

Meniscal Tears (cartilage tears)

The meniscus is the real name for the disc of cartilage which we have within our knees. Most people refer to the meniscus as 'the cartilage'. They are semi-circular discs of fibro-cartilage which lie between the joint surfaces and help cushion the forces across the knee. There are two menisci in each knee – the inner or medial meniscus and the outer or lateral meniscus.

The functions of the meniscus are:

- To help transmit load across the knee from the curved surface of the femoral condyle to the flatter surface on the upper end of the tibia.
- For shock absorption.
- To add to the stability of the knee joint.
- To help with joint position sense and co-ordination of the knee.
- To help the flow of synovial fluid within the knee to nourish and protect the joint surfaces.

Meniscal tears

The meniscus is a commonly damaged structure within the knee. In general there are two types of meniscal tear (torn cartilage).

Firstly the most common type of meniscal tear is a degenerate tear. This may occur as part of generalised wear and tear within the knee as the meniscus can become less robust as we get older. As the meniscus becomes worn, it is less able to withstand the forces that pass through it and finally one day splits and tears. This type of degenerate meniscal tear can also be brought on by accidents or injuries. Part of the meniscus becomes fragmented when it splits and the loose or unstable fragments can catch and lock within the joint. If this type of tear is causing symptoms, then it is usually treated by arthroscopic resection (keyhole surgery) to remove the torn parts.

The second type of tear is one which occurs in a normal (non-degenerate) meniscus. This type of tear usually occurs due to a twisting injury to the knee causing the meniscus to be trapped between the joint surfaces but it may also occur due to either

a hyper-flexion (excessive bending mechanism) injury or hyper-extension (over straightening mechanism) injury.

This type of meniscal tear can be classified into different patterns. The tear may be a radial split across the meniscus (cartilage), a short vertical split or a longer vertical split which forms an unstable section of the meniscus which is termed a bucket handle tear.

Longitudinal splits and some bucket handle tears are repairable by putting special stitches across the meniscus.

Meniscal tears commonly occur at the same time as an anterior cruciate ligament rupture.

Frequently asked questions

What symptoms do meniscal tears cause?

The commonest symptom from a torn meniscus (cartilage) is pain in part of the knee. This may be a constant aching pain or more commonly a sharp catching intermittent pain. The tear may cause the knee to lock or jam and give a feeling of the knee giving way or collapsing. The knee will often be swollen and in some dramatic cases become locked so that it is impossible to fully straighten the knee.

What investigations are helpful?

Meniscal tears do not show on plain x-rays although these can be helpful to exclude arthritis within the knee. An MRI scan of the knee is the best way of showing a possible meniscal tear and is usually accurate in approximately 94% of cases.

What treatment options are available?

Some meniscal tears do not cause symptoms or cause symptoms which settle after a few weeks or months. Physiotherapy may be helpful to improve movement in muscle strength, but does not remove the underlying tear within the meniscus.

Meniscal tears that cause symptoms are best treated by arthroscopy (keyhole surgery) to either trim away the torn portion of the meniscus or repair the tear. I am in favour of repairing meniscal tears when possible, particularly in younger athletic patients, as this can help preserve the function of the knee in the future. (See video link on meniscal tears)

Which type of meniscal tears are repairable?

Tears that stand the highest chance of success from repair are those that are short longitudinal tears that occur near the periphery of the meniscus. This is because the blood supply is better around the outer part of the meniscus. It is also possible to

repair some bucket handle tears. Meniscal repair can also be done at the same time as other procedures such as anterior cruciate ligament reconstruction.

What is the necessary rehabilitation after treatment?

After simple excision of a meniscal tear the recovery is usually fairly rapid. It is quite safe to fully weight bear and move the knee as much as is comfortable. Most patients are able to drive again after 10-14 days and are able to get back to normal activities after 4-6 weeks. Occasionally the recovery is slower particularly when there are other wear and tear changes within the knee. The risk of complications is very low.

If a meniscal tear is repaired then it needs to be protected whilst the tear heals. I usually recommend using a knee brace for between 4-6 weeks after the operation which then allows full weight bearing with the knee locked straight. The brace can then be removed or unlocked to allow the knee to bend when sitting or lying down. It is usually possible to return to sports 3 months after repair. The risk of complications is low but the biggest problem is the tear not fully healing and needing further keyhole surgery.