

# Arthroscopy of the knee

## Introduction

This leaflet will explain what will happen when you come to the hospital for your operation. It is important that you understand what to expect and feel able to take an active role in your treatment. There will be many different health professionals involved in your care during your stay and there will be a clear plan for any after care when you are discharged from hospital. This leaflet will answer some of the questions that you may have but if there is anything that you and your family are not sure about then please ask.

## What is an arthroscopy?

Arthroscopy of the knee is a surgical technique for looking inside the joint with a small telescope (“keyhole surgery”). It is normally performed under general anaesthetic (you are asleep) and allows a good view of the joint and small operations can be carried out through it. It is particularly useful in the diagnosis and treatment of cartilage and ligament problems of the knee.

The aim of arthroscopic surgery is to correct or assess the mechanical problems within your knee joint. The surgeon is able to confirm the nature of the injury and may be able to remove or repair the damaged part whilst causing minimal disruption to the knee joint.

Once the structures in your knee joint have become damaged, failure to correct the damage may result in further deterioration of your knee.

In some cases, surgery will not be able to reverse the damage which has already occurred. In the majority of cases the speed of your recovery will be dictated by the degree of damage and how well you can rehabilitate your knee.

## What are the benefits of the procedure?

The keyhole technique of arthroscopy has a lower risk of complications than traditional surgery and usually results in less pain after the procedure, a shorter hospital stay and a quicker recovery (this will be variable dependent on what procedure is undertaken and the amount of arthritis present).

## How long will I be in hospital?

This procedure is usually performed as a day case (so you will go home the same day) or as an overnight stay depending on your medical and physical history.

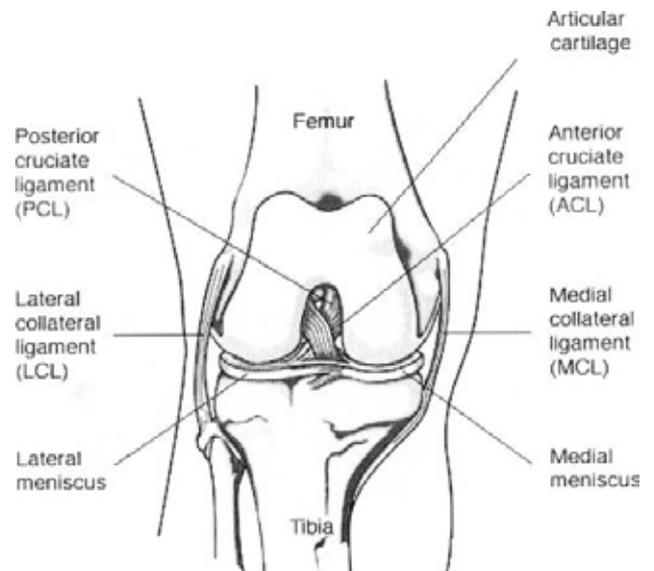
## Basic knee anatomy

Your knee consists of the following structures:

### Cartilage

There are two commonly referred to types of cartilage in your knee:

- The first type is the meniscus. The menisci are small, "c" shaped pieces of cartilage that act as cushions in the knee joint. They sit between the thigh bone (femur) and the tibia (shin bone), one on the outside (lateral meniscus) and one on the inside of the knee (medial meniscus). The menisci help the knee to function properly by bearing load and weight, absorbing shock, stabilizing the joint and provide lubrication.
- The second type is articular cartilage or "shiny cartilage". This covers the ends of the femur, tibia and patella (knee cap) to reduce friction, promote smooth movement and aid load distribution in the knee.



### Ligaments

These hold the bones together. There are strong ligaments situated both inside and outside the knee joint which help to protect the joint and to provide stability during movement.

- The anterior cruciate ligament (ACL) connects the femur to the tibia. It functions as a stabiliser of the knee joint and it resists forward movement of the tibia on the femur, it also acts to prevent the tibia from excessive rotation when pivoting.
- The other major ligaments of the knee are the Posterior Cruciate Ligament (PCL), the Medial Collateral Ligament (MCL) and the Lateral Collateral Ligament (LCL).

## Common findings during arthroscopy

### 1. Torn meniscus / soft tissue cartilage

A meniscal tear is commonly the result of a twist – a typical injury in sports such as netball or football or from repeated squatting. These tears may cause pain, swelling and a catching or locking sensation.

