MENISCAL (CARTILAGE) TEAR

What is a meniscal (cartilage) tear?

The meniscus is a piece of cartilage in the middle of your knee. Cartilage is tough, smooth, rubbery tissue that lines and cushions the surface of the joints. You have a meniscus on the inner side of your knee (the medial meniscus) and a meniscus on the outer side of the knee (the lateral meniscus). Each meniscus attaches to the top of the shinbone (tibia), makes contact with the thighbone (femur), and acts as a shock absorber during weight-bearing activities. If a meniscus tears, it can cause knee pain and can limit motion.

How does it occur?

A meniscal tear can occur when the knee is forcefully twisted or sometimes with minimal or no trauma, such as when you are squatting.

What are the symptoms?

Symptoms may include the following:

- You have pain in your knee joint.
- You have immediate swelling with fluid in the joint, called an effusion.
- You can't fully bend or straighten your leg.
- Your knee locks or gets stuck in one place.
- You hear a snap or pop at the time of the injury.

A chronic (old) meniscal tear may give you pain on and off during activities, with or without swelling. Your knee may sometimes lock, and you may have stiffness in the knee.

How is it diagnosed?

Your healthcare provider will review your symptoms and how the injury occurred. He or she will ask about your medical history and examine your knee. Your provider will move your knee in several ways that may cause pain along the injured meniscal surface. You may have X-rays to see if the bones in your knee are injured, but a meniscal tear will not show on an X-ray. An MRI scan (magnetic resonance imaging) can help diagnose a meniscal tear.

How is it treated?

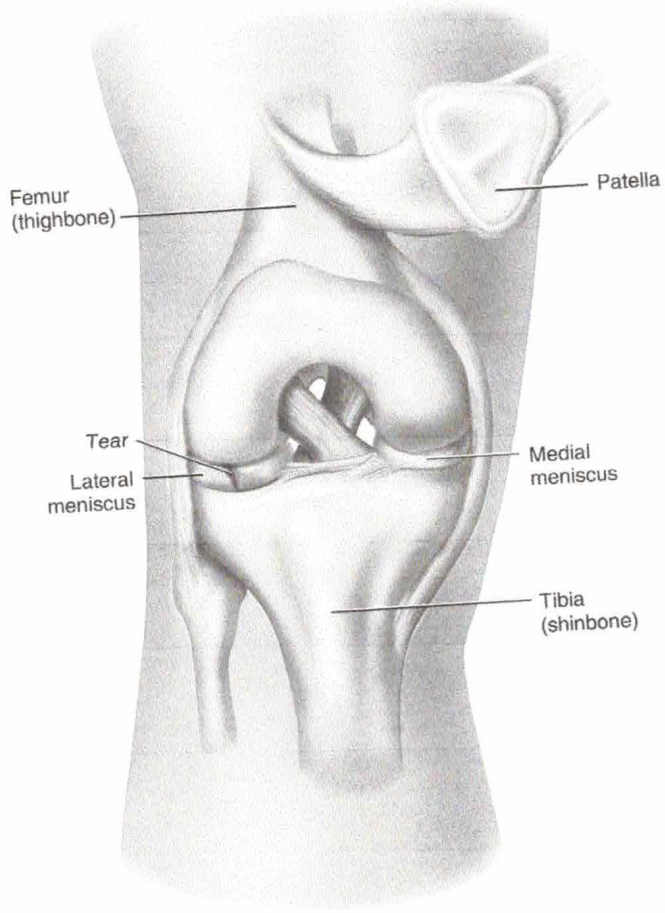
Treatment may include:

- applying ice to your knee for 20 to 30 minutes every 3 to 4 hours for 2 or 3 days or until the pain and swelling are gone
- elevating your knee by placing a pillow underneath your leg (to help reduce swelling)
- wrapping an elastic bandage around your knee to keep the swelling from getting worse
- wearing a knee immobilizer or other brace to prevent further injury
- using crutches
- taking anti-inflammatory or pain medicine prescribed by your healthcare provider (adults aged 65 years and older should not take non-steroidal anti-inflammatory medicine for more than 7 days without their healthcare provider's approval)

While you are recovering from your injury, you will need to change your sport or activity to one that does not make your condition worse. For example, you may need to swim instead of run.

