

## The Torn Meniscus: Information Leaflet

### What is a meniscus?

The meniscus is a small C-shaped piece of tissue, generally referred to as 'the cartilage', which lies between your thigh bone (the femur) and your shin bone (the tibia). It acts as a shock absorber to soften the impact between your thigh and shin bone when walking, running or bending. Each knee has an inner (medial) and outer (lateral) meniscus which are both prone to tearing.

### How does a meniscus tear?

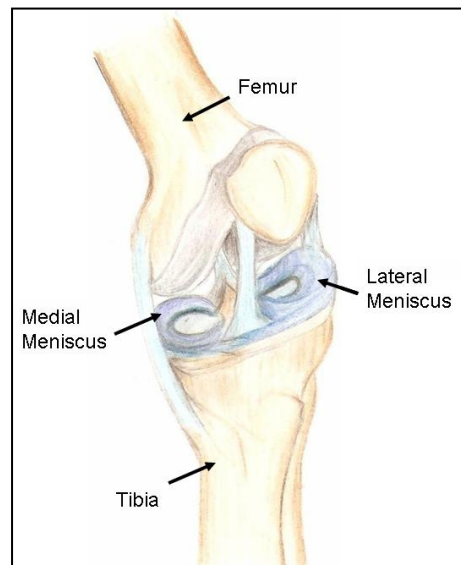
The most common mechanism for a meniscus to tear is following a twisting of your knee while your foot is planted on the ground. Your inner ('medial') or outer ('lateral') meniscus may tear depending on how you twist your knee.

### Who gets a meniscus tear?

Anyone who has a twisting injury to the knee – from sports injuries to simply squatting on the knee.

### What are the symptoms of a meniscus tear?

- **Pain:** Pain is the main symptom which is typically felt in the inner or outer parts of the knee as the torn fragment catches in the knee when twisting or turning.
- **Swelling:** Swelling can occur due to inflammation within the knee.
- **Locking:** Locking of the knee can occur when the piece of torn meniscus gets trapped in the knee. The knee can then bend but won't go fully straight.

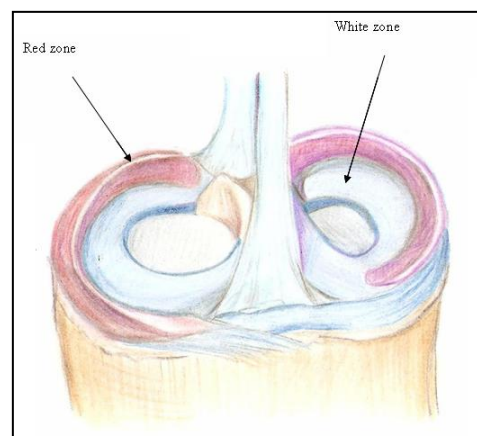


*Diagram of the knee showing how the meniscus makes a socket for the thigh bone to roll in when the knee bends.*

### Who needs a meniscus repair?

Damage to the meniscus will result in one of the 3 following possible treatments depending on the location of the tear and the size of the tear.

- 1) **Non - Surgical Treatment:** If the tear is not causing symptoms, your knee can be treated with simple painkillers and physiotherapy. If the knee is not swelling up and not hurting anymore, no further treatment is necessary. If these treatments have been tried but do not seem to help with your knee problem, surgery may be required.
- 2) **Surgical Treatment – Meniscal Repair:** If the tear is fairly large and within the 'red zone'



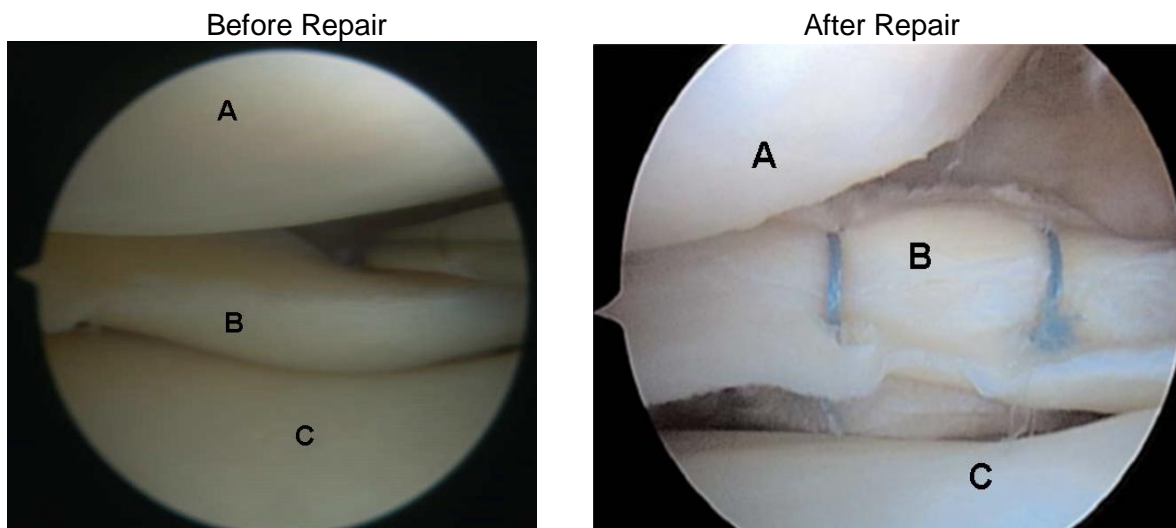
*Diagram of the knee joint, showing the red zone and the white zone of the meniscus. Tears which occur in the red zone are more likely to heal than tears that occur in the white zone, because the red zone has a better blood supply.*

