

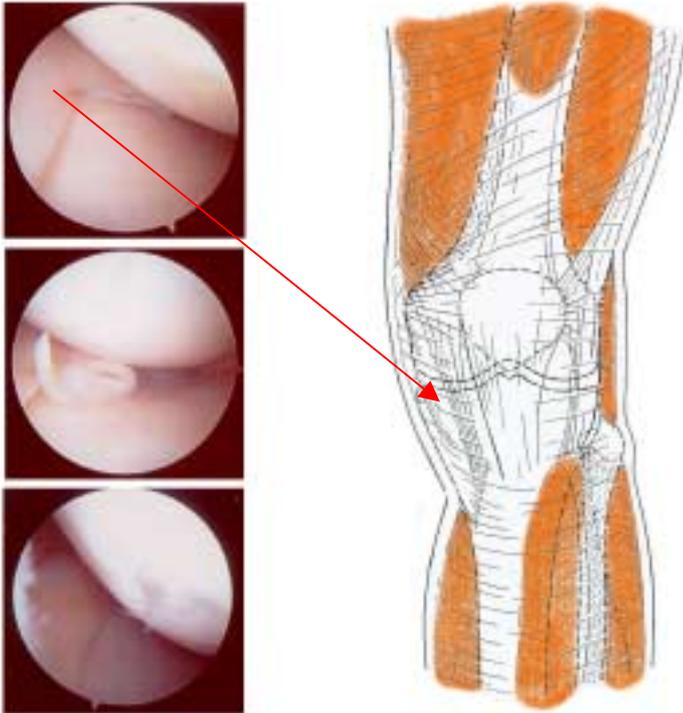
# Knee Arthroscopy

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### How does a knee become injured?

Most of the knee injuries we see are not caused by sporting activity but by a tear in an aging cartilage in the knee. The peak age for this seems to be between 35 and 45 years but it can happen at any age. The next commonest cause of a knee injury is sport.

### How would I know if I had cartilage or ligament problem?



If you had a tear of one of the cartilages in your knee you would notice pain in the knee. Pain is not normal nor is it part of “aging”. Pain from a cartilage is usually well localised. 70% are torn on the inner side of your knee and 30% on the outside of your knee. Apart from pain you may also suffer giving way, locking or swelling. Swelling is a symptom of bleeding in more severe injury or if long term of arthritis.

### Can I treat it myself?

The trouble with knee injury is that it may be a minor sprain which recovers quickly or a more serious injury like the cartilage tear in the figure on the left. A skilled surgeon should be able to distinguish between the two. In either event if your pain is going to go on for more than 6 weeks it is best to see a surgeon and establish an accurate diagnosis. The prognosis will depend on whether the cartilage tear has caused damage to the surface of the joint by the time you seek advice.

**Figure 1. Three arthroscopic views of an unstable cartilage tear causing damage to the surface of the joint. From the top is an image of the cartilage before it prolapsed between the joint surfaces. The middle image is of the prolapsed cartilage and the lower image is of the damage it has caused to the joint surface. Treatment of the injury to the joint surface requires specialist equipment and time.**

If you think you have a minor sprain follow these steps to speed healing:

- Stop doing the activity that caused the condition. Do 20-minute ice massage every 4-8 hours for 48 to 72 hours (a small bag of frozen peas or corn is ideal). After 72 hours begin moist heat treatments.
- Start a recovery program seven to ten days after you notice the first symptoms. Cycling is a good exercise.
- Cross-train, performing aerobic activities that do not stress the knee, avoid twisting sports or swimming.
- Seek the advice of an Orthopaedic Surgeon if the problem does not clear up within six weeks.

Ibuprofen or aspirin will relieve pain and inflammation. These medications should not be taken without approval from your General Practitioner if you have an ulcer, kidney problems, an allergy to aspirin, or are on a blood-thinning medication. If you treat it early, a simple sprain can clear up within a week or two.

You may need to reduce your mileage or the frequency of your sports for a while. When you do run or play, warm up longer and do plenty of stretches. A change to a softer running surface and well padded running shoes may help.

