



YOUR GUIDE TO

MENISCAL TEARS

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Introduction

Please take note of the following before starting any of the exercises in this guide:

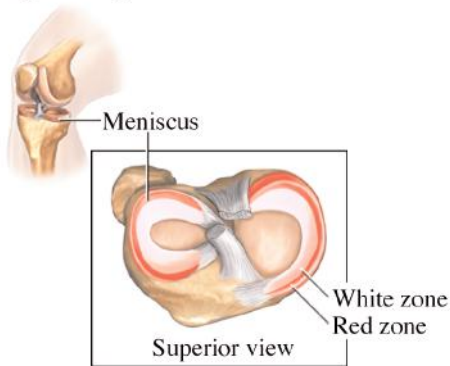
- The information contained in this guide is intended to assist in managing your recovery.
- This guide is based on the latest medical research in the field and contains the best advice available to the best of our knowledge.
- This guide is complimentary to other medical services and is not intended as a substitute for a health care provider's consultation. Never disregard medical advice or delay in seeking advice because of something you have read in this guide.

● Many people have found quick and lasting relief from their knee pain by acting upon the information provided, but everyone decides for themselves what to do with this information. Should you doubt a particular exercise in your situation, please consult your health professional.

When consulting your health professional, it is wise to take this guide with you to show them.

What is a Meniscus?

Right knee joint



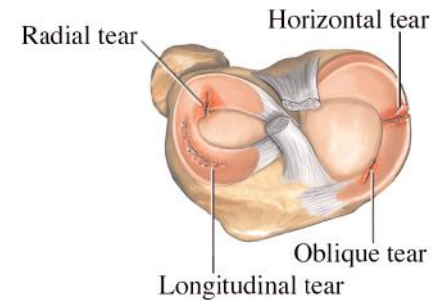
There are two menisci in the knee which sit between the thigh bone (femur) and shin bone (tibia). They are c-shaped wedges of tough cartilage which conform to the bones on which they sit. It is important to realise that both the covering of the bones within the knee joint (femur and tibia) and the menisci are made of cartilage. However when people talk about a cartilage tear, they are referring to the meniscus.

There is one meniscus on the inner side of your knee (medial meniscus) and one on the outer side of your knee (lateral meniscus). The medial meniscus is larger and attached more firmly than the loosely fixed lateral meniscus. This also results in the medial meniscus being a more common injury than that of the lateral meniscus. Due to its attachment to the medial collateral ligament (MCL) and the anterior cruciate ligament (ACL) it is not uncommon for damage to the

medial meniscus to occur when either of these two ligaments is injured. If all three are injured at the same time it is referred to as the 'unhappy triad'

The menisci are essential for the normal functioning of the knee joint; acting as lubricators, stabilisers, shock absorbers and distributors of load within the joint. The menisci therefore prevent the uneven distribution of weight which would cause excessive forces in specific areas of bone that could lead to early arthritis of the knee joint. The wedged profile of the meniscus, which keeps the rounded femur surface from sliding off the flat tibial surface, helps to maintain the stability of the knee joint. The meniscus is nourished by small blood vessels (on the outer region - red zone), but there are also large areas in the centre which have no direct blood supply. This presents a problem when the meniscus is damaged as the avascular areas (areas with no blood supply - the white zone) tend not to heal and therefore surgery may be required to remove the damaged piece of meniscus. Since the menisci prevent your femur and tibia from grinding against each other, damage to the menisci in the avascular area, which requires surgery and the removal of the damaged part, is associated with progressive wear of the articular cartilage (cartilage around the end of the tibia and femoral bones) and the development of osteoarthritis.

What Causes a Meniscus Tear of the Knee?



The two most common causes of a meniscus tear are due to a traumatic injury (often seen in athletes) and degenerative changes which are often seen in older people whose cartilage is more brittle. Most traumatic injuries occur when a rotational force is applied to a bent knee. The direction of the force (i.e. from the inner or outer side of the knee) will determine which meniscus is injured. Degenerative tears occur as a result of wear and tear of the meniscus over time which results in it becoming thinner, weaker and more susceptible to tearing.

