



Acute meniscal tears non-operative management: Information and advice for patients

This leaflet gives advice and exercises to patients who have been diagnosed with an acute meniscal tear. If you have any questions or concerns, please speak to your physiotherapist.

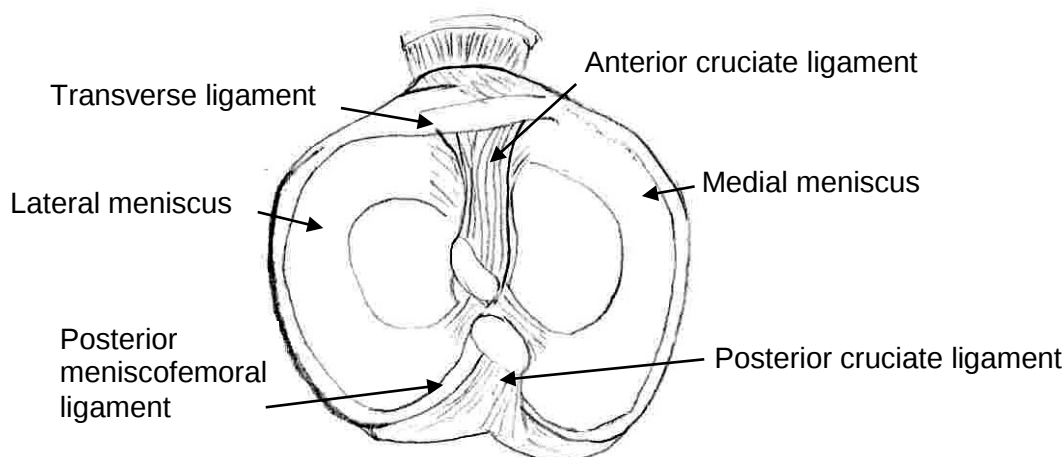
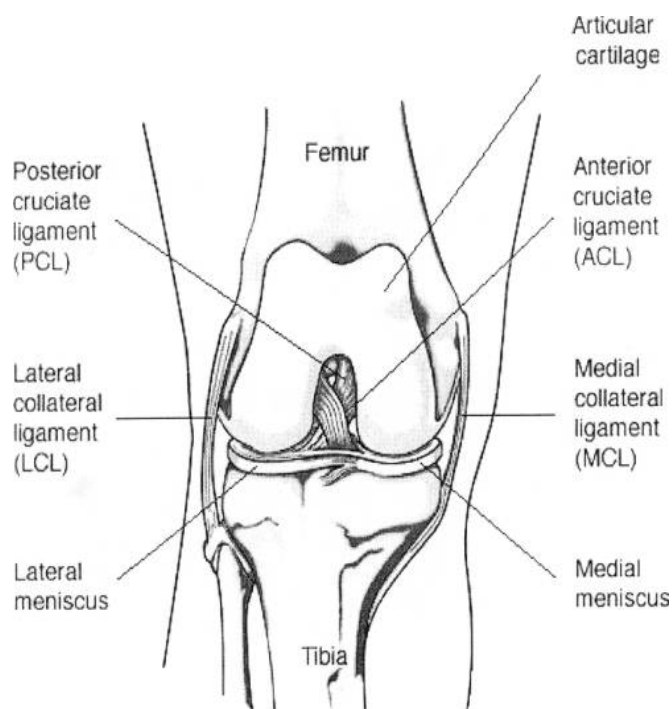
What are the menisci?

The menisci are C-shaped tissues inside the knee joint. They help to cushion the thigh bone (femur) and the shin bone (tibia). There is one on the inside of the knee (medial) and one on the outside of the knee (lateral).

The meniscus play several important functions:

- They work as a shock absorber and help spread the weight of your body evenly across the knee joint.
- They help with joint lubrication
- They help increase joint stability

The outer parts of the meniscus have a good blood supply but the middle and inner parts have a poor blood supply. Because of the effect the blood supply can have on healing, the location of a tear will affect treatment options.



