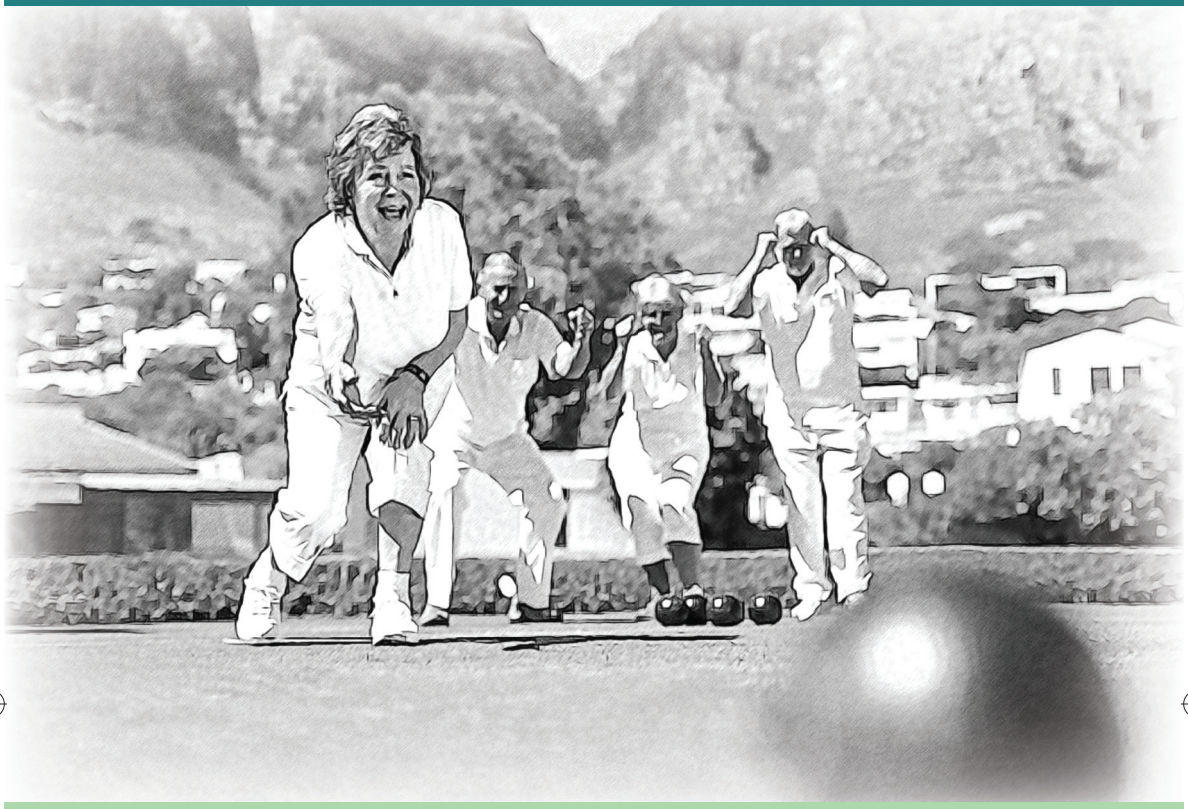

Knee Ligament Injuries

Apollo Spectra HOSPITALS

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Ligaments: support for your knees

Your knees are mobile joints that allow you to walk, climb, sit and kneel. Ligaments stabilise your knee joints for these movements. When you injure a ligament, it may feel as though your knee will not even hold you up. Fortunately, you and your healthcare team can work together to return to an active lifestyle.

Torn ligaments

Two ligaments in your knees are most likely to be injured. The anterior cruciate ligament (ACL) is in the center of your knee. It is often injured by a twisting motion. The medial collateral ligament (MCL) is on the inside of your knee. It can be injured by a blow from the side. This is common in contact sports such as football or soccer. Injury to either of the ligament causes pain and weakens your knee joint. Without treatment, you may develop other problems.