Tears result in characteristic symptoms of pain, swelling, locking and giving way. Pain is mostly localised to the site of the tear, and tenderness is felt on palpation of the joint line. Joint locking can also occur in certain types of tears, where the displaced meniscus blocks full straightening of the knee. If manual manipulation is required to unlock your knee, it is essential that you consult with your doctor or allied health professional so that diagnostic tests can be performed and the appropriate treatment provided. If you are unable to unlock your knee yourself it is essential that you consult the A&E department to prevent flexion contractures forming which will serve to prolong your rehabilitation. If locking is occurring, surgery will be required to remove or repair the damaged piece of cartilage.

What Treatment can I Receive?

Depending on the extent and region of the tear, treatment of meniscus injuries can be either conservative or surgical.

CONSERVATIVE TREATMENT

If your knee is stable and not locking, conservative treatment may be all that you need for a full recovery. If the tear is on the outer edges of the meniscus, the blood vessels that supply this region give the cartilage the potential to heal on its own without surgical intervention being required. The initial treatment for all meniscus tears should start with the conservative approach of Rest, Ice, Compression and Elevation for the first 24-48 hours after the injury.

Rest: Rest is essential following a meniscus injury until it has been assessed, as further movement will only aggravate the injury resulting in more pain and swelling, prolonging recovery. You may not have much of a choice as weight bearing could be painful and your knee may lock or feel unstable.

Ice: Ice should be applied for 10-15 minutes every 2 hours and should never be applied directly to the skin (therefore always cover it with a tea towel or thin cloth). If you do not have an ice pack, frozen peas provide a good substitute. See Ice guidelines below.

Compression: Use a brace or compression bandage to support the knee and prevent further damage until treatment can be received. This will also help to control the inflammatory process and bleeding within the joint. It is important not to use a brace for long periods of time unless it is under the control of your allied health professional. Long periods of using a brace without the appropriate rehabilitation of the joint will result in muscle weakness and therefore brace wearing should be limited to the initial stages of injury.

Elevation: Try and keep the knee raised to help control the inflammatory process and bleeding within the joint during the first 24-48 hours.

Nonsteroidal anti-inflammatory medications: This can be used in conjunction with RICE treatment to help limit the inflammation in the joint.

Electrotherapy: This can be used by your physiotherapist to try and speed up the recovery process and reduce pain and inflammation

Exercise: This is essential after the acute stage, once pain has subsided, to ensure that appropriate range of movement, balance and strength is regained, to enable full and safe return to function. The exercises provided in this pack will help to strengthen the muscles around the knee joint which will serve to protect the joint and prevent future injury. See general exercise programme below.

PRECAUTIONS WHEN USING ICE THERAPY.

- **Ice treatment must be used carefully otherwise it may cause a skin burn.**
- **Never put an ice pack directly onto the skin, always use a damp towel or cloth to prevent an ice burn.**
- **Only apply an ice pack to areas of skin with normal sensation i.e. you must be able to feel hot and cold.**
- **Never put an ice pack over an open wound or graze.**
- **Do not apply an ice pack to an area with poor circulation.**
- **Never leave an ice pack on the skin longer than the time stated in this advice sheet.**
- **Adults should always supervise young children when using ice packs. Application may be reduced and extra care should be taken when checking the skin.**

● Remember to check the skin underneath every 5 minutes for:

- Whiteness of the skin
- Blueness of the skin
- Blotchy and painful skin
- Excessive numbness

If you get any of these symptoms remove the ice pack immediately.

SURGICAL TREATMENT

Surgical management of meniscal tears include partial meniscectomy and repair. There are a number of factors which determine which type of surgery you will have including; the type of tear, whether there are any other structures damaged in your knee, the age of the tear, your age, as well as your expected compliance with post-operative instructions.

Meniscal Repair:

This is a surgical procedure done to repair the damaged meniscus. This surgery can restore the normal anatomy of the knee and has a better long-term prognosis when it is successful. It is however a more significant surgery, the recovery process is longer and because of the limited blood supply to the meniscus, repair is not always possible (especially if the tear is in the avascular region of the meniscus)

Meniscectomy:

In the past, a total meniscectomy was performed (the removal of the greater part of the meniscal cartilage), but this is now known to lead to progressive degenerative disease of the joint. A partial meniscectomy is now performed whereby the bare minimum of the damaged meniscus is removed, to try and ensure that the integrity of the joint is maintained as much as possible. This procedure is more commonly performed than a meniscus repair as most meniscus tears cannot be treated by a repair due to their position or severity. The

recovery after a meniscectomy is a lot faster; however as already stated, long term problems may result due to the absence of the normal meniscus.