Cross section of the knee showing the anatomy

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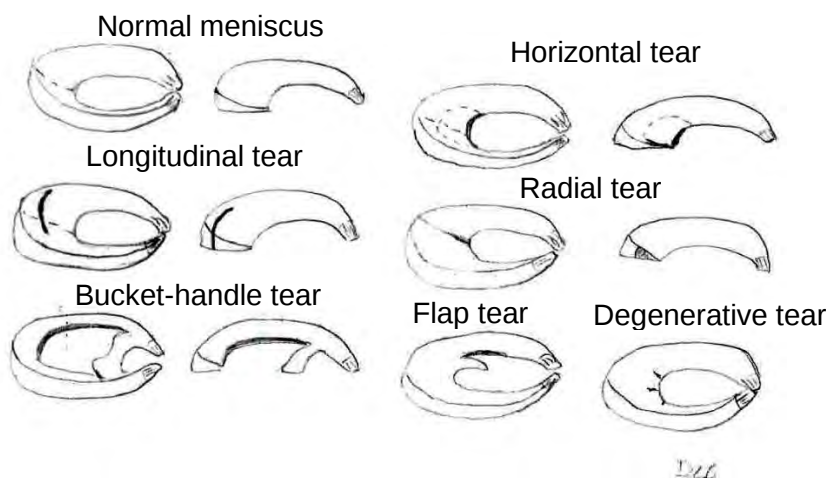
How are the menisci injured?

The menisci are commonly injured parts of the knee joint. They can be injured in two ways:

- **Acute meniscal tears:** usually due to a specific injury, e.g. in sports such as football, rugby or skiing, where menisci can be torn from twisting movements while weight-bearing through the knee joint. The meniscus can be partially or fully torn. These types of tear have the potential to heal, depending where they are within the meniscus, i.e. in a good or poor area of blood supply.
- **Degenerative meniscal tears:** not due to a specific injury. These can occur at any age, although are more common in middle age or older people. There is usually no specific injury or incident, but are probably an early sign of osteoarthritis (the normal ageing process of joints), rather than a completely separate diagnosis. They gradually come on and can get worse. They can also be pain free, as the changes within the menisci are perfectly normal age-related changes and responses that happen within the knee as we get older. The knee pain if present, is often difficult to pinpoint. Research shows that it is more difficult to heal a tear caused by deterioration than one from an acute trauma that can occur earlier in life.

Types of meniscal tear

There are six types of meniscus tears: horizontal, longitudinal, radial, bucket-handle, flap and degenerative.



Symptoms

Symptoms of an acute meniscal tear vary. Some patients may present with minimal symptoms that do not really limit their function, while others may be very restricted. Symptoms may include:

- **Pain:** Pain is the most commonly associated problem caused by a meniscal tear. Intensity may vary from mild to severe to aches and sharper pains. Pain may be aggravated with twisting movements, impact activities, squatting and kneeling movements. Pain is often felt over the joint line (where you thigh bone (femur) and shin bone (tibia) join). The side of pain usually indicates if it is the medial (inside) or lateral (outside) meniscus that is affected. Some patients may have heard a “pop” at the time of the injury.
- **Swelling:** Often develops within a day or two of the tear. Swelling may last up to several months.

- **Altered function of the knee:** Some people may not be able to fully bend their knee. Straightening the knee may also cause pain, and people may experience difficulty with walking. If fragments from the torn meniscus interferes with the normal movement of the knee, some people may also experience “locking” or “catching” of the knee.
- Some people also report a **clicking sound** when they walk. You may be unable to straighten the knee fully. In severe cases you may not be able to walk without a lot of pain. On the other hand, activities such as going down the stairs may result in giving way of the knee joint.

Self-help / management

Some people only ever have mild symptoms that do not worsen. Many people are able to manage their degenerative menisci themselves and with simple management may be able to reduce the pain, increase their activity and function, and reduce their need for painkillers. The following may be helpful.

Exercise

Joints need to be exercised regularly to remain healthy. Whatever your fitness level, exercise can help the knee cope with normal daily activities again.