Arthroscopic surgery is needed to repair or remove large torn pieces of cartilage. The surgery usually takes about an hour. An arthroscope is a tube

MENISCAL (CARTILAGE) TEAR



Front View of Knee

with a light on the end that projects an image of the inside of your knee onto a TV screen. By putting tools through the end of the arthroscope, the doctor can usually repair or remove the damaged meniscus. Because the meniscus is a valuable shock absorber, the doctor will leave as much of the healthy portion of the meniscus as possible during surgery.

You will go home the day of the surgery. You should keep your leg elevated. Take it easy for at least the next 2 to 3 days.

Do not take part in strenuous activities until your healthcare provider feels you are ready.

How long will the effects last?

If you have a small tear that has not been repaired or removed, you may still be able to function well and be active. However, your knee may sometimes swell, lock, be stiff, or hurt during activities.

If you have surgery, you will need to spend time rehabilitating your knee. Everyone recovers at a different rate, depending on the severity of the injury and their general health. Many people return to their previous level of activity within a month or so after surgery.

When can I return to my sport or activity?

The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you return too soon you may worsen your injury, which could lead to permanent damage. Everyone recovers from injury at a different rate. Return to your sport or activity will be determined by how soon your knee recovers, not by how many days or weeks it has been since your injury occurred. In general, the longer you have symptoms before you start treatment, the longer it will take to get better.

You may safely return to your sport or activity when, starting from the top of the list and progressing to the end, each of the following is true:

- Your injured knee can be fully straightened and bent without pain.
- Your knee and leg have regained normal strength compared to the uninjured knee and leg.
- Your knee is not swollen.
- You are able to jog straight ahead without limping.
- You are able to sprint straight ahead without limping.
- You are able to do 45-degree cuts.
- You are able to do 90-degree cuts.
- You are able to do 20-yard figure-of-eight runs.
- You are able to do 10-yard figure-of-eight runs.
- You are able to jump on both legs without pain and jump on the injured leg without pain.

If you feel that your knee is giving way or if you develop pain or have swelling in your knee, you should see your provider.

How can a meniscal tear be prevented?

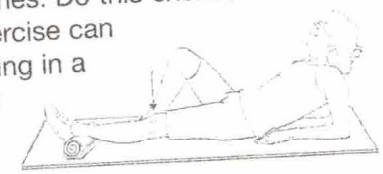
Unfortunately, most injuries to knee cartilage occur during accidents that are not preventable. However, you may be able to avoid these injuries by:

- having strong thigh and hamstring muscles
- gently stretching your legs before and after exercise
- wearing shoes that fit properly when you exercise and that are right for the activity you're doing

When skiing, be sure that your ski bindings are set correctly by a trained professional so that your skis will release when you fall.

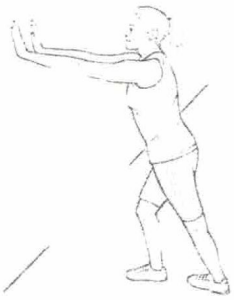
You may do the first 5 exercises right away. You may do the rest of the exercises when the pain in your knee has decreased.

Do this exercise if you are unable to fully extend your knee. While lying on your back, place a rolled-up towel underneath the heel of your injured leg so the heel is about 6 inches off the ground. Relax your leg muscles and let gravity slowly straighten your knee. You may feel some discomfort while doing this exercise. Try to hold this position for 2 minutes. Repeat 3 times. Do this exercise several times per day. This exercise can also be done while sitting in a chair with your heel on another chair or stool.

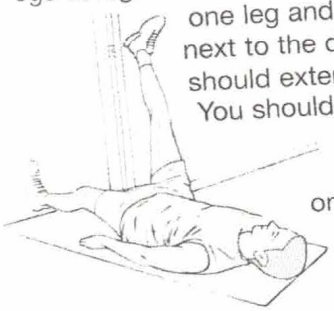


Sit on a firm surface with your legs straight in front of you. Slowly slide the heel of one leg toward your buttock by pulling your knee to your chest as you slide. Return to the starting position. Do 3 sets of 10.