(see below picture), this means that it is likely to heal well with a meniscal repair.

- 3) Surgical Treatment – Partial Meniscectomy: If the tear is in the ‘white zone’ (see below picture), it is not suitable for repair as it is unlikely to heal very well, therefore it is best to cut out the affected portion in a procedure called a ‘partial meniscectomy’.

### What is involved in meniscal repair surgery?

Damage or tears at the outside of the meniscus in the ‘red zone’ are near to a blood supply, which means it is closer to a source of nutrients and as a result is more likely to heal better. It can then be repaired using special sutures by ‘keyhole’ surgery – surgery which uses cuts in the skin only about 1 cm in length. The below image is taken from a small camera inserted into the knee (in a procedure known as ‘arthroscopy’) which shows a meniscus before and after it has been repaired with sutures. Once the meniscus is stitched into place, it allows the body to do the rest of the healing.

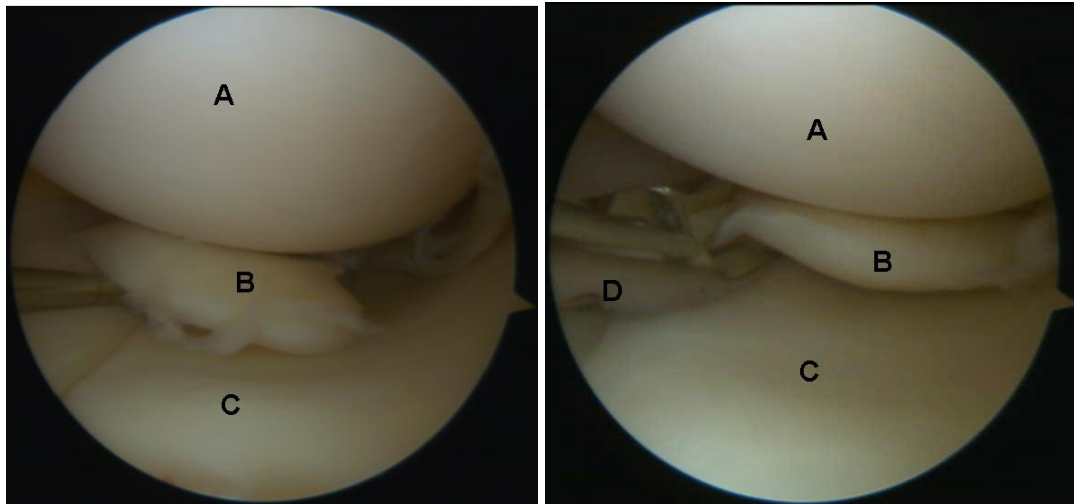


Meniscal Repair: On the above left picture, the tear in the meniscus has allowed the meniscus (B) to become loose, which can result in it being caught between thigh bone (A) and the shin bone (C). After meniscal repair (above right-courtesy of [SMITH AND NEPHEW](#)), a suture is holding the meniscus in place, preventing it from getting caught between the thigh bone and the shin bone.