A team effort

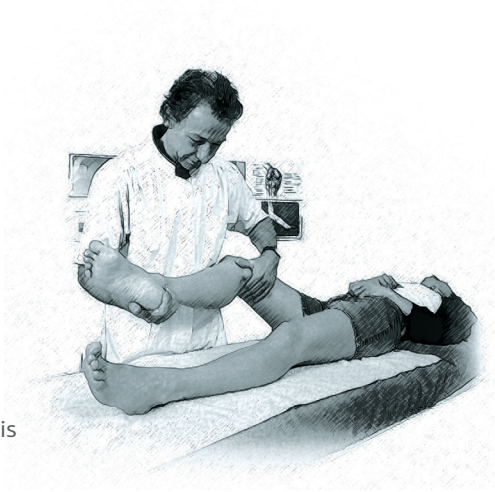
Proper care can make your knee joint stable again. It takes teamwork: you, your doctor and your physical therapist working together to get you back into shape again. Before your knee can be treated, you will need an evaluation. After treatment, you play a vital role in the recovery.

Early evaluation

An evaluation helps your doctor know how severe your injury is. It also points to your best treatment options. The sooner you are evaluated, the sooner you are treated and the better are your chance for recovery.

Treatment for your knees

A knee ligament injury can be treated in one of two ways: non-surgically or surgically. Your treatment depends on how severe your injury is and how active you hope to be. Rehabilitation is a major part of your treatment, whether or not you undergo surgery.



Checking for an unstable knee is one way to evaluate a ligament injury.

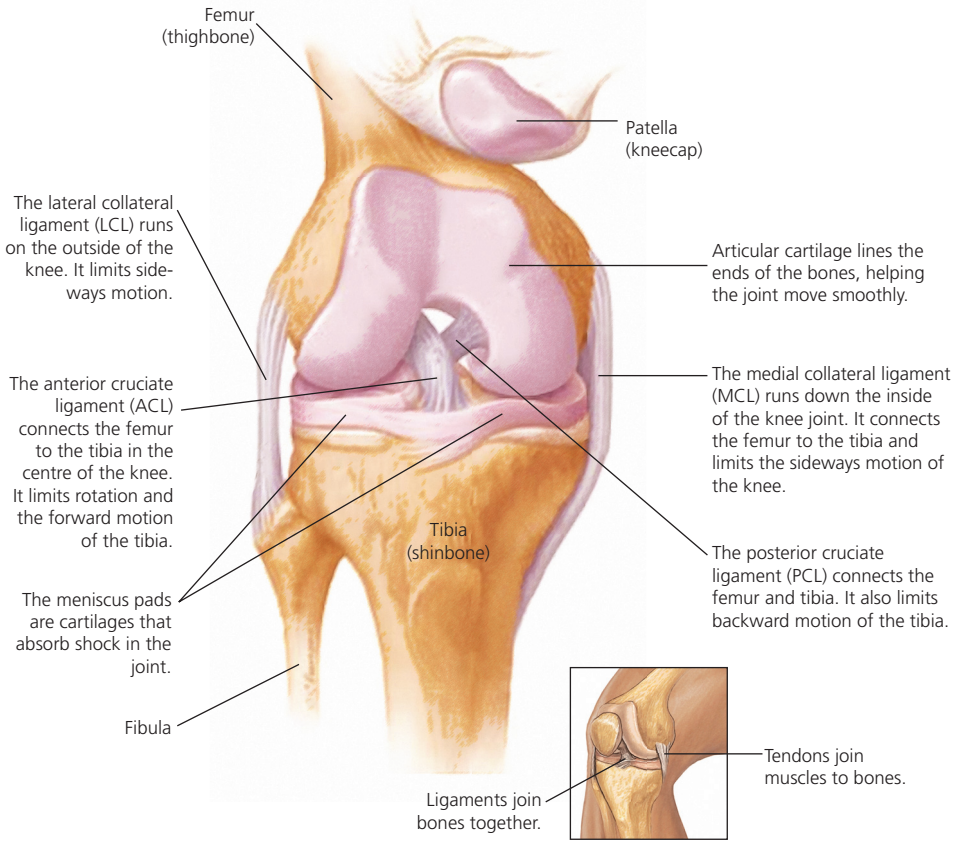
Your role in recovery

Your return to an active life depends largely on you. This is true whether you have a non-surgical or surgical treatment. In either case, you need to commit to regaining and maintaining strength in your leg. A physical therapist may help you with exercises.

Exercise is a key part of your rehabilitation programme.

