



# **Knee Arthroscopy**



Changi  
General Hospital  

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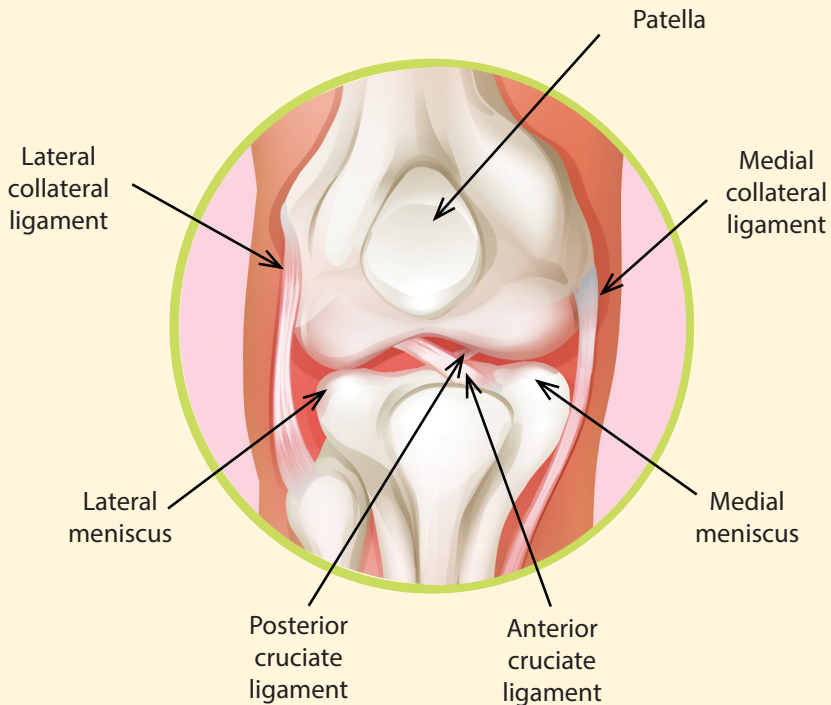
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## About the knee

There are four major ligaments that support the knee. A ligament is a strong band of tissue that attaches two bones together. This prevents the two bones from moving apart and provides stability.

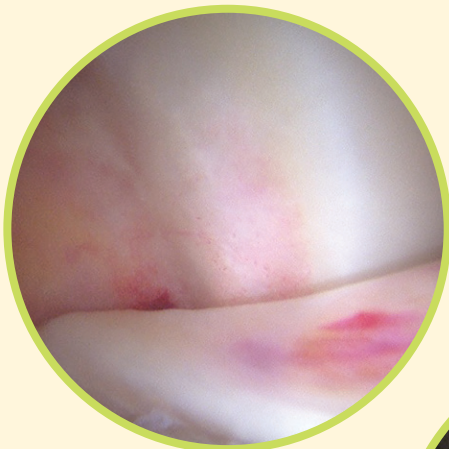
There are two ligaments on the sides: the Medial Collateral Ligament (MCL) and the Lateral Collateral Ligament (LCL). The ligament in the front of the knee is the Anterior Cruciate Ligament (ACL) and the ligament at the back of the knee is the Posterior Cruciate Ligament (PCL).

The collateral ligaments - MCL and LCL, prevent the knee from coming apart from the side. The cruciate ligaments - ACL and PCL prevent the knee from gliding forward and backward. The ligaments of the knee that are most prone to injury are the ACL and MCL.



The meniscus is a “C-shaped” pad in the knee between the thighbone (femur) and shinbone (tibia). It acts as a shock absorber and makes the motion of the knee smooth.

The meniscus may be damaged by twisting movements. This may occur during games like football, basketball, skiing, jogging, tennis, or as a result of degenerative change in the knee joint. When the meniscus is damaged, the torn pieces get jammed inside the joint. When this occurs, the knee becomes painful, swollen and difficult to move.



