

# A NEW KNEE JOINT

# An Information Booklet



arc 0870 850 5000  
www.arc.org.uk  
Committed to curing arthritis



# A NEW KNEE JOINT

## CONTENTS

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- 2 How will this booklet help me?
- 2 Do I need a knee replacement?
- 3 What are the benefits of a new knee joint?
- 3 What are the disadvantages?
- 4 What is a knee replacement and how does it work?
- 5 What are the options for knee replacements?
- 9 What are the risks?
- 11 Are there any alternatives?
- 13 What happens in hospital?
- 17 When will I get back to normal?
- 19 How should I look after my knee?
- 20 Are there any warning signs to watch for?
- 20 Are there likely to be longer-term problems?
- 21 Can I have a repeat knee replacement?
- 21 Glossary
- 22 Useful addresses

## How will this booklet help me?

If you are thinking about having a new knee joint there may be lots of questions on your mind. Recent research has led to a better understanding of the pros and cons of knee replacement for people with arthritis. This booklet aims to provide the most up-to-date information on the options available and to answer the questions which people most often ask. We have also included a glossary of medical terms (like *prostheses*). We have put these in italics when they first appear in the booklet.

## Do I need a knee replacement?

Over 30,000 knee replacement operations are carried out each year (this figure is for England and Wales), and the number is increasing. The operation is highly successful for most people. But you will need to consider carefully whether it is right for you at this particular time. You need to weigh up the benefits that a new knee is likely to bring against the risks of having a major operation.

If you have severe knee pain and serious difficulties in moving about, and if your arthritis is not responding to treatment, then a replacement knee is probably your best option. If your symptoms are still manageable and your medication is effective then you may prefer to wait.

Most people who have a knee replacement are over 65. If you are much younger than this you may want to consider making changes to your lifestyle, such as losing weight or doing more exercise to strengthen your leg muscles, rather than undergoing an operation just yet. However, there is some evidence that not leaving the operation too long – until the knee becomes very stiff – leads to a better outcome. If you are under the age of 50 and decide to go ahead with a knee replacement now, you are quite likely to need a repeat operation in

later life, and the second may be less successful than the first. If you also have arthritis in your hip, and need a hip replacement, it is best to go ahead with this first and have your knee replacement later. You will need a flexible hip to do the knee exercises required after a knee replacement operation.

## **What are the benefits of a new knee joint?**

Freedom from pain is the main benefit of a knee replacement and you should find you are more mobile too. Knee replacements are very successful at relieving severe knee pain and improving mobility. About 8 out of 10 people who have had the operation say they are happy with their new knees, although 1 in 10 is unsure whether it has been an improvement, and 1 in 10 is disappointed.

For most people a knee replacement means being able to get around much more easily. You should be able to get out of a chair, walk up and down slopes and climb stairs without difficulty. Most people find they are able to walk with little or no pain for 30 minutes or longer. Carrying out household jobs, shopping, and using public transport should all become easier. It should even be possible, if you are generally fit, to walk for up to 5 miles, drive a car, and take gentle exercise such as swimming, cycling and playing golf. It is not usually possible, however, to run, or play vigorous sport, as this increases the risk of wear and loosening of the knee replacement.

## **What are the disadvantages?**

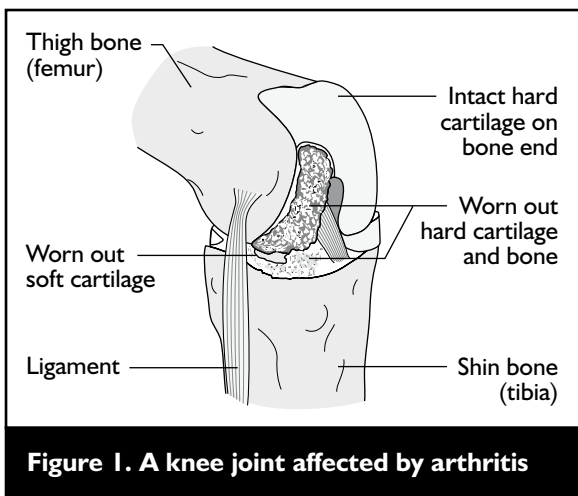
A replacement knee can never be as good as a natural knee, although people generally rate the artificial joint as about 'three-quarters normal'. You are still likely to

experience some difficulties in movement, especially in bending the knee. Kneeling is likely to be a problem because the operation leaves a scar at the front of the knee which is uncomfortable to lean on. Initially there is likely to be some numbness on the outer edge of the scar. Although this feeling does improve over 2 years it is unlikely to recover completely. You may also be aware of some clicking or ‘clunking’ in the knee replacement. Typically a new knee joint lasts about 15 years but it is usually possible to have a second – and even a third – replacement knee.

## What is a knee replacement and how does it work?

In a healthy knee, the ends of the thigh and shin bones are covered with a hard cartilage which is slippery to allow the bones to move easily against each other. The knee joint is held together by flexible fibrous bands called ligaments, which keep the bones in the right position when the knee bends or straightens. Arthritis damages the hard cartilage so that it becomes thin and wears away in places (see Figure 1). This means that the bones rub against each other and become worn and the knee may become deformed.