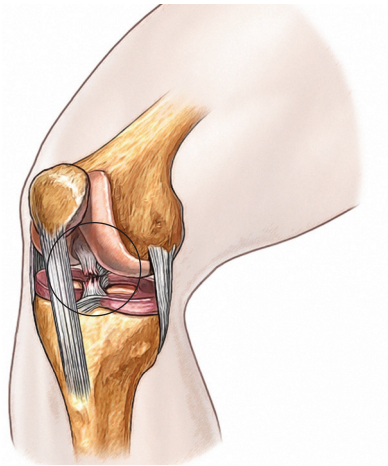
Your mobile knee

Your knee is a mobile, complex joint. It can bend and rotate slightly. Ligaments help control knee motion by connecting bones and supporting the joint. Tendons join the muscles to the bones. Cartilage cushions the knee joint. It also helps the knee absorb shock during motion.

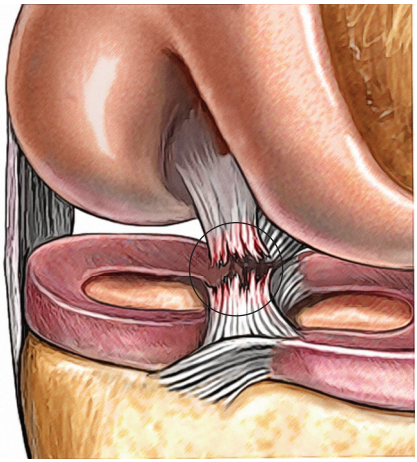


Anterior cruciate ligament (ACL)

The ACL crosses from the back of the femur to the front of the tibia. It acts as a strong support for your knee. But the ACL can be injured if you twist your knee too far or change direction too quickly.



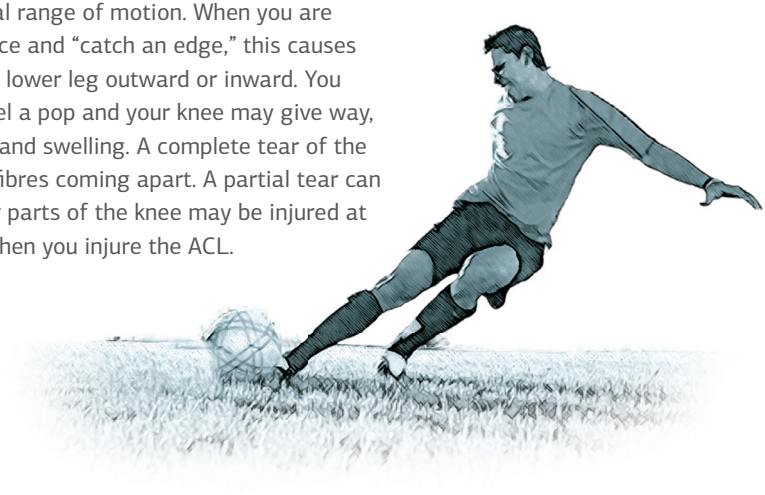
A complete tear of the ACL. This ligament may be injured by a twisting motion.



After an ACL injury, your knee gives way more easily, letting the tibia shift forward.

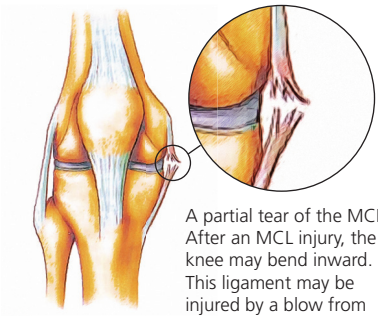
A sudden twist

Your ACL can be injured when you twist your knee beyond its normal range of motion. When you are skiing, for instance and “catch an edge,” this causes you to twist your lower leg outward or inward. You might hear or feel a pop and your knee may give way, resulting in pain and swelling. A complete tear of the ACL is like rope fibres coming apart. A partial tear can also occur. Other parts of the knee may be injured at the same time when you injure the ACL.



Medial collateral ligament (MCL)

The MCL connects the femur to the tibia along the inside of your knee joint. A side blow to the knee can cause a partial or complete tear of the MCL.