Post operative protocols vary between surgeons and with the type of surgery you have had. With a meniscal repair, most patients will be asked to follow a strict physiotherapy programme and avoid contact sports for six months. After a meniscectomy patients will still have to follow a physiotherapy rehabilitation programme, but can resume normal activities after two weeks.

What exercises can I do?

It is important that you are aware that this is a general exercise programme for meniscus injuries of the knee, which can be adjusted depending on advice that you have been given by your health professional on assessment and the severity of your injury. As already stated, it is essential that you consult with your doctor or allied

health professional for a full assessment to ensure that no other structures are damaged, and so that the correct treatment for the extent of your injury can be prescribed. It is also important to show this exercise programme to your doctor or allied health professional to ensure that these exercises are right for you.

Exercises

- Keep all exercises in your pain free limits. Trying to work in painful ranges will only prolong your recovery.
- If you experience pain during any of the exercises, decrease the intensity of the exercises by:
 - decreasing the number of sets
 - decreasing the number of repetitions
 - decreasing the range of movement
 - decreasing the resistance
- Do all exercises slowly and breathe normally.
- Progress gradually according to your own level of comfort.
- Following exercise, stiffness or fatigue may result but should not last longer than 24 hrs. The symptoms of your injury should not be aggravated.

Exercises phase 1

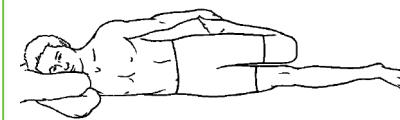
All exercises should be performed with control and in a pain free range of movement

STRETCHES

- Hold each stretch for **30 seconds** and repeat **2-3 sets** on each leg
- **Do not bounce** the stretch
- **Do not work into pain.** You should only be feeling a good pull in the muscles, not pain.

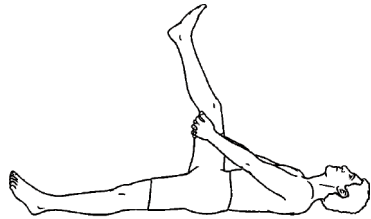
QUADRICEPS:

Lying on your right side, your right arm extended up to cushion your head, use your left hand to grasp your left ankle as you bend your left knee



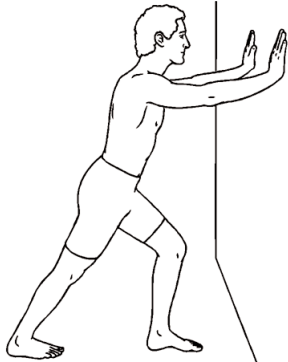
backwards. You should feel the stretch along the front of your thigh. Repeat this twice. It is important to keep the other leg bent at both the hip and the knee, so as not to hyperextend your back. You can use a towel to help with the stretch if you are unable to bend your knee too far, by wrapping it around your ankle and holding the other end.

Exercises phase 1 (continued)



HAMSTRING STRETCH

Lying on back with one leg straight, raise the bent knee towards you and hold behind your knee. Now slowly straighten your knee until a stretch is felt in the back of the thigh. You can use a towel to help with this stretch if needed.



CALF STRETCH

Keeping back leg straight, with heel on floor and turned slightly outward, lean into wall until a stretch is felt in calf.