Obviously, there is no self-help solution to a tear of a meniscal cartilage or ligament! Please seek the assistance of an Orthopaedic Surgeon within 24 hours of a traumatic injury.

## Will I need an operation?

If your symptoms persist for longer than 6 weeks this suggests a serious pathology. On most occasions your surgeon will be able to diagnose the problem without resort to surgery. If you have a condition amenable to cure or improvement by keyhole surgery then you may be offered this. Your surgeon will inform you of all the non surgical and surgical options available to the type of condition you have. He or she will then take time to describe the risks and benefits of each option. Ultimately it is your decision whether to undergo surgery.

## What is Knee arthroscopy?



**Figure 2.** The scope on the right is used for knee arthroscopy.

Arthroscopy is the technique of looking inside a joint by using an instrument called an arthroscope.

The arthroscope is backed by a video camera and is connected to a monitor. Using the arthroscope, we can see what is wrong inside the joint and many times we can also repair the knee joint if it has been damaged by disease or injury. The advantage over open surgery is that recovery is more rapid after arthroscopic surgery since smaller incisions are made.



**Figure 3.** MRI of the knee showing injury to a discrete part of the surface of the joint.

Disease and injury can damage joints resulting in pain, tenderness, weakness, locking, swelling, instability, and limitation of movement in the knee joint. Although symptoms, physical examination, and different types of X-rays and related studies (like MRI's) can tell us a great deal about the nature of the problem, we often need to use

arthroscopy to determine more precisely what is wrong. After proper examination, we will be able to determine if arthroscopy is right for you.

## Why should it be done?

The types of knee disorders that can be diagnosed with arthroscopy include cartilage tears, ligament rupture, breaks in the joint surface, internal inflammation, abnormal tissue bands, detachments, loose fragments (loose bodies), and arthritis.

We can successfully treat conditions with arthroscopy. We are frequently able to remove damaged or diseased tissue before they cause irreversible damage. At SOC-Bristol we prefer to try to repair and reconstruct certain damaged tissues. If torn displaced cartilages are allowed to persist longer than 6 weeks then degenerate change takes place and subsequently arthritis.

## Can it be done as a day case operation?



**Figure 4. Arthroscopy is a skilled technique that should only be undertaken by well trained surgeons**

If you are medically fit, have someone who can collect you and look after you after the operation, and you are comfortable afterwards, the operation can be done on a day case basis. However, if you have other medical problems such as diabetes, obesity, asthma or high blood pressure, you may have to be admitted the day before for tests and stay overnight after surgery. If you cannot be collected and looked after you must stay overnight to avoid complications. Most knee arthroscopy is done as a day case operation.

## Will I have to go to sleep (general anaesthetic)?

The operation will usually be done under general anaesthetic but occasionally can be done under spinal anaesthetic. A spinal anaesthetic would usually mean a stay overnight. Your anaesthetist will advise you about the best choice of anaesthetic for you. In addition at SOC-Bristol the surgeon will prescribe a local anaesthetic injected into your knee while you are asleep to reduce the pain after the operation even if you go to sleep for the surgery. You will also be given pain-killing tablets as required to take home.

## How is it done?

The knee is first examined carefully with the leg relaxed. A temporary tourniquet is applied to the top of your thigh as you are going to sleep. In men the area around the knee is shaved by your surgeon who will then prepare the skin and drape the leg to reduce the risk of infection following surgery. Two small incisions are made either side of your patella tendon. Each cut is about 1cm long. Occasionally another cut is required or the incision may need to be lengthened according to the diagnosis. Through these cuts, the lens and instruments are inserted into the knee. Fluid is used to inflate the knee. The whole of the inside of the knee is examined and any necessary treatment carried out.



**Figure 5. Sutures at the end of keyhole surgery on the knee.**

The knee is then washed out and the cuts stitched with a single stitch each. Occasionally the surgeon will make a pictorial record of the state of your knee joint for future reference.