A partial tear of the MCL. After an MCL injury, the knee may bend inward. This ligament may be injured by a blow from the side.

An impact injury

When your knee is struck from the outside, it is stretched beyond its normal range of motion. This can cause the MCL to tear partially or completely. You might then hear or feel a pop. Your knee may collapse inward. Pain and swelling are common with either a partial or complete tear. You may tear your meniscus and the ACL at the same time.

Your evaluation

An evaluation helps reveal which part of your knee is injured. Your evaluation includes a medical history, an exam, and often diagnostic tests. This helps your doctor diagnose your knee problem and plan your treatment.

Medical history

Your doctor will ask you questions about your symptoms and how you injured your knee. Your goals for returning to your usual lifestyle, help the doctor decide which treatment plan might work best for you.

Physical exam

A hands-on exam comes next. It helps the doctor pinpoint your problem. Checking for abnormal motion in your knee and for swelling or soreness is part of this exam.

By examining your knee, your doctor can learn more about your injury.

Diagnostic tests

Tests may be needed to confirm your diagnosis and rule out other problems. X-rays are pictures of the bones. They make it possible to see problems such as fractures. MRI (magnetic resonance imaging) gives an inside view of your knee's soft tissues.

An MRI shows injuries to the muscles, ligaments, and cartilage.

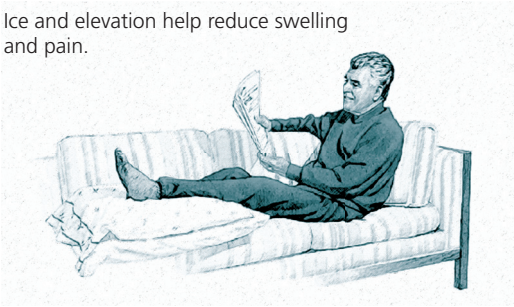
Non-surgical treatment

There are two options for treating an injured ligament: non surgical and surgical. Non-surgical treatment may be a good option, if only one part of the knee is injured. It is the most common treatment for an MCL injury. ACL injuries may also be treated non-surgically. With either option, rehabilitation will be part of your treatment.

Your treatment plan

Non surgical treatment starts with rest, icing and elevation. This relieves swelling and pain. Your doctor may also prescribe medication. In the next stage, you begin exercises. The goal is to restore the normal functions of your knee.

Ice and elevation help reduce swelling and pain.



Use ice and elevate your knee three to five times a day, for 15 to 20 minutes at a time. Be sure to keep a cloth between the cold source and your knee.

Crutches or a brace rest your joint, helping it to heal. Follow your doctor's advice about how much weight to put on your injured leg.

Exercises restore the normal function of your joint. They are designed to increase your knee's range of motion, strength and flexibility.

Getting ready for surgery

Your exam and tests may show damage that requires surgery to repair. A person with a very active lifestyle might need surgery to help prevent re-injury. Surgery may also be needed if you have damage in more than one part of the knee joint.

In the weeks before surgery

You and your doctor will discuss, how you need to prepare for surgery. Be sure to tell your doctor about all the medications you take. This includes over-the-counter drugs, vitamins, herbs and supplements. To make your recovery at home safer and easier, you will need to plan ahead. You may need to arrange crutches. You may also want to arrange for help around the house.

On the day of surgery

Do not eat or drink anything for eight hours before the surgery or as directed by your doctor. If you take medications daily, check with your doctor about how to handle them on the day of your procedure. Be sure to arrange for an adult to drive you home after your surgery. You may need to have someone stay with you overnight.

Do not eat or drink before surgery, as directed by your doctor.

Risks and complications

As with other surgeries, both ACL and MCL surgery involve a risk of infection, blood clots and blood vessel or nerve injury. Also, scar tissue may form, requiring future treatment. If surgery includes a graft, this graft may tear or stretch over time.

