

## Knee Arthroscopy

Knee arthroscopy is a surgical procedure that allows doctors to view the knee joint without making a large incision (cut) through the skin and other soft tissues. Arthroscopy is used to diagnose and treat a wide range of knee problems.

During knee arthroscopy, your surgeon inserts a small camera, called an arthroscope, into your knee joint. The camera displays pictures on a video monitor, and your surgeon uses these images to guide miniature surgical instruments.

Because the arthroscope and surgical instruments are thin, your surgeon can use very small incisions, rather than the larger incision needed for open surgery. This results in less pain for patients, less joint stiffness, and often shortens the time it takes to recover and return to favorite activities.



During arthroscopy, your surgeon can see the inside of your knee in great detail on a video monitor.

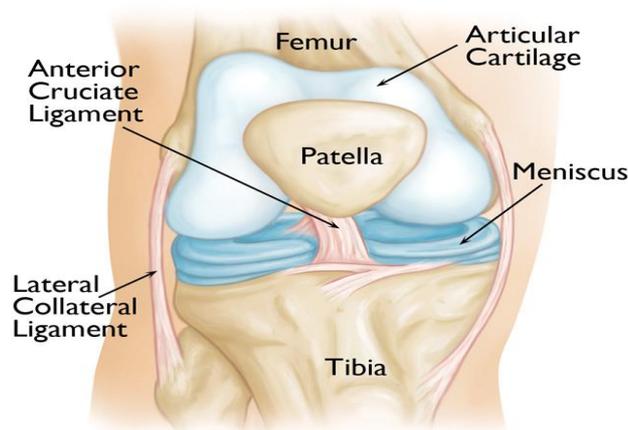
## Anatomy

Your knee is the largest joint in your body and one of the most complex. The bones that make up the knee include the lower end of the femur (thighbone), the upper end of the tibia (shinbone), and the patella (kneecap).

Other important structures that make up the knee joint include:

- Articular cartilage. The ends of the femur and tibia, and the back of the patella are covered with articular cartilage. This slippery substance helps your knee bones glide smoothly across each other as you bend or straighten your leg.

- Synovium. The knee joint is surrounded by a thin lining called synovium. This lining releases a fluid that lubricates the cartilage and reduces friction during movement.
- Meniscus. Two wedge-shaped pieces of meniscal cartilage act as "shock absorbers" between your femur and tibia. Different from articular cartilage, the meniscus is tough and rubbery to help cushion and stabilize the joint.
- Ligaments. Bones are connected to other bones by ligaments. The four main ligaments in your knee act like strong ropes to hold the bones together and keep your knee stable.
  - The two collateral ligaments are found on either side of your knee.
  - The two cruciate ligaments are found inside your knee joint. They cross each other to form an "X" with the anterior cruciate ligament in front and the posterior cruciate ligament in back.



Normal anatomy of the knee. Arthroscopy is commonly used to diagnose and treat problems that damage the articular cartilage, ligaments, and other structures around the joint.

## When Knee Arthroscopy is Recommended

Dr Chivers or Dr Coetzee may recommend knee arthroscopy if you have a painful condition that does not respond to nonsurgical treatment. Nonsurgical treatment includes rest, physical therapy, and medications or injections that can reduce inflammation.

Knee arthroscopy may relieve painful symptoms of many problems that damage the cartilage surfaces and other soft tissues surrounding the joint.

Common arthroscopic procedures for the knee include:

- Removal or repair of a torn meniscus
- Reconstruction of a torn anterior cruciate ligament
- Removal of inflamed synovial tissue
- Trimming of damaged articular cartilage

- Removal of loose fragments of bone or cartilage
- Treatment of patella (kneecap) problems
- Treatment of knee sepsis (infection)



(Left) A large meniscal tear called a "flap" tear.  
 (Right) Arthroscopic removal of the damaged meniscal tissue.

## Preparing for Surgery

### *Evaluations and Tests*

We may recommend that you see your primary doctor to assess your general health before your surgery. We will identify any problems that may interfere with the procedure. If you have certain health risks, a more extensive evaluation may be necessary before your surgery.

To help plan your procedure, we may order preoperative tests. These may include blood tests or an electrocardiogram (EKG).

### *Admissions Instructions*

If you are generally healthy, your knee arthroscopy will most likely be performed as an outpatient. This means you will not need to stay overnight at the hospital.

Be sure to inform your us of any medications or supplements that you take. You may need to stop taking some of these before surgery.

### *Anesthesia*

Before your surgery, a member of the anesthesia team will talk with you. Knee arthroscopy can be performed under local, regional, or general anesthesia:

- Local anesthesia numbs just your knee
- Regional anesthesia numbs you below the waist
- General anesthesia puts you to sleep

Dr Chivers or Dr Coetzee and your anesthesiologist will talk to you about which method is best for you.

