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Arthroscopic Knee Surgery

WHAT IS ARTHROSCOPY?

Arthroscopy is a surgical procedure which orthopaedic surgeons use to view, diagnose and treat problems inside the knee joint. The word arthroscopy comes from Greek words **Arthros** (joint) and **Scopos** (to look). The term literally means "**to look inside the joint**". In an arthroscopic operation, an orthopaedic surgeon makes a small incision in the patient's skin and then inserts the arthroscope, a miniature lens and lighting system, which magnifies and illuminates the structures inside the joint. This small instrument is approximately 5 mm in diameter. An intense, cool light is transmitted through fibreoptic cables to the end of the arthroscope that is inserted into the joint. By using a miniature colour video camera attached to the arthroscope, the surgeon is able to see the interior of the knee joint on a large television screen.

WHY IS ARTHROSCOPY NECESSARY?

A knee joint is lined with the **synovial lining**, that normally produces minute amounts of joint lubricant and nutrient called **synovial fluid**, and contains dense and elastic tissue lining bone ends and the underside of the kneecap called **articular cartilage**, two tough cartilage cushions called **medial and lateral menisci** and fibre-like connecting tissue called **ligaments**. The articular cartilage, menisci and ligaments cushion the bones and stabilise the joint. Injuries and disease can damage synovial lining, bones, articular cartilage, menisci, ligaments, muscles and tendons.

Diagnosing knee joint injuries and disease begins with a thorough medical history, physical examination, x-ray films (mainly for bone pathology) and, quite often, MRI (magnetic resonance imaging, mainly for soft tissue and articular cartilage injury). Further diagnosis using arthroscopy may be required because it gives a precise, direct view of the affected structures inside the joint. However, surgical intervention for various problems affecting the inside of the knee joint is the main reason for arthroscopy nowadays.

Some of the most frequent conditions found during arthroscopic examination of the knee joint are:

- Torn or degenerate meniscus or menisci (semilunar cartilage).
- Damaged joint surface (articular cartilage)
- Loose fragments of cartilage or bone (loose bodies)
- Torn anterior cruciate ligament (ACL).
- Maltracking and tilted patella (kneecap)
- Inflammation of the joint lining (synovitis)

HOW IS ARTHROSCOPY PERFORMED?

Arthroscopic surgery requires the use of a hospital operating theatre. Before the procedure, a patient is given an anaesthetic. The **tourniquet** (tight cuff above the knee and around the thigh) may be used to temporarily interrupt the local circulation. The leg is painted with a liquid, usually pink or light brown, to disinfect the skin on and surrounding the knee. The surgeon makes a small incision in the skin and inserts the arthroscope. Usually 2 to 3 incisions, called **portals**, are necessary in order to examine the inside of the joint. A sterile fluid is introduced into the knee joint to wash it out and expand it, making room for the arthroscope and surgical instruments.



A surgical instrument is used to probe various parts within the joint to determine the quality of the tissue and extent of the problem. If surgery is indicated, it is performed with specially designed manual or power-driven instruments that are inserted into the joint through the portals.

A selection of your arthroscopic images will be recorded and stored digitally, and kept as a part of your hospital record. We will give you a copy of the full arthroscopy report, with several representative intra-articular images. If you wish to have more detailed imaging information or the video recording please ask us to record your arthroscopic operation on a CD or your USB stick. Please be aware that we may ask you to sign an Imaging Consent Form according to the guide of the Department of Health, Nuffield Hospitals' policy and the Data Protection Act 1998.

PRE-OPERATIVE CHECK LIST:

- Bring your regular medication and relevant medical documents, including X-ray and MRI films/CD with you.
- Tell us if you are allergic to any medication or food.
- Let us know if you are taking the contraceptive pill. You should stop the pill at least 4 weeks prior to your knee surgery.
- You can eat **solid food up to 6 hours** and **drink clear fluids up to 3 hours** before day-case surgery.
- Check on the program on post-operative exercises and rehabilitation.
- Wear comfortable loose clothes and shoes.
- Arrange for someone to drive you home after surgery.

WHAT HAPPENS AFTER ARTHROSCOPY?