If not corrected, a meniscal tear can irritate the smooth joint surface and damage the articular (shiny) cartilage. This can lead to more serious problems such as arthritis.

Early treatment can mean much less damage to your joint. During meniscal surgery, the surgeon can repair (meniscal repair) or remove the torn piece of cartilage (meniscus). This is called a partial menisectomy and leaves as much of the stable rim of the cartilage as possible.

## 2. Articular cartilage damage

### **Chondroplasty:**

- This is a procedure that smoothes over the loose damaged articular cartilage flaps from the surface of the bone. If the damaged articular cartilage is severe (all the way down to the bone), any bare bone can be drilled or pinned to allow bleeding, thereby allowing new cartilage type material to fill in any defects left.
- This technique is called microfracture. Follow up clinical assessments and x-rays/ scans are required to assess any new cartilage.

### **Removal of loose bodies:**

- Torn flaps of articular cartilage can become detached and calcify with time, leading to loose bodies within the knee. They can also be formed by some conditions which cause inflammation of the synovial lining of the knee. Loose bodies can cause jamming or locking of the knee. Sometimes extra portals/ key holes are required to help remove these.

## 3. Ruptured (torn) anterior cruciate ligament (ACL)

ACL injuries are common injuries in sporting activities, particularly football, netball and skiing where turning and pivoting are important parts of the game.

The diagnosis of an ACL rupture can be made based on the history and knee joint examination. Patients may hear a “pop” as the ACL tears. The knee is very painful and swells quickly. The pain subsides over the next few days with isolated ACL injuries.

When the ACL is torn, the knee has an increased tendency to buckle/ give way or have a feeling of slipping leading to instability. Patients may lose confidence in their knee. Some people will have a degree of instability in simple daily activities whilst others may cope with minimal problems.

ACL injured knees have an increased risk of both articular cartilage injury and meniscal tears over time. Injury to either type of cartilage may be a reason for ongoing pain and in theory may be associated with the development of osteoarthritis. Surgery may cure the pain and prevent further long term damage to the knee.

The treatment of an ACL injury is individualised and based on many factors including severity of the instability, activity level, associated injuries and age. Treatment approaches range from intensive physiotherapy to aid strength and proprioception (balance reactions), arthroscopic surgery to address any other damage to the knee or reconstruction of the ACL to provide joint stability.

## 4. Arthritis

Osteoarthritis or degenerative joint disease is the most common type of arthritis. The knee joint becomes inflamed causing pain, swelling, stiffness, instability and often deformity.

The smooth articular cartilage surface (which covers the bone) thins out or is damaged and becomes irregular and fissured which may fall off exposing the underlying bone. If this happens, the underlying bones may rub together, contributing to the pain typical of arthritis. Severe arthritis can interfere with activities of daily living and may limit lifestyle. If osteoarthritis is your problem, an arthroscopy may not benefit you as the operation will not be able to

reverse the damage which has already occurred. An arthroscopy is not recommended unless you are experiencing mechanical symptoms (e.g. locking and catching).

## After the operation

You will need to rest until the effects of the anaesthetic have passed. It may take several hours before the feeling comes back into your knee. Take special care not to bump or knock the area.

You will usually be able to go home when you feel ready.

You will need to arrange for someone to drive you home. You should try to have a friend or relative stay with you for the first 24 hours. General anaesthesia temporarily affects your co-ordination and reasoning skills, so you must not drive, drink alcohol, operate machinery or sign legal documents for 24 hours afterwards.

In most cases your recovery will be dictated by the degree of damage, the extent and type of the surgery performed and how well you can rehabilitate your knee. Every injury is different and your recovery may be different to other people.