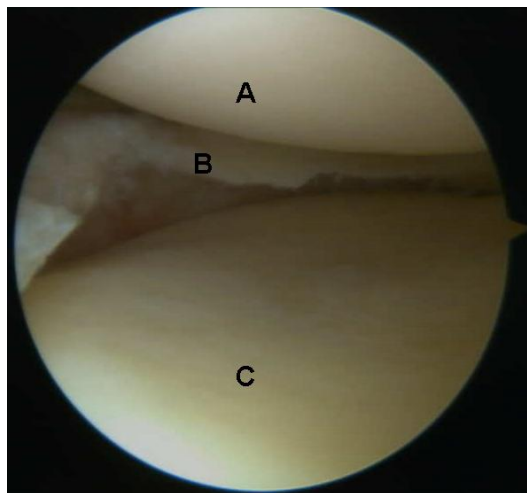
If the meniscal tear is far from a blood supply, it will not be able to heal properly because it is not able to get enough nutrients available to start the healing process. The knee specialist will explain what options there are for your knee with regards to meniscal repair or partial meniscectomy. It is hard to predict which tears can be repaired and the final decision is made at arthroscopy.

### What is involved in a partial meniscectomy?

Most tears are in the ‘white zone’ of the meniscus – an area of meniscus that does not receive a good blood supply and is not likely to heal from a meniscal repair. In this case, a small portion of the meniscus is then trimmed away in a procedure known as a partial meniscectomy, leaving the rest of the meniscus to protect the articular surfaces in your knee joint.



**Partial Meniscectomy Surgery:** As seen in the above left picture, the meniscus (B) can become caught between the thigh bone (A) and the shin bone (C), causing abnormal movement of the knee such as 'locking' of the knee. Using a small scissor like tool (D) in the above right picture, a small portion of the meniscus (B) is cut away, freeing up the space between the thigh bone and shin bone, allowing for normal movement (see below).



**After Partial Meniscectomy:** It is clear to see that there is more space between the thigh bone (A) and the shin bone (C) after a portion of the loose meniscus has been taken out. Most of the meniscus (B) remains in tact however. This will prevent the knee from locking in the future whilst still maintaining a significant amount of cushioning for the knee joint. It will also protect the articular surfaces of the knee joint.

### **Before A Meniscal Repair**

You should make sure you fully understand what the operation involves before you agree to have your meniscus repaired. You should ask your doctor about what will happen on the day of the operation and what will happen after the operation. As with any operation, there are risks and benefits (see below).

### **After A Meniscal Repair**

After your operation, it is important you follow these guidelines in order to make sure that your repaired meniscus heals in the best possible way:

- **Knee Brace:** Knee is kept straight in brace and weight bearing is allowed on the straight knee. When sitting, the brace may be unlocked and moved to a 90 degree angle. Keep brace on at night until it is comfortable enough to sleep without it. The brace is used for 1 month.
- **After 4 Weeks:** Brace can be removed and full weight bearing is allowed. Any form of squatting or twisting must be avoided at least for the first 3 months. Cycling and swimming is allowed after 1 month.
- **Sports:** Rehabilitation back to sports such as running is allowed after 3 months. Sports involving twisting and pivoting should be delayed until 4 to 6 months after your meniscal repair. This time frame needs to be checked with your surgeon as it can vary between people.
- **Physiotherapy:** Physiotherapy is advised to help you through the rehabilitation process in order to build strength in your leg and get you back to doing your regular activities.

**IMPORTANT:** It is essential that weight is kept off the bent knee early on in the rehabilitation process and that sports involving twisting and pivoting should be avoided for at least 3 months after a **meniscal repair**. This is because the sutures holding the meniscus together are very delicate at the early stages of healing, and any pressure applied to the sutures – such as from walking, running or twisting – can cause the sutures to break. If this occurs, another surgery is necessary to repair the meniscus again!

### **Risks and Complications of a Meniscus Repair**

As with any surgery, there are potential side effects associated with the general anaesthetics which are used. These can include feeling sick after surgery, having a sore throat or having a headache. Rarely are people allergic to some of the anaesthetic agents.

Your doctor will discuss any health issues you may have such as diabetes, heart disease and respiratory diseases, and although these are common issues, they do not normally prevent surgery from occurring.

Risks associated with surgery include infection, blood clots in the leg, and damage to blood vessels or nerves within the leg. About 8 out of 10 meniscal repairs will heal well. It is therefore possible to follow rehabilitation guidelines properly and not participate in sports for at least 3 months after a meniscal repair, or you risk having the repair fail, leading to another surgery.

### **Do I have a choice as to what treatment I receive?**

As mentioned, the recovery time for a meniscal repair is at least 3 months, while the recovery time for partial removal of the meniscus is only a few weeks. If you are in a situation where it is necessary to get back to employment as soon as possible, it may be worth talking to your surgeon about the various options available to you, and when surgery might be most suitable to you. If you have any concerns whatsoever, it is best to discuss them with your surgeon.