

MENISCAL TEARS

Patient Information

What is a meniscus?

The meniscus is a C-shaped wedge of cartilage that sits within the knee joint between the femur (thigh bone) and tibia (shin bone). There are two menisci, the medial meniscus is on the inner side and the lateral meniscus on the outer side of the knee. Medial meniscal tears are generally more common than lateral.

What is the function of the meniscus?

The menisci act like shock absorbers in the knee and help distribute load evenly. Without the menisci, uneven weight distribution would lead to overload of the articular cartilage surfaces.

What causes a meniscal tear?

In younger patients, menisci usually only tear following an injury to the knee. Typically, this is a twisting injury, often with the foot planted while the knee is bent.

As we age, the menisci begin to degenerate and are more likely to tear with minor trauma. Sometimes, tears can occur with seemingly innocuous activities such as kneeling or squatting or without recollection of any specific event. Degenerate tears are common in the presence of knee osteoarthritis.

What are the symptoms?

With an acute injury, you may experience a sudden sharp pain occasionally associated with a 'pop' felt or heard inside the knee. This is often followed by moderate swelling which usually appears within a number of hours after the injury.

However, meniscal tears can also occur without swelling especially degenerate tears.

Other symptoms may include intermittent pain, clicking or catching sensations, giving way, limited range of movement and locking.

Why can the knee lock with a meniscus tear?

A locked knee is when you are not able to fully straighten your knee from a bent position because of a large unstable tear physically blocking the knee. Commonly, this is due to what is termed a 'bucket-handle' tear of the meniscus where a large tear flips like a bucket-handle to sit more centrally in the knee. Often your knee will unlock spontaneously, but if it does not urgent surgery to unlock and ideally repair the tear may be indicated.

How is a meniscal tear diagnosed?

The history and clinical examination findings are usually supported with a MRI scan. An x-ray may also be requested to assess degenerative changes within the joint.

MRI scans are not always 100% accurate and sometimes the diagnosis is made at arthroscopy (keyhole surgical examination).

Will the meniscal tear heal itself?

A meniscus has limited blood supply and this affects the ability of tears to heal. Tears in the outer one-third, where there is a better blood supply than the inner two-thirds, have a better potential to heal. If the tear is small and is located at the outer edge where it attaches to the lining of the knee, it may heal. However, healing is dependent on many factors such size, type, location, age, chronicity and knee stability. Many tears will not heal on their own.

How is a meniscal tear treated?

This depends on many factors such as the type, size, location of the tear as well as your presenting symptoms.

A trial of non-operative treatment including managing pain, swelling and modifying activities may be indicated for many tears especially degenerative tears, potentially stable tears or asymptomatic tears that are incidental findings on a MRI scan.

Meniscal surgery may be recommended if you fail non-operative treatment or if you have a recent tear that is deemed repairable, especially if you have a concurrent ACL tear. Should your knee be acutely locked by a large unstable tear you may require urgent arthroscopic surgery.

Meniscal tissue has limited blood supply and therefore certain tears have limited healing potential also. However, when appropriate, we will try to preserve your

meniscus by repairing it. This is especially in young patients as loss of meniscal tissue can significantly increase risk of future osteoarthritis. However, despite surgical repair, there remains a risk that the tear may fail to heal.

Failing this, a partial meniscectomy may be indicated to trim tears that cannot be repaired (or tears that have been previously repaired but have failed to heal).

If you have significant osteoarthritic changes, arthroscopic meniscal surgery may not be indicated.

How is meniscal surgery performed?

Meniscal surgery is usually performed as day case arthroscopic (keyhole) surgery under general anaesthetic.

Small incisions are used to insert the arthroscope ('telescope') and instruments. If a meniscal repair is performed, stitches are placed across the tear via either an 'all inside' technique or alternatively 'inside-out' or 'outside-in' sutures. The latter two techniques may require some additional incisions.