## **What will my knee be like afterwards?**

You will wake up pain free with a bulky dressing round your knee. When you have recovered from your anaesthetic, you can get up, walking freely on your leg unless otherwise instructed. You may remove the bulky dressing 1-2 days after the operation and start exercising your knee. You will be given an instruction leaflet by our physiotherapist who will visit you both before and after surgery. The knee may still be fairly swollen, bruised and stiff early on, so you should keep it up when not walking or exercising. If it gets very swollen you should remove any constricting bandages and try ice placed indirectly in a towel on it for 10-15 minutes.

You will be seen in the SOC-Bristol outpatient clinic 10 -14 days after your operation for suture removal. Your knee will be re-examined. The findings of your arthroscopy will be discussed with you, and any further treatment that is necessary will be arranged. Physiotherapy is often prescribed at this stage, but many people do not need it and can exercise on their own. If no further treatment is required and your knee is healing well, you may be discharged from further follow-up at this appointment, or a further check-up may be arranged.

## **Will I have a plaster on afterwards?**

No, plaster or braces are rarely required. We want you to start exercising your knee as soon as possible.

## **How soon can I....**

Walk on the knee?

You can walk on the knee immediately you have recovered from your anaesthetic. It may be quite sore for a few days and some people need crutches to take some of the weight off their knee. Almost everyone can walk fully weight-bearing on the knee within a week.

Go back to work?

If you are comfortable and your work is not too demanding, you could go back to work within a week. However, if you have a heavy manual job, or have had extensive surgery within the knee, you may not be able to go back for two weeks to a month.

Drive?

You need to decide when you are safe to drive. A good indication of return of adequate function and safety is the ability to hop on the affected leg again (this is the "Hardy Hop Test"). Many can drive within a couple of days of the operation.

Play sport?

As you recover from your operation, you can gradually increase your activity, determined by comfort and the amount of swelling and flexibility in the knee. Start with walking and cycling, then

light running. Make sure your foot and knee are fairly flexible before moving to twisting or impact activities, and make sure you can turn and jump comfortably before returning to contact sports.



**Figure 6. Cybex Running Mill to monitor progress.**

Your return to sport will also depend on the damage to your knee which caused you to have surgery in the first place, and on any other necessary treatment. As this operation tends to be done for problems following an injury, this is an important factor in recovery for many people. Without complication, most people will get back to their previous level of activity in 2-3 months. If you are prescribed physiotherapy by your surgeon, the rate of recovery can be accurately monitored in our facility using equipment such as the “reactomat”, Cybex and running mill.

### **What can go wrong?**

The more extensive and involved the procedure, the greater are the chances of pain, swelling, and bleeding. The time required for recovery after this kind of treatment procedure is also longer than with diagnostic arthroscopy alone.

The commonest problem after knee arthroscopy is persistence of your symptoms. This is not surprising as it is often performed in patients with arthritis and while the surgeon cannot cure arthritis some relief is often achieved. Numbness either side of the small incisions is not uncommon. This is because the cuts are made close to the nerves to these areas, and the nerves have to be pushed aside to get access to the joint. Although this is done very carefully, sometimes this stretches the nerves and they stop working. Usually this numbness recovers within 2 months, but a few people have small areas of permanent numbness.

The cuts usually heal up quite quickly, but a few (less than 6%) discharge some fluid and take 2-3 weeks to heal. Usually dressing the wounds carefully is all that is required to get them to heal. You will know if you have an infection if the small cuts become red, hot swollen and tender. If this happens you should attend your General Practitioner, have the sutures removed early and go on antibiotics. If this is done the infection frequently resolves.

Post operative swelling in the knee may cause swelling under the bandage. This could cut off some of your circulation and lead to thrombosis. If it gets very swollen you should remove any constricting bandages and try ice placed indirectly in a towel on it for 10-15 minutes.

All keyhole surgical techniques involve delicate work with fine instruments very close to the surface of the joint. Very rarely an instrument breaks in the joint. Usually it can be retrieved through the "keyhole" incisions, but sometimes the joint has to be fully opened up.

Should you require any more information please make an appointment with any of the surgeons at SOC-Bristol we would be glad to help.