## Surgical Procedure

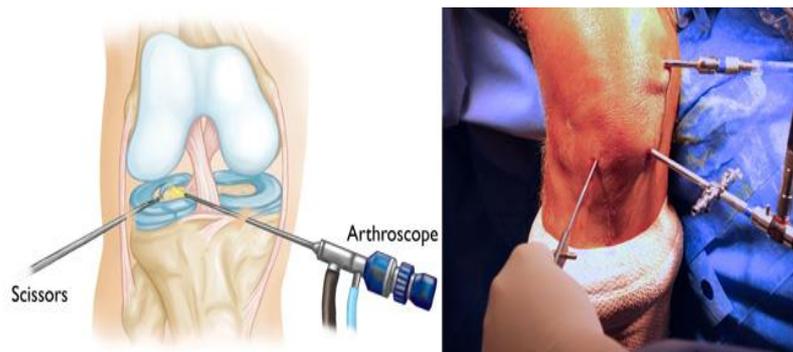
### *Positioning*

Once you are moved into the operating room, you will be given anesthesia. To help prevent surgical site infection, the skin on your knee will be cleaned. Your leg will be covered with surgical draping that exposes the prepared incision site.

At this point, a positioning device is sometimes placed on the leg to help stabilize the knee while the arthroscopic procedure takes place.

### *Procedure*

To begin the procedure, we will make a few small incisions, called "portals," in your knee. A sterile solution will be used to fill the knee joint and rinse away any cloudy fluid. This helps us see the structures inside your knee clearly and in great detail.



We will insert the arthroscope and surgical instruments through small incisions called "portals."

Our first task is to properly diagnose your problem. He or she will insert the arthroscope and use the image projected on the screen to guide it. If surgical treatment is needed, we will insert tiny instruments through other small incisions.

Specialized instruments are used for tasks like shaving, cutting, grasping, and meniscal repair. In many cases, special devices are used to anchor stitches into bone.



(Left) A common type of meniscal tear is a "bucket handle" tear.  
(Right) A photo of a bucket handle tear taken through an arthroscope.

## **Closure**



A soft bandage will protect your incisions while they heal.

Most knee arthroscopy procedures last less than an hour. The length of the surgery will depend upon the findings and the treatment necessary.

We may close each incision with a stitch or steri-strips (small bandaids), and then cover your knee with a soft bandage.

## **Complications**

The complication rate after arthroscopic surgery is very low. If complications occur, they are usually minor and are treated easily. Possible postoperative problems with knee arthroscopy include:

- Infection
- Blood clots
- Knee stiffness
- Accumulation of blood in the knee

## **Recovery**

After surgery, you will be moved to the recovery room and should be able to go home within a few hours. Be sure to have someone with you to drive you home and check on you that first evening.

While recovery from knee arthroscopy is faster than recovery from traditional open knee surgery, it is important to follow instructions carefully after you return home.

## **Pain Management**

After surgery, you will feel some pain. This is a natural part of the healing process. Your doctor and nurses will work to reduce your pain, which can help you recover from surgery faster.

Medications are often prescribed for short-term pain relief after surgery. Many types of medicines are available to help manage pain, including opioids, non-steroidal anti-inflammatory drugs (NSAIDs), and local anesthetics. We may use a combination of these medications to improve pain relief, as well as minimize the need for opioids.

## **Medications**

In addition to medicines for pain relief, your doctor may also recommend medication such as aspirin to lessen the risk of blood clots.

## **Swelling**

Keep your leg elevated as much as possible for the first few days after surgery. Apply ice as recommended to relieve swelling and pain.

## **Dressing Care**

You will leave the hospital with a dressing covering your knee. Keep your incisions clean and dry. We will tell you when you can shower or bathe, and when you should change the dressing.

We will see you in the office a few days after surgery to check your progress, review the surgical findings, and begin your postoperative treatment program. Please call the rooms to schedule a follow up appointment. This is usually 2 weeks after the procedure

## **Bearing Weight**

Most patients need crutches or other assistance after arthroscopic surgery. Your surgeon will tell you when it is safe to put weight on your foot and leg. If you have any questions about bearing weight, please do not hesitate to ask us

## **Rehabilitation Exercise**

You should exercise your knee regularly for several weeks after surgery. This will restore motion and strengthen the muscles of your leg and knee.

Working with a physical therapist can help you achieve your best recovery.

Therapeutic exercise will play an important role in how well you recover. A formal physical therapy program may improve your final result.

## **Driving**

Your doctor will discuss with you when you may drive. Typically, patients are able to drive from 1 to 3 weeks after the procedure.

## **Outcome**

Many people return to full, unrestricted activities after arthroscopy. Your recovery will depend on the type of damage that was present in your knee.

Unless you have had a ligament reconstruction, you should be able to return to most physical activities after 6 to 8 weeks, or sometimes much sooner. Higher impact activities may need to be avoided for a longer time.

If your job involves heavy work, it may be longer before you can return to your job. Discuss when you can safely return to work with us.

For some people, lifestyle changes are necessary to protect the joint. An example might be changing from high impact exercise (such as running) to lower impact activities (such as swimming or cycling).

Sometimes, the damage to your knee can be severe enough that it cannot be completely reversed with surgery.