Meniscus tear



Meniscus repair

## How do I know if I have hurt my knee joint?

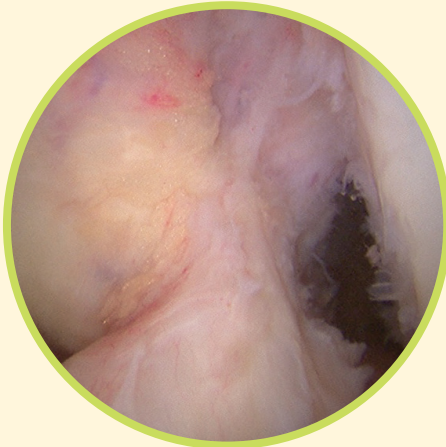
You can injure your knee from twisting movements that force the knee beyond its normal range of motion. You should suspect significant injury to your knee joint if you hear or feel a “pop” followed by:

- ➔ Swelling
- ➔ Pain
- ➔ Limitation of movement



## Can the torn ligament heal itself?

Generally a complete tear of the cruciate ligaments would not heal on its own. As a result, the knee becomes unstable and may repeatedly “buckle” or “give out” under you. Sometimes your thigh muscles are able to take over the function of the torn ligament after a period of muscle strengthening exercises. Ligaments outside the knee joint (e.g., the medial and lateral collateral ligaments) can heal after a period of protected rest.



Torn ACL

## What is the treatment for a knee injury?

Your doctor will evaluate the severity and type of knee injury. This will help to determine if you need physiotherapy or an arthroscopic procedure.

## What are the tests or procedures that can be done?

Beyond a physical examination, tests to diagnose the extent of your knee injury include the following:

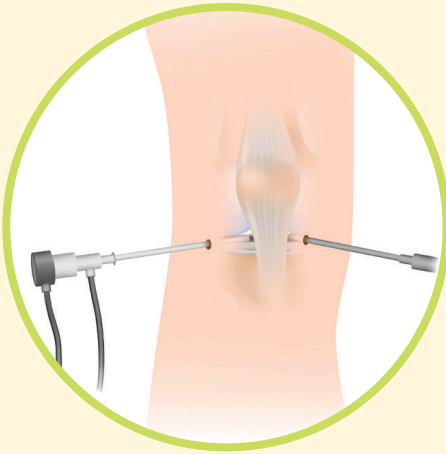
- ➔ X-ray of the injured knee.
- ➔ MRI of the knee to see if the ligaments or menisci are damaged.
- ➔ Arthroscopy – to enable the surgeon to view your knee joint through small incisions made in the knee. If the meniscus is torn, it can either be repaired or removed if it is damaged beyond repair.



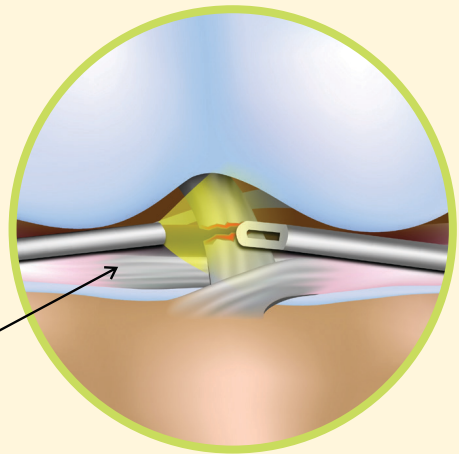
## What is knee arthroscopy?

“Arthro” means “joint” and “scopy” means to “look”. Knee arthroscopy is a surgical procedure in which a small fibre-optic telescope (arthroscope); the diameter of a pen, is inserted into the knee joint.

As the arthroscopes are approximately 5mm in diameter, the incisions are very small, approximately 1 or 2cm. The procedure is conducted under anaesthesia. Fluid is then introduced into knee joint to distend the joint. This allows the surgeon to examine the knee for damaged tissues and to perform the surgery. The arthroscope is used to diagnose joint problems and surgical procedures can be performed at the same time through another keyhole incision if necessary.



Instruments are inserted into knee joint and damaged tissues are repaired.





## What can be done?

The common surgeries performed on the knee include:

- ➔ Removal of the damaged part of a meniscus (partial meniscectomy)
- ➔ Repair of the meniscus
- ➔ Reconstruction of the ligaments
- ➔ Lateral release of the patella if it is tight
- ➔ Chondroplasty / Synovectomy: clean out cartilage debris and inflamed tissue
- ➔ Removal of loose bodies

## What are the benefits of having an arthroscopy?

There are many benefits of having an arthroscopy rather than the traditional method of surgically opening the knee with long incisions - open surgery. These include:

- ➔ Lesser trauma to the muscles, ligaments and tissues
- ➔ Smaller incisions with less scarring and faster healing process
- ➔ Earlier return to normal activities





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