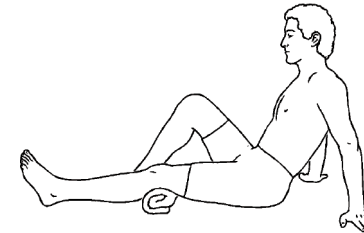


BUTTOCKS STRETCH

Lying on your back, rest your right ankle on your left knee. Using your hands lift your left leg into the air, bending the knee at 90°. Pull your left leg gently towards your body. You should feel a stretch in the upper back part of your right leg. A towel can be used to aid you in this stretch if you are unable to reach your leg

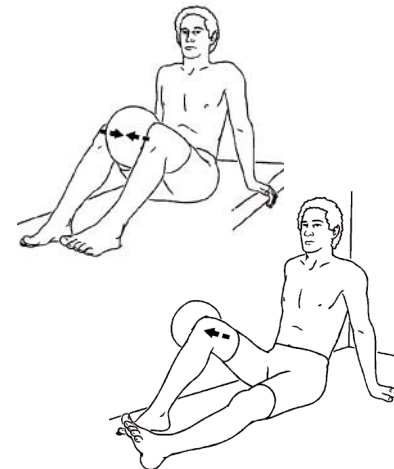
STRENGTH EXERCISES

- Repeat 2 sets of 10-15 repetitions on each side (unless otherwise stated in the exercise)
- Perform each exercise in a controlled manner and within a pain free range of movement
- If you are experiencing pain with any of these exercises and have already reduced your range of movement, it is important that you consult with a physiotherapist or allied health professional.



TERMINAL LEG EXTENSIONS

Sitting on the floor with one leg outstretched in front of you and a pillow/rolled up towel under the knee. Push your knee into the pillow/towel and at the same time allow your heel to lift off the floor, straightening the leg, hold for 10 seconds (contracting the VMO muscle group), and then relax. Repeat 10 times.

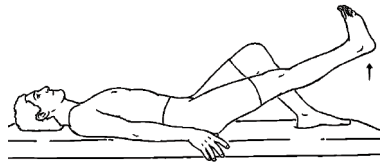


BALL SQUEEZING AND PUSHING

(a pillow can be used)

Lying on your back with your knees bent, firstly place the ball between your knees and squeeze. Hold for 10 seconds and repeat 10 times. Now place the ball between your knee and the wall, push out for 10 seconds and repeat 10 times on each leg

Exercises phase 1 (continued)



STRAIGHT LEG RAISES

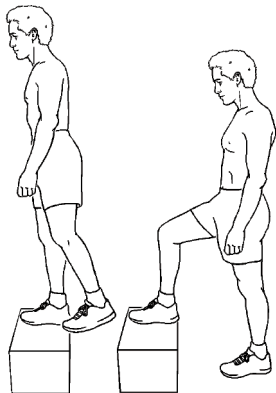
Lying on your back with your arms next to your side and one leg out stretched in front of you. Keep one leg bent, foot flat on the floor, and now raise the other leg to the height of the bent knee, keeping the leg straight. Repeat 10 times on each leg in each foot position

1. Toes pointing straight upwards
2. Toes pointing outwards.



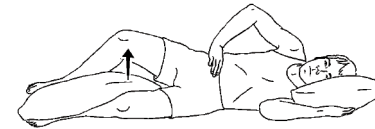
BRIDGING

With your pelvis in neutral (hip bones facing towards the ceiling) and TA contracted (pull belly button to spine), slowly raise buttocks from floor, keeping your pelvis stable and body in a straight line. Hold for 10 seconds and repeat 10 times



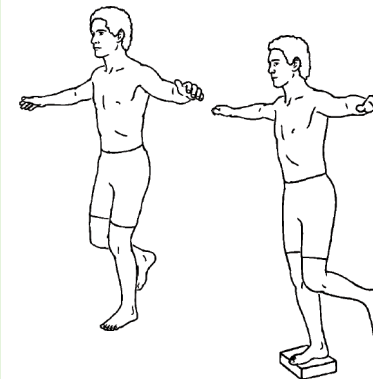
STEP-UPS

Stand on one leg on a step facing up the stairs. Slowly lower yourself by bending your knee. Return to starting position without pushing off with the opposite leg. Have your weight on your heel more than your toe, but foot flat, and your knee should be in line with your second toe when bending it i.e. be aware that your knee and foot do not roll inwards. Perform 2 sets of 10 reps per leg.



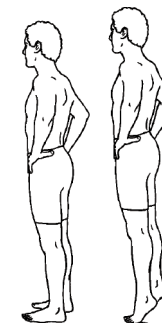
GLUTES WITH THERABAND

Assume a side lying position with the knees bent and a black theraband tied around both knees. Keeping the feet together, lift the top knee up against the band as high as possible without the hips opening out, i.e. hips stay square and forward. Hold for 10 seconds. Repeat 10 times on each side.