- Exercise can help to strengthen the muscles around your knee, improve your posture and help you lose weight; all of which will help to reduce your symptoms.
- Maintain joint stability and movement. Non-weight bearing exercises will help to build up the muscles so that the stress is reduced on the joint and surrounding soft tissues and can help to maintain the range of movement. This could include cycling outside or on a static bike. Ensure that the saddle is correctly adjusted and not too low. Avoid lots of hills as the extra stress may aggravate your knees. Do your exercises daily, 10-15 minutes is all that is needed.
- Exercises in weight bearing positions can also be included if your symptoms are not aggravated by them. They can be incorporated into your activities of daily living, e.g. squats climbing stairs etc.
- Aerobic exercise (any exercise that increases your heart rate and makes you a little short of breath) should also be included. It is good for your general health and well-being and can reduce pain by stimulating the release of endorphins (pain relieving hormones). It can also make you sleep better. You should aim to do 2 hours and 30 minutes of aerobic exercise a week. You do not need to do this all in one go.
- Swimming and exercises in water can help your joints as the water helps to support the weight of your body and reduces the stresses on your knees but allows you to keep moving. Be careful with breaststroke as the twisting action may aggravate your knee.
- Avoid long periods of standing. If unavoidable, shift the weight from one leg to the other. Sitting for long periods may cause stiffness. Try to get up and walk around or change your position regularly, e.g. every 20-30 minutes. Remain as active as you can and find the right balance between exercise and rest for your knee.

Weight management

- Avoid becoming overweight as this can lead to increasing stress on the knee and increased pain.
- If overweight, losing weight can help. For every one pound in weight lost, there is a six pound reduction in the load exerted on the knee for each step taken during daily activities.
- There is no special diet that will help but if you need to lose weight you should follow a balanced, reduced calorie diet combined with regular exercise. Your GP should be able to advise you regarding diets and exercise that may help.

Reducing the stress on your knee

There are also a number of ways that can help you to avoid unnecessary stress on your knees:

- Pace your activities – don't tackle all your physical jobs at once. Break the harder jobs into smaller chunks and do something lighter in between them. Keep using your knee even if it is slightly uncomfortable but rest before it becomes too painful.
- Avoid long, hilly walks on hard ground. Be careful and slow down when walking on uneven ground.
- Where possible, avoid carrying heavy loads. Balance loads between both hands and decrease the loads by increasing the number of journeys if you are able.
- Avoid twisting the knee, move the whole body and feet as one.
- Wearing a knee support may help your symptoms but ideally should not be worn long term. You can purchase these off the shelf from many pharmacies, or ask your physiotherapist for advice. A simple Tubigrip support may help to provide some relief and a feeling of stability to the knee.
- Use a stick to reduce the stress on the joints when walking or standing for long periods.
- Try to wear sensible shoes that support your feet and have low heels.

Pain relief

Pain relieving medication can be used to help ease pain and stiffness caused by degenerative menisci but they will not prevent or cure the condition itself.

Some of the medications that you can try include:

- Painkillers – simple over the counter painkillers such as Paracetamol may help but your doctor can prescribe stronger painkillers if necessary.
- Non-steroidal anti inflammatories (NSAIDs), e.g. Ibuprofen. A short course may help to reduce any pain, inflammation and swelling in your knee.
- Capsicum cream – a pain relieving cream made from the pepper plant. This is available on prescription and may help if rubbed into the painful area.
- Intra-articular steroid injections – may provide short term pain relief .The effects can last between a few weeks and a few months but will need to be discussed with your health care provider to see if they are suitable.

Other things which may help with pain relief are:

- Ice – for 15 – 20 minutes. Place a dampened cloth over the knee and apply the ice pack over this to prevent an ice burn. Wrap the knee in a towel if necessary to keep the ice pack in place. Packets of frozen peas or crushed ice in a bag are the most convenient and re-usable

although re-usable gel packs are also available.

If you are taking over the counter medications make sure you are taking them safely as directed by your doctor or the patient information leaflet included with the drug. Make sure that whoever is treating you knows all the medication you are taking.

Can surgery help?

Surgery may be considered if you have a large meniscus tear, if there are clinical symptoms of “catching” or “locking” and / or localised knee pain, if you have recurrent symptoms or you’ve tried physiotherapy on its own for at least three months and it hasn’t helped. What treatment you’re offered will depend on exactly where the meniscus tear is, how big it is, how severe your injury is and your age. Keyhole surgery (knee arthroscopy) may involve either repairing your torn meniscus, or removing the damaged part of your meniscus (partial menisectomy). The length of time it will take you to recover from this surgery will be dependent on what surgery is undertaken and will be discussed with you.

How will physiotherapy help?

This is only one part of your treatment. It will help to identify the main contributory factors for your pain and give you a specific targeted rehabilitation programme.