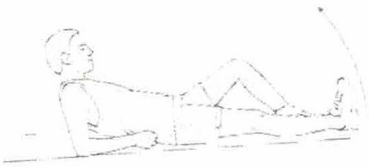
Facing a wall, put your hands against the wall at about eye level. Keep one leg back with the heel on the floor, and the other leg forward. Turn your back foot slightly inward (as if you were pigeon-toed) as you slowly lean into the wall until you feel a stretch in the back of your calf. Hold for 15 to 30 seconds. Repeat 3 times. Do this exercise several times each day.



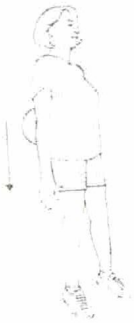
Lie on your back with your buttocks close to a doorway, and extend your legs straight out in front of you along the floor. Raise one leg and rest it against the wall next to the door frame. Your other leg should extend through the doorway. You should feel a stretch in the back of your thigh. Hold this position for 15 to 30 seconds. Repeat 3 times.



Lie on your back with your legs straight out in front of you. Bend one knee and place the foot flat on the floor. Tighten up the top of your thigh muscle on the opposite leg and lift that leg about 8 inches off the floor, keeping the thigh muscle tight throughout. Slowly lower your leg back down to the floor. Do 3 sets of 10 on each side.



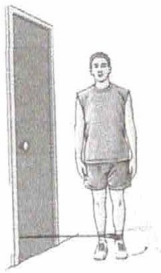
Stand with your back, shoulders, and head against a wall and look straight ahead. Keep your shoulders relaxed and your feet 2 feet away from the wall and a shoulder's width apart. Place a soccer or basketball-sized ball behind your back. Keeping your head against the wall, slowly squat down to a 45 degree angle. Your thighs will not yet be parallel to the floor. Hold this postioin for 10 seconds and then slowly slide back up the wall. Repeat 10 times. Build up to 3 sets of 10.



Stand with the foot of one leg on a support (like a block of wood) 3 to 5 inches high. Keep your other foot flat on the floor. Shift your weight onto the leg on the support and straighten the knee as the other leg comes off the floor. Lower your leg back to the floor slowly. Do 3 sets of 10.

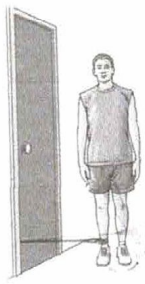
8. KNEE STABILIZATION: Wrap a piece of elastic tubing around the ankle of one leg. Tie a knot in the other end of the tubing and close it in a door.

A. Stand facing the door on the leg without tubing and bend your knee slightly, keeping your thigh muscles tight. While maintaining this position, move the leg with the tubing straight back behind you. Do 3 sets of 10.



B. Turn 90° so the leg without tubing is closest to the door. Move the leg with tubing away from your body. Do 3 sets of 10.

C. Turn 90° again so your back is to the door. Move the leg with tubing straight out in front of you. Do 3 sets of 10.

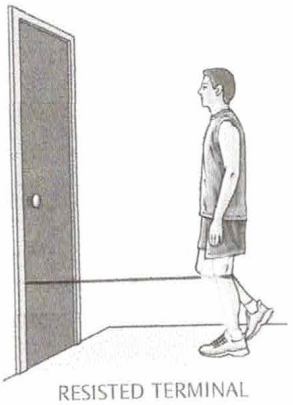


KNEE STABILIZATION

D. Turn your body 90° again so the leg with tubing is closest to the door. Move the leg with tubing across your body. Do 3 sets of 10.

Hold onto a chair if you need help balancing. This exercise can be made even more challenging by standing on a pillow while you move the leg with tubing.

9. RESISTED TERMINAL KNEE EXTENSION: Make a loop from a piece of elastic tubing by tying a knot in both ends, and closing both knots in a door Step into the loop so the tubing is around the back of one leg. Lift the other foot off the ground. Hold onto a chair for balance, if needed. Bend the knee on the leg with tubing about 45 degrees. Slowly straighten your leg, keeping your thigh muscle tight as you do this. Do this 10 times. Do 3 sets. An easier way to do this is to perform this exercise while standing on both legs.



RESISTED TERMINAL KNEE EXTENSION

KNEE