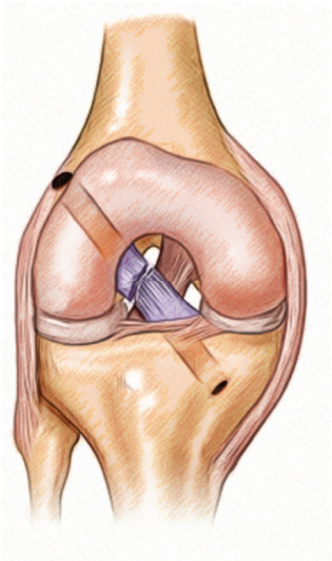
Knee ligament surgery

The type of surgery you have depends on your injuries. ACL surgery may be done using arthroscopy. This technique uses small incisions. It usually means a faster recovery and less scarring as compared to open surgery. Repairing MCL injuries require open surgery.

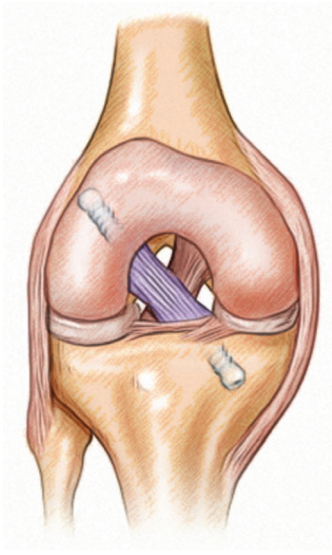
ACL surgery

The most common type of surgery for an ACL injury is reconstruction. This involves replacing the torn ligament with new tissue (a graft). This graft may be a ligament or tendon from your own knee (an autograft) or from a donor (an allograft). To rebuild your ACL, your doctor may combine open surgery with arthroscopy. With arthroscopy, a tiny camera lets your doctor see inside the joint. Tools inserted through small incisions are used to repair the joint.

ACL reconstruction



Your doctor first uses an arthroscope and surgical tools to treat any other injuries. Then small holes are drilled in your bone.

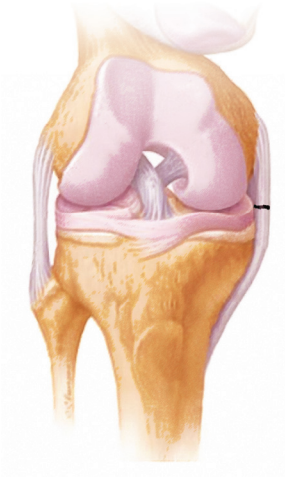


The graft is passed through the drilled holes to replace the torn ligament. Then the graft is fixed in place.

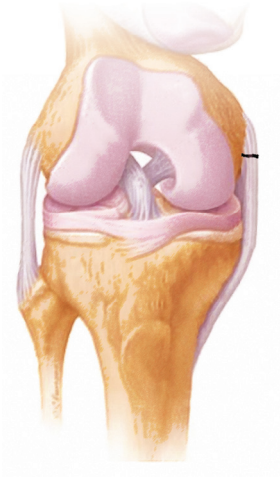
MCL surgery

Surgery is seldom used to treat an MCL injury. But sometimes it is advised, especially if any other part of your knee is also damaged. Open surgery is used to screw, staple or stitch the MCL back into place. Depending on their location, other knee injuries may be repaired using arthroscopy.

MCL repair



Your doctor may stitch or staple your ligament together.



Your doctor may secure the ligament to the bone with screws.

After surgery

Right after the surgery, you will spend a few hours in a recovery unit. Your knee will be bandaged and your leg elevated. Your knee will also be iced and put in a brace to keep it from bending. Depending on the procedure, your physical therapy may begin shortly after the surgery. This may include light exercises.

A cold therapy unit may be used to reduce pain and swelling in your knee.

Your recovery

Right after ACL or MCL surgery, the focus is on your comfort and on speeding up your healing. Later on, you'll progress to more active physical therapy. Your doctor will prescribe a rehabilitation programme. You may meet with a physical therapist. Your programme depends on your injury, the type of surgery and your goals for returning to activity.

For comfort while you heal

To help reduce pain and swelling, raise your leg above heart level when possible. Also, put ice on your knee for 15 to 20 minutes, as often as directed. Moving your knee from time to time aids healing. Pain medications may also be prescribed.

Gait training with crutches

Before you go home, you will be shown how to use crutches. Use them for as long as directed. Do not put more weight on the injured leg than what your doctor advises.

