# MENISCAL INJURY: NAVIGATING THE JOURNEY TO KNEE HEALTH

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#### **Meniscus** Tear



Top View of Lateral Meniscus and Medial Meniscus





Meniscus Tear Caused by Bending/Twisting Motion The knee menisci, consist of the 2 structures, the medial meniscus and the lateral meniscus. The meniscus can become painful with injury or overload. This can result in knee pain, clicking, locking, swelling and giving way. These tears can be managed with surgery or Physiotherapy depending on the nature of the tear. In most circumstances an opinion from an Orthopaedic Surgeon is required, and in some cases surgery will be recommended.

Modern meniscal management emphasises the preservation of the meniscus whenever possible. This is because the meniscus plays a crucial role in load distribution, shock absorption, and joint stability. Preserving the meniscus helps maintain long-term joint health and reduces the risk of osteoarthritis.



# Physiotherapy Management

The physiotherapy management of a knee meniscal injury aims to reduce pain, swelling, and inflammation, improve knee joint mobility and strength, and enhance functional activities. The approach may vary based on the severity of the injury. Physiotherapy may consist of:

#### 1. Initial Assessment:

- The physiotherapist will perform a thorough assessment to understand the nature and extent of the meniscal injury.
- Assessment may include range of motion (ROM) testing, strength evaluation, and special tests to identify the location and type of meniscal tear.

#### 2. Pain and Inflammation Management:

- Modalities such as ice, compression, and elevation (RICE protocol) may be recommended to manage initial pain and swelling.
- Electrotherapy modalities like ultrasound or transcutaneous electrical nerve stimulation (TENS) may be used to reduce pain and inflammation.

# 3. Restoration of Range of Motion (ROM):

- Gentle range of motion exercises will be prescribed to prevent stiffness in the knee joint.
- Passive and active-assisted range of motion exercises may be employed initially, gradually progressing to active range of motion exercises.





#### 4. Strengthening Exercises:

- Quadriceps and hamstring muscle strengthening is crucial to provide stability and support to the knee joint.
- Closed kinetic chain exercises (e.g., squats) and open kinetic chain exercises (e.g., leg curls) may be incorporated.

#### 5. Balance and Proprioception Training:

- Exercises to improve balance and proprioception help in enhancing joint stability and reducing the risk of further injury.
- Balance exercises may involve the use of balance boards or unstable surfaces.

### 6. Functional Training:

- Functional exercises that mimic daily activities or sportsspecific movements are introduced to ensure a safe return to normal activities.
- Gradual progression of activities is essential to prevent re-injury.

## 7. Manual Therapy:

- Joint mobilizations and soft tissue techniques may be used to improve joint mobility and reduce muscle tightness.
- Manual therapy can help address any secondary issues such as muscle imbalances.

#### 8. Education:

- Patients are educated on proper body mechanics, joint protection techniques, and activities to avoid.
- Guidance on a home exercise program to complement inclinic sessions is provided.



#### 9. Progressive Return to Activity:

• The physiotherapist will work with the patient to create a gradual and structured return-toactivity plan, considering the specific demands of the patient's lifestyle or sport.

It is important to note that the specific physiotherapy plan may vary based on individual factors such as the patient's age, overall health, and the type and severity of the meniscal injury. Therefore, treatment plans are often tailored to the unique needs of each patient.



# Types of Meniscal Surgery

#### 1. Meniscectomy:

- **Description:** Meniscectomy involves the partial or complete removal of the damaged meniscus.
- **Procedure:** The surgeon trims or removes the torn part of the meniscus.
- **Recovery Time:** Patients typically experience a faster recovery, with return to normal activities within a few weeks. However, long-term implications may include an increased risk of osteoarthritis.

#### 2. Meniscal Repair:

- **Description:** Meniscal repair aims to suture the torn edges of the meniscus together, allowing it to heal.
- **Procedure:** The surgeon may use stitches, anchors, or other devices to hold the meniscal tissue in place.
- **Recovery Time:** Recovery is generally longer than meniscectomy, often taking several months. Weightbearing restrictions may be in place during the initial stages to promote healing.

#### 3. Meniscal Root Tear Repair:

- **Description:** This surgery specifically addresses tears at the meniscal root, where the meniscus attaches to the tibia.
- Procedure:\* Repairing the root tear may involve reattaching the meniscus to the bone using sutures or other fixation techniques.
- **Recovery Time:** Similar to standard meniscal repair, recovery can take several months with a gradual return to normal activities.



#### 4. Meniscal Ramp Lesion Repair:

- **Description:** A ramp lesion involves a tear at the posterior horn of the meniscus. Repair is aimed at restoring the integrity of the meniscus.
- **Procedure:** Surgical techniques involve repairing the torn portion, often using sutures or other fixation methods.
- **Recovery Time:** Recovery is comparable to other meniscal repairs, with a gradual return to activities over several months.

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# Factors Affecting Surgery Choice:

The choice of meniscal surgery is influenced by various factors, including:

- Location of the Tear: Different parts of the meniscus have varying blood supplies, which affects their ability to heal.
- Age of the Patient: Younger patients may be better candidates for meniscal repair, as they have a higher potential for tissue healing.
- Size and type of the Tear: Smaller tears may be more amenable to repair, while larger tears may require partial meniscectomy. Certain tears are more repairable than others. Some tears can be managed with Physiotherapy, whereas some require urgent surgery.
- **Patient Goals and Expectations:** Understanding the patient's lifestyle, activity level, and goals helps tailor the surgical approach.
- **Co-morbidities:** Existing health conditions may impact the choice of surgery and the overall recovery process.







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