After arthroscopic surgery is over, the portals are closed with sterile surgical tape and covered with a layer of gauze and crêpe bandage. The patient is then moved from the operating room to a recovery room where a nurse will monitor temperature, blood pressure and heartbeat.

Pain medication may be given orally, rectally or through an intravenous line. Cold pressure dressing (Cryo/Cuff) may be applied to reduce swelling and discomfort. Once you are fully awake and all your functions are stable you will be transferred back to the ward.

Before being discharged, usually several hours after your operation, you will be seen by your anaesthetist and surgeon and one of our physiotherapists. You will learn how to care for your arthroscopic portals, what activities you should avoid, and what exercises you should do to aid your recovery (please see attached postoperative exercise brochure).

At a follow-up visit (usually 10 to 14 days after the operation) your surgeon will inspect arthroscopic portals, remove the skin closure and discuss the operative findings and further rehabilitation program.

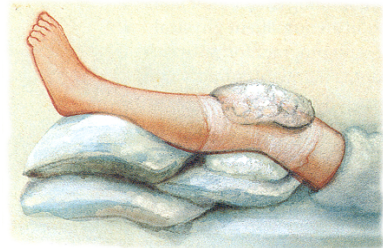
The amount of surgery required and recovery time will depend on the joint problem, your ability to heal and rehabilitation. Recovery time varies markedly from patient to patient. It is not unusual for patients to go back to work or school or resume daily activities within a few days. Athletes and others who are in good physical condition may return to athletic activities within a few weeks.

Remember, though, that people who have arthroscopy can have many different diagnoses and pre-existing conditions, so each patient's arthroscopic surgery is unique to that person. Recovery time will reflect that individuality. Not all arthroscopies are the same and some patients may experience recurring knee problems.

HOME RECOVERY

How quickly and fully you recover after arthroscopy is, to a large degree, up to you. Although you have only a few tiny incisions, your knee needs special care at home. Elevation and ice can help control swelling and discomfort, and circulation exercises help prevent postoperative complications.

- **ELEVATION** reduces swelling, which in turn relieves pain and speeds your healing. Elevation also helps prevent pooling of blood in your leg. To elevate your knee correctly, be sure to keep your knee and ankle above your heart. The best position is lying down, with two pillows lengthways under your lower leg. Elevate your knee whenever you are not on your feet for the first few days after arthroscopy.
- **ICE** is a natural anaesthetic that helps relieve pain. Ice also controls swelling by slowing the circulation in your knee. To ice your knee use a bag of frozen peas or a plastic bag filled with crushed ice. Then wrap the ice bag with a small moist towel to protect your skin. Cover your knee with a blanket and leave the ice on for 30 to 60 minutes, several times a day, for the first 2 to 3 days after arthroscopy.
- You may wish to use **Aircast Cryo/Cuff** (which is available through our Physiotherapy Department at extra cost). The knee Cryo/Cuff combines the therapeutic benefits of controlled compression to minimize bleeding and swelling, and cold to minimize pain. The cuff is anatomically designed to completely fit the knee providing maximum cryotherapy. Please visit www.aircast.com for more information.



- **PAIN MEDICATION** allows you to rest comfortably and start your exercises with a minimum of discomfort. It is a good idea to take your pain medication at night, even if you are not in severe pain, to assure a good night's rest. Pain often signals over activity, so you might try rest and elevation to help relieve discomfort. Avoid alcohol if you are taking pain medication.

