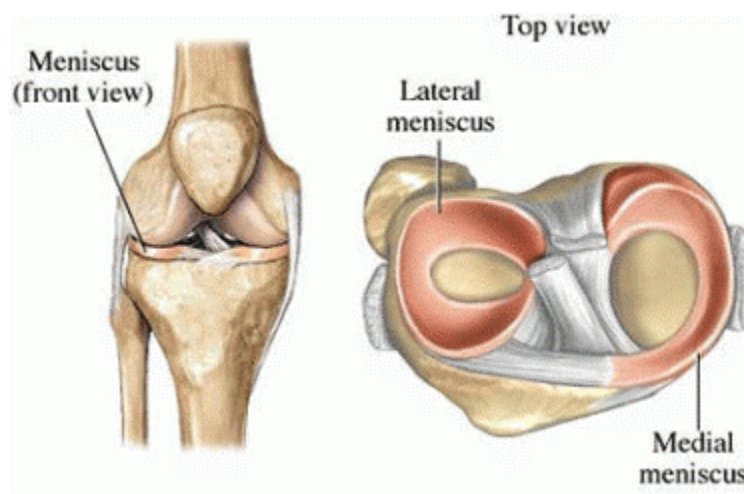


Information and opinions supplied by the staff at  
**UP and RUNNING (Sports Injury Clinics) Ltd**

**Article 6: Knee Meniscus Tears**

**What is a Meniscus?**

The knee has two Menisci, one in the medial aspect and one in the lateral aspect of the knee joint. They sit between the Tibial-Plateau (shin bone) and the Femur (thigh bone). They are crescent shaped segments with the thicker portion towards the outer knee and the thinner edges towards the centre of the knee. They are made of fibro-cartilage tissue, which is a substance resilient to wear but has rubber-like properties to act as shock absorbers. 3. 4. 5.



(Indian Arthroscopy Society, 2010)

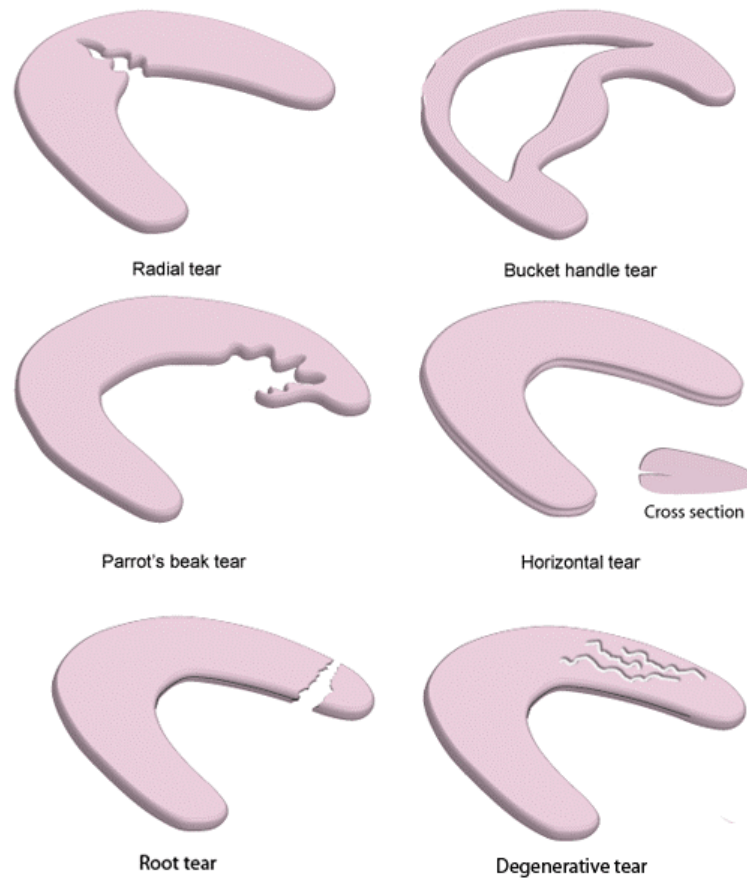
**What causes a meniscal tear?**

The Menisci can be injured in one of two ways generally speaking; **sudden trauma** or **wear and tear**. 4. 6.

In cases of **sudden trauma** the most common mechanism for injury is in weight bearing, with the foot fixed, the knee bent and a rotational component. 6. 7. 9. Liken this to a footballer or rugby player with studs fixed into the ground who is trying to change direction. He or she is bearing weight, knee bent to lower the centre of gravity and foot fixed while twisting to change direction. These forces combine to tear the cartilage in a variety of ways. Of course these factors can be caused in many sports or activities and are not only reproduced in football or rugby but the mechanism is similar.

General **wear and tear** can also cause meniscal injuries and there is often little difference in the appearance between these and sudden trauma tears. In fact wear and tear is actually many small traumas happening over a long period of time. 8. 10.

There are several types of meniscus tear and some of these are shown in the diagram below.



(Knee Specialist Surgery, 2011)

### What are the signs and symptoms of meniscus tears?

Because of the complexity of the knee joint, diagnosing a torn meniscus is not always straightforward. The type and severity of the tear gives clues as to what may be going on but this may well be confused by other damaged structures caused at the same time of injury. An experienced therapist can sometimes determine the type of tear however this should always be confirmed by Magnetic Resonance Imaging (MRI) or other investigations. 11. 12.

The classic signs and symptoms of meniscal tears are:

- Pain
- Swelling
- Locking of the knee
- Difficulty in straightening the knee
- Pain on weight bearing
- Giving way/Instability
- Stiffness

- Sharp pain on certain movements like twisting
- Lack of confidence in the knee

Since the Menisci do not have nerve endings any perceived pain will be because of either swelling, which causes pressure on other nerve endings within the knee, a piece of damaged meniscus irritating adjacent structures or because other structures were also injured in the trauma such as ligaments. 1. 6. 7. 8. It is not uncommon for other structures to be involved in a traumatic injury and in fact the Medial Collateral Ligament has an attachment to the medial meniscus. 4. 5. 12.

### **What can be done about Meniscus Tears?**

As a general rule in acute injuries the priority is the **PRICE** regime: **13**.

- **P**rotect from further injury
- **R**est the injury
- **I**ce to slow the swelling
- **C**ompression to stop the pooling of swelling
- **E**levation to assist in removal of swelling

Over time when the knee is more settled it may be possible to determine the extent of the damage. It is possible to tear a meniscus and for it to be of so little consequence that the person can ignore it, however more often than not something may need to be done about it.

There are several tests that can be performed which claim to be able to diagnose a meniscus tear however it is probably better to go on the history of the injury such as the mechanism and symptoms since the injury. 2. 7. 9. 13.

It was thought until recently that Menisci do not repair themselves however in certain cases, namely when the tear is on the inner edge of the meniscus that a certain amount of regeneration is possible. In fact surgeons will often stitch the damaged edge of the meniscus and allow it to repair rather than cut out the damaged piece. 2. 3. 5. 8. 11. 12.

In the majority of cases surgery is the best option and referral to a Consultant Orthopaedic Surgeon is the preferred course of action.

### **The Authors View**

Having dealt with several Meniscal tears both in my time in professional football and in clinical practice my views are fairly straightforward. Whilst diagnosis is sometimes difficult the protocols are easy. If a Meniscal tear is suspected then get the patient to a surgeon to arrange appropriate investigations to more accurately diagnose the condition.

Where there is little pain and doubt exists as to the existence of a tear but all other possible injuries can be largely discounted then it may be possible to get the player to carry on with rehabilitation until either the symptoms disappear or the injury becomes more obvious.

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