Arthroscopy

Introduction

An arthroscopy is a type of keyhole surgery used both to diagnose and treat problems with joints.
The procedure is most commonly used on the knees, ankles, shoulders, elbows and wrist.
An arthroscopy might be recommended to look at the inside of the joints if imaging tests have been performed and you have problems such as swelling or stiffness.
As well as allowing a surgeon to look inside a joint, an arthroscopy can also be used to treat a range of problems and conditions. For example, it can be used to:
repair damaged cartilage
remove fragments of loose bone or cartilage
treat frozen shoulder

What happens during an arthroscopy?

A piece of equipment called an arthroscope is used during an arthroscopy. An arthroscope is a small, metal tube about the length and width of a drinking straw. Inside, a bundle of fibre optics act as both a light source and a camera. Images are sent from the arthroscope to a video screen or an eyepiece so that the surgeon is able to see the joint.
It is also possible for tiny surgical instruments to be passed through an arthroscope to allow the surgeon to treat certain conditions.
The arthroscope is inserted into a small incision next to the joint. More small incisions may also be made to allow an examining probe or surgical instruments to be inserted.
An arthroscopy is usually carried out under general anaesthetic. Although, in some cases a spinal or local anaesthetic is used.
An arthroscopy is usually performed as a day case procedure, which means the person being treated is able to go home on the same day as the surgery.

Safety

An arthroscopy is usually a safe type of surgery and the risk of serious complications developing is low (less than 1 in a 100).
However, possible complications include infection and accidental damage to nerves near the affected joint.

Advantages

An arthroscopy is carried out using keyhole surgery, where only small cuts are made in the skin. This gives the procedure some potential advantages over traditional, open surgery including:
less pain following the operation
faster healing time
lower risk of infection
it can be performed as a day case procedure
you may be able to resume normal activities more quickly

Recovery

The time it takes to recover from an arthroscopy can vary depending on the joint involved and which procedure was necessary.
It is often possible for a person to do light, physical activities one to three weeks after having surgery. Full physical activities, such as lifting and sport, can often be resumed after six to eight weeks.

When an arthroscopy is used

An arthroscopy can be used to help diagnose and treat a number of joint problems and conditions.
Diagnosing joint problems

An arthroscopy can be used to help diagnose:
unexplained joint pain
joint stiffness
swelling of the joint
the joint giving way at certain times or 'popping' out of position
Initial tests for these types of problems usually involve the use of imaging studies such as X-rays, computerised tomography (CT) scans and magnetic resonance imaging (MRI) scans.
However, if these tests don't find anything it may be necessary to take a direct look at the inside of the joint.
An arthroscopy can also be used to assess the level of joint damage resulting from an injury, such as a sports injury, or from underlying conditions that can cause joint damage, such as osteoarthritis - where, over time, the joint cartilage becomes damaged.

Treating joint problems and conditions

Surgical instruments can be passed through an arthroscope, making it possible for an arthroscopy to be used to treat a range of joint problems and joint conditions. For example, an arthroscopy can be used to:
repair damaged cartilage, tendons and ligaments
remove inflamed tissue
remove small section of bone and cartilage that have broken off and are loose within the joint
drain away an excess build-up of synovial fluid (fluid that lubricates the joint)
Conditions that can be treated with arthroscopy include:
many types of arthritis - a common condition that causes pain and inflammation within a joint
Baker's cyst - synovial fluid builds up inside a joint, leading to stiffness and swelling
frozen shoulder - the shoulder joint becomes compressed, causing stiffness and pain
temporomandibular joint disorders (TJDs) - problems that affect the joint between the lower jaw and the base of the skull
arthrofibrosis - excess scar tissue caused by a previous injury disrupts the normal workings of the joint
bone spurs - abnormal bone growths that can cause persistent pain
synovitis - the lining of the joint becomes inflamed

How an arthroscopy is carried out

An arthroscopy is usually a day case procedure which lasts between 15 to 45 minutes. More extensive surgery can sometimes take up to 2-3 hours.