Step 1

- Move the crutches and injured leg forward. Rest your foot lightly on the floor, between the crutches
- Squeeze the crutches against your ribs. Support your weight with your hands and arms, not your armpits

Step 2

- Straighten your elbows, lift your good leg and swing your body through the crutches
- Land on the heel of your good leg, about 12 inches in front of the crutches

Improving range of motion

After surgery, scar tissue can cause your knee to stiffen. Special exercises can help keep your knee flexible. Your physical therapist may start you on these exercises. Then you will be asked to do other exercises at home.

Patellar motion, done by your physical therapist, helps prevent scar tissue around your kneecap.

Heel slide is an exercise that improves your joint's mobility. Sit with your leg extended and place a towel around your heel. Pull the towel with both hands and slowly slide your heel toward your buttock.

Follow-up

You will have follow-up visits with your doctor. He or she will change your dressings and check for any problems, such as infection. Your doctor will also use this time to chart your progress.

Call your doctor if you have redness or drainage at the incision, extreme swelling, fever, shortness of breath or increased pain. These may be signs of problems that require urgent medical help.

Your long-term recovery

As your ligament heals, you will begin the next phase of recovery: preparing yourself to return to active living. For the first few months, a physical therapist may guide you through your exercise programme. In the end, though, it is up to you to maintain good leg strength and flexibility, all your life.

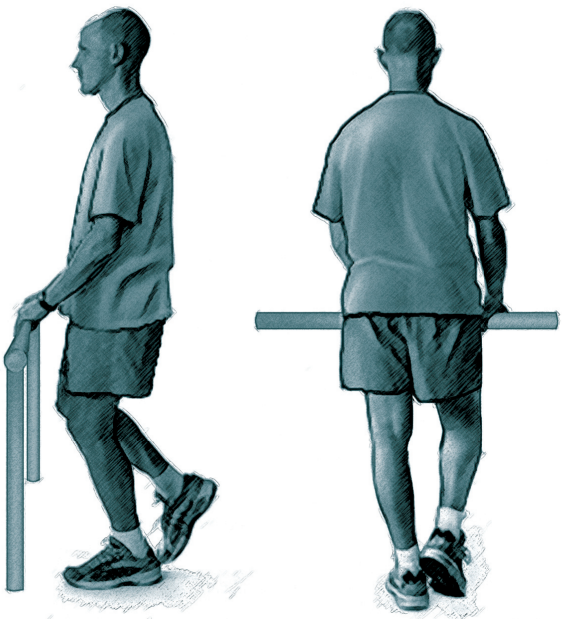
Increasing strength

Your ligament can be repaired or rebuilt but, it will not be new again. Exercises can strengthen your hamstrings, quadriceps and calf muscles. This helps support your knee joint and helps prevent re-injury.

The incline leg press strengthens quadriceps and hamstrings.

Improving flexibility

Stretching the muscles improves flexibility. This allows your knee to move better. Use slow, sustained movements without bouncing. You may feel a slight pull in your muscles, but not pain.



A calf stretch improves flexibility.

Returning to activity

Near the end of your rehabilitation, you may start a different kind of exercise. Instead of working on a certain group of muscles, you will practice a movement that you may need to use. This prepares you to return to your chosen sport, work or pastime. For instance, a skier needs to prepare for sideways motion.

Hopping sideways, using rubber tubing, can help prepare you for sideways motion

Lifelong protection

There is a beginning and an end to your formal rehabilitation. But you must protect your knee and maintain strength all your life. You may need to wear a brace for high-risk movements, such as the twisting and turning motions, common in sports. Ask your doctor about good ways to keep strengthening the muscles that support your knees.

Working out is a good way to maintain strength in your legs.

Your surgical checklist

Use the checklist below to help remind you what to do before and after your knee ligament surgery. Ask your healthcare provider to check the boxes that apply to you.

Before surgery

- See your surgeon. Have any tests that your surgeon orders
- Stop taking medications as advised by your doctor, a few days before the surgery
- Arrange to get crutches to use during your recovery
- If you smoke, now is a good time to stop. This will reduce the risk of surgical complications
- Arrange for someone to drive you home from the surgery

After surgery

- Schedule your first follow-up visit as advised
- Take care of your incisions as directed
- Complete your physical therapy programme if one is prescribed
- Ask your surgeon to list the activities you can do right away

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