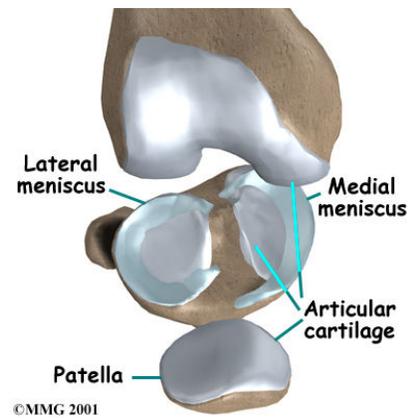


Meniscus Injury

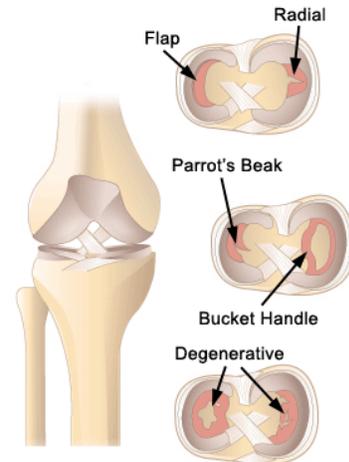
Anatomy and Function

The menisci are made of tough cartilage (fibrocartilage) and conform to the surfaces of the bones upon which they rest (C-shaped discs). They lie between the thigh bone (femur) and shin bone (tibia) on either side. They serve as very important shock absorbers because a large percentage of our body weight is distributed through the menisci as we walk, run, and jump. They also protect the articular cartilage on which they rest, keeping them from wearing out and causing early arthritis. The menisci add to the stability of the knee joint by helping the shape of the femur or thigh bone conform to the tibia or leg bone. The menisci also play a role in the nourishment of the joint cartilage that covers the bones in the joint.



Injury

Athletes in contact and non-contact sports may tear the meniscus by twisting the knee, pivoting, cutting, or decelerating. In athletes, meniscal tears often happen in combination with other injuries such as a torn anterior cruciate ligament (ACL) and/or medial collateral ligament (MCL). People can injure the meniscus without any trauma as the cartilage weakens and wears thin over time, setting the stage for a degenerative tear. Literature shows that the incidence of injury in the medial meniscus is shown to be higher than the lateral meniscus. Due to the nature of the tear that the menisci can suffer, repair of the meniscus can be a complicated issue.



Types of Meniscus Tears

Signs and Symptoms of Meniscal injuries

- Severe, intermittent sharp pain may occur, and is localized at the side of the knee joint with squatting activities, usually resulting from part of the tear catching between the articular surfaces of the tibia and femur.
- Swelling may develop over 24 hours after injury in cases of small tears.
- A limitation in knee range of motion with an occasional “locking” or “catching” sensation occurs in more severe cases

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Diagnosis

MRI examination is the investigation of choice. This can help management if the MRI shows either a complex tear, minimal damage or, more rarely a peripheral meniscus tear.

Physiotherapy Management

- The immediate treatment of any soft tissue injury consists of the **RICE protocol – rest, ice, compression, elevation** for 48 – 72 hours. The aim is to reduce the bleeding and damage within the joint.
- Electrotherapeutic modalities can be applied to the injured joint to limit swelling and accelerate recovery.
- Muscle strengthening and Dynamic proprioceptive training specific to sporting activity
- Lower limb biomechanical correction through exercise and manual therapy techniques
- Possible long-term bracing of the injured knee upon return to sport

Surgical Intervention

A large tear will produce a flap of meniscus that may interfere with normal joint mechanics. This torn flap of meniscus can cause further damage leading to greater risk of degenerative arthritis. In this case, arthroscopic surgery (meniscectomy) will be indicated to remove the flap and smooth off the surface of the meniscus, or repair the torn meniscus. This will leave “normal” structures and decrease the likelihood of degenerative arthritic changes in the future.

Return to sport

Following a partial meniscectomy most patients are able to resume to normal non-sporting activities comfortably in a few days. Generally light sports such as biking and swimming are well tolerated in 1-2 weeks. In many conservative management cases, return to sport can be as soon as 2 - 3weeks or as long as 6 - 8 weeks.

Criteria for return to sport following meniscus injury are;

- Absence of swelling and pain with weightbearing activities
- Full range of movement
- Normal quadriceps, hamstring and “core” function
- Good proprioception
- Sports training performed without post activity knee symptoms

References

-Brukner P, Khan K. Clinical sports medicine, 3rd edition (2007), acute knee injuries pp468-470.

-Meniscus Injury handout developed by Sports medicine Australia, Victorian branch

-Images taken from;

- Types of meniscal tears www.ptclinic.com/.../images/v2/meniscustears.gif
- Menisci www.eorthopod.com/.../meniscal_injuries.html

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