- **FIRST FEW MEALS** after arthroscopy should include light, easily digestible food and plenty of fluids. Some people may experience slight nausea, a temporary reaction to anaesthetic.
- **CIRCULATION EXERCISES** help prevent post-operative complications, such as blood clotting in your leg. Point and flex your foot, and wiggle your toes, every few minutes you are awake for a week or two after arthroscopy. 
- **DRESSING** keeps your knee clean and helps prevent infection. Your portals may be closed with surgical tape and covered with gauze and bandage. Be sure to leave your dressing on for 3 to 5 days, then remove the bandage and gauze (but leave surgical tape intact and do not worry if the gauze is blood-stained!) and replace the bandage with a new one. Use just enough tension to get the wrinkles out. Leave this light compressive dressing until your first follow-up appointment.
- **SHOWERS** are fine if you put your leg in a large plastic bag taped above your dressing. Wait to take your first shower until you can stand comfortably for 10 to 15 minutes.
- **CRUTCHES** may be prescribed to keep weight off your knee as it heals. You can weight bear as tolerated. Be sure you know how to set the hand rests and the right height for you (check with your physiotherapist before you leave the hospital). Try to walk normally and keep your body upright. **Your crutches should move with your bandaged leg.**
- **WALKING** helps you regain range of movement in your ankle, knee and hip. A combination of joint movement and weight bearing are essential for normal joint nutrition and proprioception. Even if you are on crutches and not yet bearing full weight on your leg, you should start walking as soon as possible, to improve circulation and speed the healing process in your leg. Gradually put more weight on your leg and try to keep your ankle, knee and hip bending as normally as possible.
- **EXERCISES are very important after arthroscopic surgery!** Rebuilding the muscles that support and stabilise your knee (quadriceps, hamstrings and calf muscles) is one of the best ways to help your knee recover fully. **Please consult your Physiotherapist and ask for a separate illustrated brochure with detailed exercises.** The sooner you start these exercises, the better. You will get the most benefit from these exercises if you do them with slow, steady movements, and on both legs to maintain your muscle balance. Some patients may need special equipment and supervised physiotherapy.
- **BE SURE YOU KNOW ABOUT** any special instructions on taking pain medication, how to use crutches, which home recovery exercises to do, when to schedule your first follow-up appointment, when you can drive, when you can return to work and when you can return to sports and fitness activities.
- **INFORMATION:** Shortly after your operation you will receive a copy of your illustrated arthroscopic operative record, with full information on arthroscopic findings, operation and postoperative instructions. Please feel free to share this information with your GP and Physiotherapist.

- **DRIVING** is usually possible a couple of days after a simple arthroscopic knee operation. However, it may take a few more days, or even several weeks, before it is safe to drive. As a general rule you should be able to drive safely as soon as you can perform an emergency stop. For further information please visit DVLA's website (www.dvla.gov.uk).
- **FLYING:** there is no universal agreement as to when it is safe to travel by plane after knee arthroscopic surgery. It seems that most Orthopaedic Surgeons advise their patients not to fly for at least 2 weeks after straightforward arthroscopy. Short flights do not seem to be a problem. However, long intercontinental flights are a potential problem as there is an increased incidence of spontaneous DVT (deep venous thrombosis), even in the young and healthy passengers. It is possible that sitting for long period of time, in a confined space and with very little leg room in economy class, could predispose to the development of deep venous blood clots, especially in people following recent knee surgery. The likelihood of developing postoperative leg blood clots depends on many different factors, including your general health, medical history, postoperative mobility and a number of risk factors (obesity, smoking, a history of DVT, etc.). If you have to travel by plane, before 2 weeks after your arthroscopy, it would be wise to contact your airline's Medical Department and to ask them for advice. Also, please discuss this issue with your GP, as you may have to take prophylactic measures for several weeks.
- **RETURN TO WORK** only after your surgeon or GP feel it is safe. It could be a few days or a few weeks, depending on how quickly you heal and how much demand your job puts on your knee.
- **COMPLICATIONS**, although uncommon, do occur occasionally during or following diagnostic and surgical arthroscopy. They include excessive swelling or bleeding, skin and (extremely rarely) joint infection, phlebitis, blood clots and very rarely technical problems with arthroscopic instruments. There are also anaesthetic risks, both during and after the procedure, but they are minimal.
- **PROBLEMS?** Please contact your **GP** if you bleed or discharge continuously from arthroscopic portals, if you have a fever of 38⁰C or above, severe nausea, increased pain unrelieved by medication and rest, increased painful swelling unrelieved by elevation and ice, pain in the calf, shortness of breath, chest pain or abnormal coughing.
- **QUESTIONS:** If you have any questions or problems with your rehabilitation please contact **Physiotherapy Department** on 01244 684 314. If you wish to change the time or the date of your appointment please call **Appointments** on 01244 684 325.