- **Pain** - Local anaesthetic is used in the knee to reduce the chance of you waking in pain. Some pain and swelling is normal after a knee arthroscopy; you will be advised to take simple painkillers, if you require anything stronger these will be prescribed.
- **Wound care** - Your knee will be bandaged in wool and crepe bandage. Arthroscopy involves the use of at least two and occasionally three or more, small keyholes to gain access to the knee. These are about half a centimetre long and do not require any stitches. Simple non-adhesive dressings are used on the wounds and can be left in place under the bandage for a couple of days. At that stage the dressings can be removed and small sticking plaster dressings applied. A double layer of tubigrip can then be worn during the day to aid comfort and decrease swelling.
- **Walking** - You will need to rest your knee for the first two to three days after your arthroscopy and try to keep your leg elevated as much as possible to prevent swelling. You will be able to walk on the day of your surgery unless advised otherwise and may mobilise freely around the house but long walks or standing for long periods should be avoided. Although your knee may feel uncomfortable it is important that you try to walk normally as soon as you can. You may need to use a stick or crutches for a few days (or longer, dependent on the type of surgery performed). The physiotherapist or nurse will advise you regarding this and about the exercises that you will need to do after your discharge.
- **Stairs** - At first it may be too painful to do the stairs correctly. If this is the case, then do them one at a time. Step up with the good leg first and down with the bad leg first.
- **Swelling** - Your knee may swell for a couple of weeks or longer after your operation. If this swelling is excessive, rest with your leg elevated and apply ice packs as necessary. The ice pack should always be wrapped in a damp tea towel or cloth and never placed directly onto the skin as this may cause an ice burn. It should be applied for a maximum of 20 minutes as any longer than this can make the swelling worse. The

ice pack may be applied several times during the day but there should be at least an hour break between each application.

- **Work** - Depending on your job you may return to work after a few days, if you require a sick certificate please ask before you are discharged. Further certificates can be provided by your GP. If you have a sedentary job you should be able to return to work within 7 days. If your job is physical and involves climbing and squatting, you may need to stay off work for up to 2 weeks.
- **Driving / travel** - You can get back to driving when you can comfortably manage to walk unaided. You must have sufficient strength to control the foot pedals and be able to perform an emergency stop comfortably. It is a good idea to check the terms of your car insurance to ensure your cover is valid, as some policies state that you must not drive for a specific time period after an operation. In general terms, this is about five to six days from arthroscopy. It is important to stress that prolonged journeys, are not recommended for a fortnight after surgery, and air flight is strongly discouraged for between two to three weeks after surgery.
- **Sport** - You should avoid sport for at least one month from surgery however you may ride an exercise bike or normal bike once you have enough knee bend to do so. When to return to sport after that depends on the speed of recovery of the knee and what surgery has been performed. Essentially, you should not take part in sports until there is no further swelling within the joint and the leg is strong enough to exercise on comfortably. Advice from the doctor or physiotherapist is important in this regard.
- **Follow up appointment** - You will be made a follow up appointment in the Orthopaedic Clinic for between two and six weeks after your operation dependent on your surgeon's request. If at this time it is felt that you require further physiotherapy, a referral will be arranged, however not everyone needs a course of physiotherapy after a knee arthroscopy.
- **Recovery period** - The length of time taken to notice an improvement in your knee after arthroscopy varies depending on how long the condition has been present in your knee and how much arthritis there is. For example, after injuries to the cartilages, the muscles alter their function and can take weeks/ months to retrain after arthroscopy.

## Side effects

These are the unwanted, but mostly mild and temporary effects of a successful treatment, for example feeling sick as a result of the general anaesthetic.

After a knee arthroscopy you will have small scars on your knee from the cuts.

## Complications

In general arthroscopy carries a very small risk of complications.

- **Deep Vein Thrombosis** – “clot in the leg”

There is a risk of a thrombosis or clot developing in a deep vein (DVT). ‘Blood thinning agents’ are not actually recommended routinely but we do recommend early active

mobilisation following your operation. The most important issues are to tell us beforehand if you are on any medication like the Contraceptive pill or even more importantly, if you have ever had a clot before - which puts you at particular risk. Even with all the treatment clots cannot be absolutely guaranteed not to occur. The usual problem is a painful, swollen calf within a few days to a few weeks after your operation. It is a potentially fatal condition because the clot, if left untreated, can move into the lungs. We have never had a case of fatal embolus but we have had cases of thrombosis which have required patients to come back for assessment, diagnosis and treatment with blood thinning medication. In these rare cases, the result of the operation has not been affected, but of course recovery has been slower and rehabilitation has been interfered with for several weeks.

If you do get a painful, swollen calf in the weeks following your surgery please contact us as an emergency or attend the Emergency Department, rather than wait for the next outpatient appointment.