Preparing for surgery

During your appointment your general fitness will be assessed to ensure that you are ready for surgery. You will also be given information about issues such as:
what and when you are allowed to eat and drink on the day of the surgery
whether you should stop or start any medications before surgery
how long it will take for you to recover from surgery
whether you will need to do rehabilitation exercises after surgery
The surgical team will explain the benefits and risks that are associated with having an arthroscopy. You will also be asked to sign a consent form to confirm that you agree to have the operation and that you understand what is involved, including the risks and benefits.

The arthroscopy operation

An arthroscopy is usually carried out under general anaesthetic, although occasionally it can be performed under spinal anaesthesia, or with local anaesthetic. Your anaesthetist (a doctor trained in giving people anaesthetic) will explain which

type of anaesthetic is most suitable for you. In some cases you may be able to express a preference.
If you have a local anaesthetic your joint will be numbed so that you do not feel any pain. However, you may still feel some sensations during the procedure, such as a mild tugging, as the surgeon works on the joint.
Anti-bacterial fluid is used to clean the skin over the affected joint and a small incision, a few millimetres long, is made to enable the arthroscope to be inserted.
One or more additional incisions will also be made so that an examining probe, or other instruments can be inserted.
The surgeon may fill the joint with a sterile fluid to expand it and make it easier to view. They will be able to see inside your joint using an eyepiece or a video screen. If possible, during the procedure, they will repair any damaged areas and remove any unwanted tissue.
After the procedure, the arthroscope plus any attachments are removed along with any excess fluid from the joint. The incisions are closed using paper tape or stitches and covered with a sterile dressing.

Recovering from an arthroscopy

Your recovery from an arthroscopy can vary depending on the type of surgery, your general health and the type of work that you do.

After the operation

After your arthroscopy, you will be taken to a room to recover from the effects of the general anaesthetic, if you have had one.
You may experience some pain in the joint. If you do, tell a member of the hospital staff who will be able to give you painkillers.
Most people who have an arthroscopy are able to leave hospital either on the day of the surgery or the following morning. Before leaving hospital, you may have an appointment with a physiotherapist to discuss exercises for you to do at home.
You may be advised to elevate the joint and apply ice packs to help with swelling. Depending on the surgery, you may be given special pumps or compression bandages to help improve blood flow.

Recovery advice

It is likely that you will feel tired and light-headed after having a general anaesthetic, so you will need to ask a responsible adult to take you home and to stay with you for the first 24 hours following surgery. Most people will recover from the effects of the anaesthetic within 48 hours.

Any dressings will need to be kept as dry as possible, so you will need to cover them with a plastic bag when having a bath or shower. If your dressings do get wet or fall off, they will need to be replaced.
As a general rule, most children can return to school within a week of having surgery and most adults are able to return to work within three to six weeks.
You will be able to drive again once it is safe for you to make an emergency stop without damaging the affected joint. Depending on the procedure, this may be a few weeks or several months after surgery. Your surgeon will be able to give you a more specific recommendation.
Your surgeon will also be able to advise you about how long it will be before you can undertake strenuous physical activities, such as heavy lifting and sport. For most people this will be around six to eight weeks after surgery.

Follow-up

You will usually be asked to attend a follow-up appointment four to six weeks after the operation to discuss the results of the surgery, your recovery and any additional treatment that you may require.

Complications of an arthroscopy

An arthroscopy is generally a safe type of surgery and any complications, such as stiffness and swelling in the affected joint, are usually minor and temporary.
More serious complications are much rarer, occurring in less than 1 in 100 cases. They include:
a blood clot that develops in one of the limbs - this is known as a deep vein thrombosis (DVT) and causes pain and swelling in the affected limb
infection inside the joint - this is known as septic arthritis and causes fever, pain and swelling in the joint
bleeding inside the joint - which can often cause severe pain and swelling in the joint
accidental damage to the nerves that are near the joint - which can lead to numbness and some loss of sensation
You should contact your surgical team for advice if you think that you may have developed a complication after having an arthroscopy.