STORK STANDING:

- Balance on one leg for 30 seconds and repeat with the other leg.
 - Repeat the above with your eyes closed.
- Progress the above to standing on an unsteady surface, e.g. a cushion or a narrow piece of wood.



CALF RAISES:

Supporting yourself against a wall, raise up onto your toes in the following manner: First onto your big toe, then onto the middle of your foot and then onto your little toe. Repeat this sequence 10 times.

Exercises phase 2

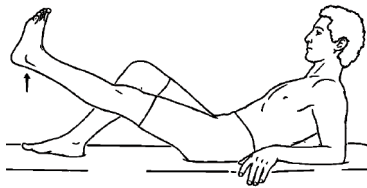
Phase 2 exercises can be started when you are able to do all the Stretching and Strengthening exercises in Phase 1 with no adverse effects and good control. Continue to

work in a pain free range of motion, and continue to do the stretching exercises of phase 1 with each exercise session

STRENGTH

● Repeat **2 sets** of **10-15 reps** on each side (unless otherwise stated in the exercise)

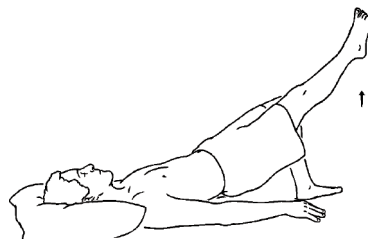
● Maintain good control and form throughout the exercise i.e. in both directions of movement



STRAIGHT LEG RAISE

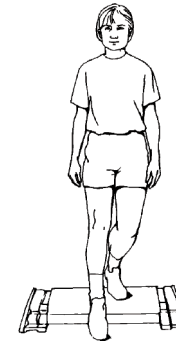
Rest on your forearms, and lift your leg to the height of your bent knee. Keep your leg straight and don't let it rest on the floor on the return down. Repeat 10 times on each leg in each foot position

1. Toes pointing straight upwards
2. Toes pointing outwards.



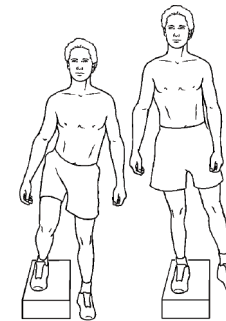
BRIDGING WITH ONE LEG EXTENDED

Lying on your back, bend both knees to 90° with your feet flat on the floor. Tighten T.A. and lift your pelvis and lower back off the floor. Now lift one foot off the floor, hold for 10 sec, put it back down, repeat with the other foot, and then relax completely. Begin again. Keep the T.A. and Glutes tight throughout the movement to keep the pelvis stable and without dropping to the one side. Repeat 10 times per leg.



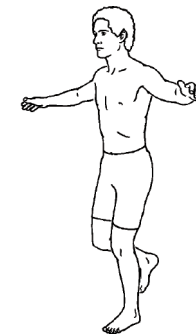
STEP-DOWNS

Stand on one leg on a step facing down the stairs. Slowly lower yourself by bending your knee. Return to starting position without pushing off with the opposite leg. Be aware that your knee and foot do not roll inwards, that your weight is mostly on your heel with your foot flat, and that your knee goes down in line with your second toe.



LATERAL STEP-UPS

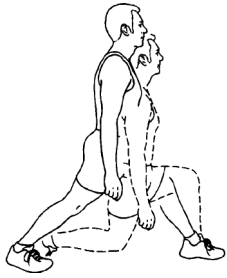
Standing side on to a step, slowly lower yourself by bending your knee. Return to starting position without pushing off with the opposite leg. Be aware that your knee and foot do not roll inwards, that your weight is mostly on your heel with your foot flat, and that your knee goes down in line with your second toe. Make sure the movement is controlled.