Exercises to increase the muscle power in the muscles at the front of your thigh, to help support the knee joint and to maintain range of movement are one of the most important treatments for degenerative meniscal tears. They may help to alleviate pain and stiffness. Exercises targeted at the bottom muscles (glutes) can improve the control of single leg movements e.g. climbing stairs and walking.

It is important to continue with your exercises even if your knee starts to feel better. Stopping or reducing the amount of exercise you do could cause your knee symptoms to come back. Try to build them into your daily routine.

How long will it take to get better?

It can take a variable amount of time for your knee to settle with non-operative management. With regular exercises we would expect to see a difference in 3-6 months. With continuation of the exercises, this benefit may be maintained and further improvements seen.

If you have had to have arthroscopic surgery to tidy up or repair the meniscus, then recovery can take up to 6-12 weeks to allow the meniscus to heal. If you have had your meniscus repaired, you may be in a brace for the first six weeks, with a restricted range of movement to protect the repaired tissue. Physiotherapy will often be required after meniscal repair.

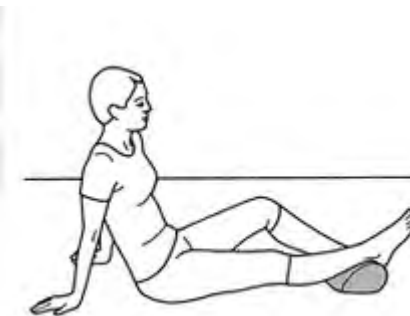
Do I need an MRI scan or x-ray?

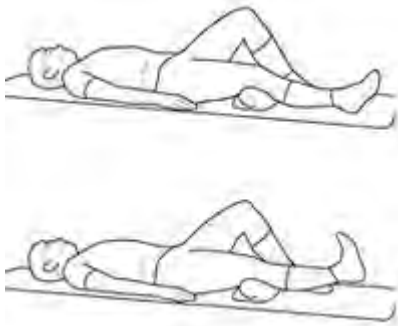
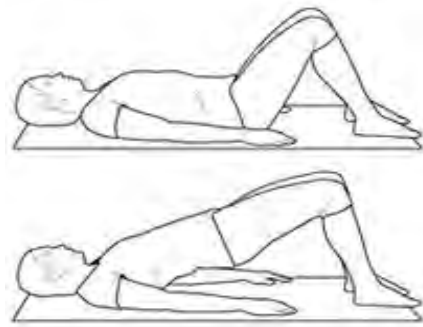
MRI (Magnetic Resonance Imaging) scans give a very detailed picture of the knee and may form part of the assessment process. However there is poor correlation between MRI findings of meniscal tears and level of pain experienced by patient. The best way to understand your symptoms is a detail assessment by your physiotherapist, GP or consultant.

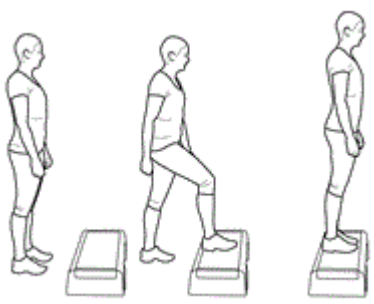
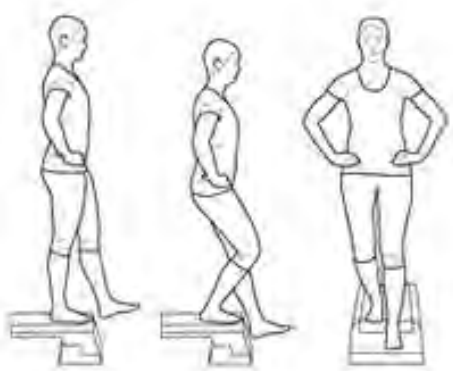
How do I manage ongoing pain?

With degenerative meniscal tears, sometimes a flare up of symptoms can occur without warning. These flare ups are often associated with changes in activity or load. During a flare up, exercises and daily activities should be modified to decrease the load on the knee. As the symptoms settle, exercises and normal activities should be gradually built up again.