- **Infection**

Infection after arthroscopy is fortunately very rare. It can be mild requiring antibiotics or severe requiring further surgery. It is important to keep your wounds clean and dry until they have healed.

- **Pain**

The scars may be uncomfortable for the first few days and your knee discomfort may last for up to the first two months as everything settles down and heals. You should aim to take your painkillers to allow you to perform your exercises and activities of daily living comfortably.

- **Bruising / swelling**

A degree of bruising or swelling of the knee is to be expected. Dependent on the type of surgery this could be quite dramatic and take a few weeks to settle. You will normally be advised of this prior to surgery if this applies to you. Approximately 1 in 10 patients can get dramatic bruising. This does not affect your recovery and is not generally a cause for concern.

- **Non-improvement**

There is a chance that the arthroscopy may not make much difference to your pain. This is more common if there is underlying arthritis in your knee. Further surgery may need to be considered in the future.

- **Scars**

The scars may remain thickened or tender for a few months but usually settle with time. Massage with some moisturising cream such as E45 can be helpful to settle tender scars.

- **Recurrence**

Tears of cartilage in the knee can occur again in the future.

## Very rare and extreme risks

All surgery is potentially fatal although the incidence of a serious rare anaesthetic complication leading to death is probably one in tens of thousands. However, it is beyond the scope of this document to identify all the most extreme (less than one in a thousand) risks that you might be prone to but we will be very happy to discuss any worries about specific concerns and also about any family history or your own personal history of problems in the past which are much more relevant.

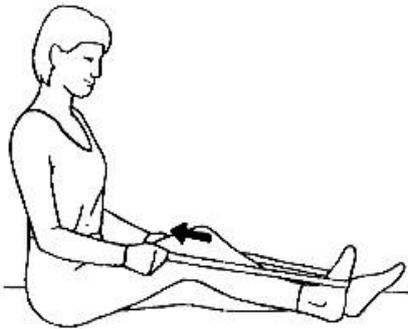
## Physiotherapy

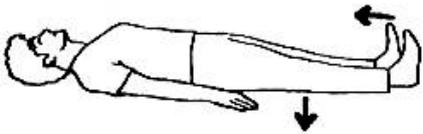
### Aims of treatment

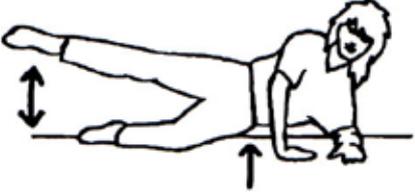
1. Self management of pain and swelling
2. Aim to fully straighten your knee.
3. Aim to achieve 90° knee bend.
4. Weight bear as pain allows.

Not everyone needs a course of physiotherapy after surgery.

It is essential that you practice the following exercises for at least four weeks following your surgery. Each exercise needs to be repeated 10 times and the whole regime 2- 3 times a day initially. You may continue these exercises longer than the suggested four weeks until your knee feels as strong as the good leg.

	<p>1. Knee bends.</p> <ul style="list-style-type: none"> <li>· In sitting with your back supported and your legs out straight in front of you.</li> <li>· Bend your knee as far as possible. Gently bend your knee a little more.</li> <li>· Hold for 10 seconds.</li> <li>· Repeat 10 times.</li> <li>· To help bend your knee, you may put a towel around your foot, or help bend your knee with your hands around your thigh.</li> </ul> <p><b>NB:</b> If you have had a meniscal repair, you may need to limit knee bend to 90° for the first 6 weeks.</p>
	<p>2. Knee hangs.</p> <ul style="list-style-type: none"> <li>· Lying down or sitting with your legs in front of you, rest your heel on a thick rolled up towel.</li> <li>· Allow your knee to “hang” i.e. straighten.</li> <li>· Tighten your thigh muscles.</li> <li>· Hold for 10 seconds.</li> <li>· Repeat 10 times.</li> </ul>