Local anaesthetic is usually infiltrated into the knee joint and skin incisions at the end of the procedure to help provide post-operative pain relief. Small dressings will be applied to the skin wounds and a bandage. This outer bandage can usually be removed the morning after surgery and ice packs or a cryotherapy cuff intermittently applied to help pain and swelling.

The small dressings are usually left intact until the outpatient clinic review at approximately 2 weeks.

What are the risks and potential complications of arthroscopic meniscal surgery?

Arthroscopic (keyhole) knee surgery is generally low risk unless you have other medical co-morbidities. The specific risks of surgery will be discussed with you.

The risks may include, but are not limited to, anaesthesia and medical problems, scars, infection, neurovascular (nerve or blood vessel) injury, blood clots (deep vein thrombosis or pulmonary embolism), swelling, stiffness, bleeding, tourniquet related injury, ongoing symptoms, failure of the procedure and possible failure of meniscal healing if a meniscal repair is performed. Compartment syndrome is a very rare complication of surgery, where a build-up of pressure within the leg could result in nerve, blood vessel or muscle damage.

You may be prescribed compression stockings to help reduce the risk of deep vein thrombosis (DVT) or pulmonary embolism (PE) post-surgery and will often be asked to use them until you return for your first outpatient appointment. If you have had blood clots (venous thromboembolism) before or have other risk factors you may also be prescribed injections to reduce your risk of a DVT or PE.

If the meniscal tear is resected, how long is the recovery and are there any particular restrictions?

If your meniscal tear is trimmed, i.e. a partial meniscectomy is performed, you will generally be able to weight-bear and start to mobilise the knee as comfortable.

If you have had a minimal meniscal resection, you may be advised to avoid impact activities, deep squatting and twisting movements for about 6 weeks.

If you have undergone resection of a much larger tear and therefore lost more meniscal tissue, you may be given guidance to consider reducing high impact activities for the longer term because of the risk of future osteoarthritis. Should you develop pain or swelling in the future, you may need assessment to ensure your joint is not wearing out or to ensure that you do not need any other treatment/intervention.

If a meniscal repair is performed, what is the recovery time and what should you avoid?

This is dependent on many factors such as type and location of tear, your age, chronicity of the tear, quality of meniscal tissue and whether any concurrent surgery was performed. The post-operative rehabilitation will generally be individualised.

If you undergo a meniscal repair in isolation, you may be kept non-weight bearing or restricted weight-bearing for 6 weeks with crutches. Depending on the location of the tear, knee flexion may be limited possibly to 90 degrees especially for the first 2 weeks, and sometimes up to 6 weeks. You may be advised to use a hinged knee brace.

If you have a concurrent ACL reconstruction, then you may be able to weight-bear early after ACL reconstruction as growth factors released from drilling bone tunnels are believed to promote healing.

You may be able to use a static exercise bike at 6 weeks but we would advise you to avoid squatting, lifting from a squatting position and sitting cross-legged for 4 months.

If a meniscal repair is performed on a peripheral tear it may take 4 months before you can return to competitive sports. Meniscal tears located where the blood supply and

healing potential is less, such as radial tears, or complex tears may require restriction of return to full competitive sports for 6 months or more.

Meniscal cyst associated with a meniscal tear - how is this treated?

If you have a horizontal tear or split in a meniscus, fluid can leak through the tear and accumulate to form a parameniscal cyst. This is often filled with jelly-like fluid.

In general, the cyst is caused by the meniscal tear and the treatment is focused on treating the tear. This may involve trimming or suturing the tear as appropriate.

What is a meniscal root tear?

The menisci have strong attachments at their very posterior aspects. These are the root attachments and are important as they hold the meniscus in place and prevent meniscal extrusion. If you are diagnosed with a root tear, in the absence of significant degeneration in the knee, surgical root repair may be recommended. This is usually more involved than a standard meniscal tear repair.

Important: This information is only a guide to help you understand your injury, treatment and what to expect. Please contact the Chiltern Knee Clinic for advice if you have any concerns about your injury or recovery.