Home exercises

	1. Sitting with your back supported and your legs out straight in front of you. • Bend your knee as far as possible. Gently bend your knee a little more. • Hold for 10 seconds. • Repeat 10 times. • To help bend your knee, you may put a towel around your foot, or help bend your knee with your hands around your thigh. • Try to do this exercise 2-3 times a day.
	2. Lying on your back or sitting with your back supported and your legs out straight in front of you. • Place a rolled towel under your ankle. • Pull your feet up towards you. Push your knee down firmly so that your thigh muscles tighten. • Try to touch the floor with the back of your knee. • Hold for 10 seconds. • Repeat 10 times. • Try to do this exercise 2-3 times a day.
	3. Lying on your back or sitting with your back supported and your legs out straight in front of you. • Pull your feet up towards you. Push your knee down firmly so that your thigh muscles tighten. • Keeping your knee straight, lift your leg up to just clear the bed. • Hold for 10 seconds and lower slowly. • Repeat 10 times.

	4. Lying on your back or sitting with your back supported and your legs out straight in front of you. • Place a rolled up towel or cushion under your knee. • Push your knee down hard and straighten your leg. • Hold for 10 seconds. Repeat 10 times.		
	5. Lying on your back or sitting with your back supported and your legs out straight in front of you. • Bend your knee to 45 degrees. • Pull your toes up towards you, and dig your heel into the bed. • You should feel the muscles of the front and back of your thigh tighten. • Hold for 10 seconds. • Repeat 10 times.		
	6. Lying on your back with your knees bent and feet hips width apart. • Draw in your abdominals and tighten your buttocks. • Tilt your pelvis backwards and lift your pelvis up. Only lift as high as you are able while maintaining your pelvis position. Do not let your back arch. • Hold for 5-10 seconds • Lower your pelvis down in a controlled manner. • Repeat 10 times		
	7. From a sitting position, try to stand up from the chair without using your hands. • Slowly lean forwards and stand up, then slowly sit down again. • You may need to use your arms to help at first. Try not to drop into the chair but try to control the movement. • This can be made easier and more difficult by changing the height of the chair. • Try to avoid letting your knees roll in to touch each other. It may help to place a resistance band around your legs to encourage you to keep your knees apart. • Repeat 10 times.		
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	8. Stand in front of a table or chair, holding on to the support with both hands. • Slowly crouch down, keeping your back straight and your heels on the floor. • Stay down for approximately 30 seconds and feel the stretching in your buttocks and the front of your thighs. • Repeat 10 times.
	9. Stand up straight and try to balance on one leg. • If you are unsteady rest your hand lightly on a nearby surface. • Try to hold this position for 5- 10 seconds. Gradually increase the time up to 30 seconds as it becomes easier. • You can make this exercises more difficult by: - o Closing your eyes - o Using a folded towel or cushion to stand on - o Tapping the toes of your non weight wearing leg around the numbers of an imaginary clock face. Allow your weight bearing leg to bend slightly. • Repeat 5-10 times.
	10. Start by standing in front of a step or at the bottom of the stairs. • Step up onto the step and straighten the hip and knee. • Do not let your knees roll in keep good hip knee, ankle alignment. • Step down again. • Repeat x 5-10 times on each leg. Repeat 2-3 sets.
	11. Stand on your affected leg on a step facing down. • Slowly lower yourself down by bending your knee to 30 degrees. • Try to keep the knee of your affected leg over your 2nd/3rd toes. • This can be made more difficult by bending your knee more so that the heel of your unaffected leg touches the ground and/or by increasing the height of the step and doing the exercise more slowly. Additionally a small weight could be held in each hand. • Repeat 5-10 times.

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In the gym

If you have access to a gym and they have a leg press machine and /or knee extension and hamstring curl machines then these are also good exercises to do to strengthen your leg muscles.

Start with lower loads and gradually build up.

Speak to your physiotherapist if you have any questions regarding using these machines.

With non-operative management, you should wait until your knee is not swollen, is pain free and has full range of movement before attempting to return to impact type activities, e.g. running, jumping and hopping. These activities should then be returned to slowly and reduced should any of your symptoms recur.

Please note: During the previous exercises, you should not push into pain but mild discomfort is acceptable. They are designed to stretch, strengthen and stabilise your knee.

As is usual with any new exercise, your muscles may ache and you may experience new aches and pains for a few days, these should settle. If they do not, try to establish the aggravating exercise and leave this out of your exercise programme for a few days and then try again. Carry on exercising even if your symptoms ease as this can help stop them coming back.

Exercise pictures © Physio Tools Ltd.

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To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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