	<p>3. Static quads.</p> <ul style="list-style-type: none"> <li>· Lying on your back or sitting with your back supported and your legs out straight in front of you.</li> <li>· Pull your feet up towards you. Push your knee down firmly so that your thigh muscles tighten.</li> <li>· Hold for 10 seconds.</li> <li>· Repeat 10 times.</li> </ul>
	<p>4. Straight leg raise.</p> <ul style="list-style-type: none"> <li>· Lying on your back or sitting with your back supported and your legs out straight in front of you.</li> <li>· Pull your feet up towards you. Push your knee down firmly so that your thigh muscles tighten.</li> <li>· Keeping your knee straight, lift your leg up to just clear the bed.</li> <li>· Hold for 10 seconds and lower slowly.</li> <li>· Repeat 10 times.</li> </ul>
	<p>5. Inner range quads.</p> <ul style="list-style-type: none"> <li>· Lying on your back or sitting with your back supported and your legs out straight in front of you.</li> <li>· Place a rolled up towel or cushion under your knee.</li> <li>· Push your knee down hard and straighten your leg.</li> <li>· Hold for 10 seconds.</li> <li>· Repeat 10 times.</li> </ul>
	<p>6. Heel digs.</p> <ul style="list-style-type: none"> <li>· Lying on your back or sitting with your back supported and your legs out straight in front of you.</li> <li>· Bend your knee to 45 degrees.</li> <li>· Pull your toes up towards you, and dig your heel into the bed.</li> <li>· You should feel the muscles of the front and back of your thigh tighten.</li> <li>· Hold for 10 seconds.</li> <li>· Repeat 10 times.</li> </ul>

	<p>7. Hip abduction in side lying.</p> <ul style="list-style-type: none"> <li>• Lying on your un-operated side. Brace your operated leg and lift it up sideways to hip height.</li> <li>• Hold for 10 seconds.</li> <li>• Lower your leg slowly.</li> <li>• Repeat 10 times.</li> </ul>
	<p>8. Hip adduction in side lying.</p> <ul style="list-style-type: none"> <li>• Lie on your operated side with the other leg bent up in front of you. Brace your affected leg and lift it up.</li> <li>• Hold for 10 seconds.</li> <li>• Repeat 10 times.</li> </ul>
	<p>9. Hip extension in lying.</p> <ul style="list-style-type: none"> <li>• Lie on your stomach. Brace your operated knee and lift your leg up behind you with your knee straight.</li> <li>• Hold for 10 seconds.</li> <li>• Lower your leg slowly.</li> <li>• Repeat 10 times.</li> </ul>
	<p>10. Bridging.</p> <ul style="list-style-type: none"> <li>• Lay on your back with your arms across your chest. Tuck your pelvis under and lift your bottom up and off the floor.</li> <li>• Push through your legs and do not arch your back.</li> <li>• Hold for count of 10.</li> <li>• Relax back down slowly.</li> <li>• Repeat 10 times.</li> </ul>
	<p>11. Half squat.</p> <ul style="list-style-type: none"> <li>• Stand tall and keeping your bottom tucked in and your back straight, bend your knees.</li> <li>• Slowly straighten back to standing tall again.</li> <li>• Repeat 10 times.</li> </ul>
	<p>12. Balancing on one leg.</p> <ul style="list-style-type: none"> <li>• Stand on your operated leg with your knee slightly bent.</li> <li>• Lift your un-operated leg off the floor.</li> <li>• Hold this position for 30 seconds.</li> <li>• Repeat 5 times.</li> </ul>

**Please note:** During the above exercises you should not push into pain but mild discomfort is acceptable.

As is usual with any new exercise, your muscles may ache and you may experience new aches and pains for a few days, these should settle. If they do not, try to establish the aggravating exercise and leave this out of your exercise programme for a few days and then try again.

Exercise pictures © Physio Tools Ltd.

## Useful numbers and contacts

Adult Day Surgery Unit:	0118 322 7622
Redlands Ward:	0118 322 7485
Pre-operative Assessment:	0118 322 6546
West Berkshire Community Hospital:	01635 273300

Any concerns you may have during the first 24 hours of your discharge please phone the ward / unit you were admitted to.

Please note that the Adult Day Surgery Unit's opening hours are from 7.00am to 7.00pm. Outside these hours please ring the hospital switchboard on 0118 322 5111 and ask for the on-call orthopaedic doctor. Please note that this should be for emergencies only.

After 24 hours for all patients, please seek advice from your GP.

## Further information

Visit the Trust website at [www.royalberkshire.nhs.uk](http://www.royalberkshire.nhs.uk)

This document can be made available in other languages and formats upon request.

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