STORK STAND PICK-UP

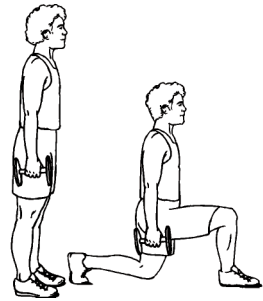
Standing on one leg, with your weight on your heel, bend down to pick up a weight with the opposite hand ensuring that your weight stays on your heel, and that your knee goes down in line with your second toe. Also ensure that your knee and not your back does the bending work. Repeat 10 times on each leg (up and down is one repetition)

Exercises phase 2 (continued)

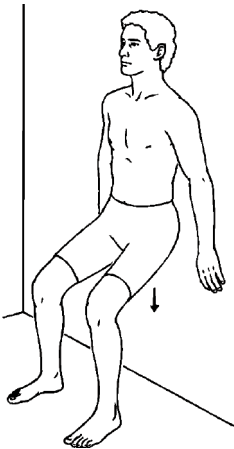


LUNGES

Place one foot in front of the other. Bend both knees together until you have a 90° bend in both. Ensure that your front knee does not go over your front foot when bending to 90°. Return to the starting position. Perform 1 set of 10 reps per leg (complete all 10 reps with the one foot forward before changing and starting with the other leg in front).

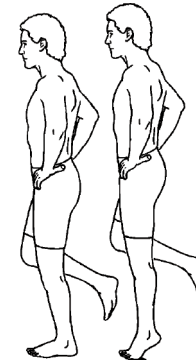


Progress this exercise to stepping lunges (i.e. start with feet together and step into a lunge position) once you are pain free with the above. Again when you lunge down, make sure that both knees are at a 90° angle and then return to the starting position



WALL SLIDES

Stand leaning up against a wall, your feet a little away from the wall with your toes pointing forwards. Push your back against the wall. Slowly lower your body into a seated position and hold this position for 10 seconds. Complete 10 repetitions. Make sure that you work in a pain free range of movement, that you don't go down further than 90° in your knees, and that your feet are far enough forwards that your knees do not go over your toes



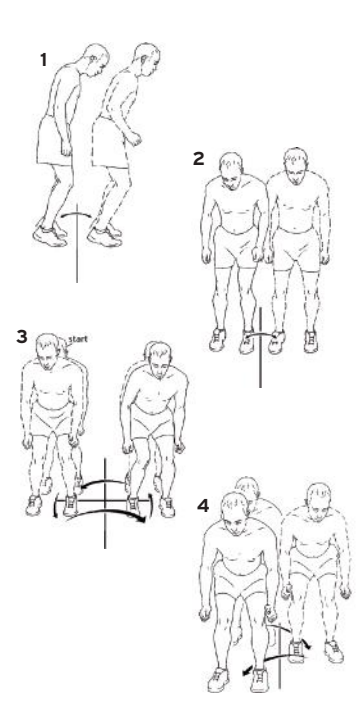
SINGLE LEG CALF RAISES

Standing on one leg, supporting yourself against a wall, raise up onto your toes in the following manner: First onto your big toe, then onto the middle of your foot and then onto your little toe. Repeat this sequence 10 times per leg

Exercises phase 3

Progress to this phase once you are able to complete the exercises in phase 2 with control and pain free.

FUNCTIONAL DRILLS



The illustrations show four numbered steps for hopping and running drills. Step 1 shows a person hopping forward and backward. Step 2 shows a person hopping side to side. Step 3 shows a person starting a square jump. Step 4 shows a person jumping diagonally forward and backward across a central imaginary line.

HOPPING
Standing on two legs hop from one point to another in the following manner

1. Forward and backward
2. Side to side
3. Jump in a square
4. Jump diagonally forwards and backwards across a central imaginary line

Repeat each sequence 10 times per leg.
Progress to hopping on one leg.

RUNNING DRILLS:
These can be done once the above can be performed without pain and with good control. With the drills try replicating movements that you could do in your sport i.e. running forwards, backwards, side to side, sudden change of direction, zig-zag running etc. Also try and change the pace as you do them i.e. sudden sprinting, sudden stopping.

Contact us

This guide is designed to assist you in the self-management of your injury/condition.

We are here to assist your recovery in the shortest but safest possible time. If you have any uncertainties or queries

regarding the information, please do not hesitate to contact us on:

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www.mdphysiotherapy.co.uk