1: AUGUST 2021

9 studies were included

3 special tests were included in the meta-analysis.

The methodological quality of the included studies was generally poor.

## **McMurray's:**

Sensitivity 61%

Specificity 84%

## **Joint line tenderness:**

Sensitivity 83%

Specificity of 83%

## **Thessaly 20°:**

Sensitivity 75%

Specificity of 87%

# MAIN TAKEAWAYS

The results of this systematic review indicate that the accuracy of McMurray's, Apley's, JLT and Thessaly to diagnose meniscal tears remains poor.

This conclusion must be taken with caution since frequent methodological design flaws exist within the included studies.

Most studies suffered from various biases, and between-study heterogeneity makes pooled data unreliable.

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