In a knee replacement operation, the surgeon removes the worn ends of the bones and any remaining hard cartilage and replaces them with metal and plastic parts. The end of the thigh bone (femur) is replaced by a single curved piece of hard metal. The top end of the shin bone (tibia) is replaced by a flat plate of metal fixed into the bone. A plastic bearing is fitted to this plate to act like hard cartilage. The surgeon usually has to adjust the ligaments of the knee to make way for the new joint and to correct any deformity. The interlocking parts of the new metal and plastic parts allow the knee to bend while also making it more stable.

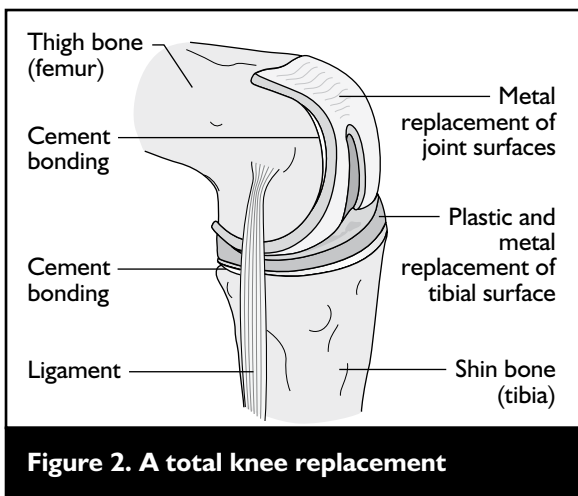


There are several different kinds of knee replacement operations as well as many different designs for the parts or implants (*prostheses*) used. There are also alternative surgical options. Your doctor and surgeon should help you to choose the best solution for you, taking into account the condition of your knee and your general health. In making your decision, you may want to ask for information about the long-term outcomes of a particular operation or a particular design of implant. Knowing that the option you choose has been successfully tried and tested over a reasonable period should give you peace of mind.

## What are the options for knee replacements?

### Total knee replacement

Most knee joint operations involve a total knee replacement which means that both sides (compartments) of the joint are replaced (see Figure 2). The new parts are normally cemented in place. There is a trend, however, towards using uncemented joints with textured surfaces to encourage the bone and the new joint to bond

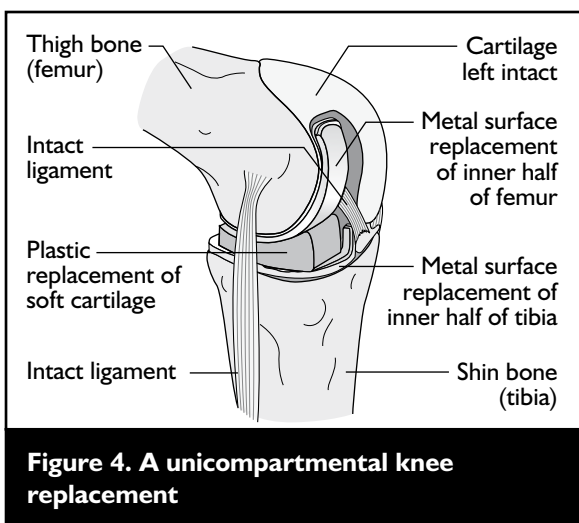
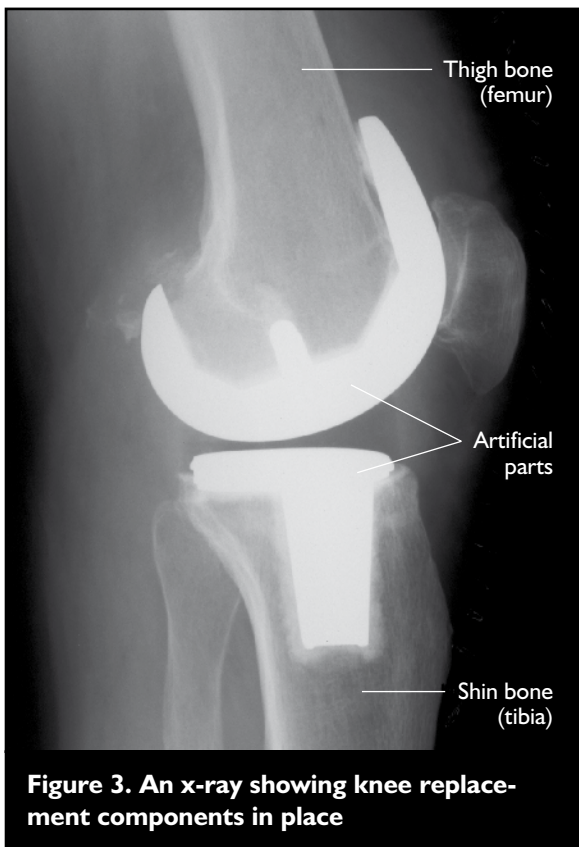


**Figure 2. A total knee replacement**

naturally. Another increasingly common technique is to use a movable plastic bearing, which is not firmly fixed to the metal parts, in an effort to reduce wear on the new joint. This is called a mobile bearing knee. As yet, the evidence is unclear as to whether these new modifications provide better results or not. In a small number of cases, both knees are replaced at the same time. There are more than 30 different designs or brands for the parts used in total knee replacements. The x-ray (Figure 3) shows just one type in place.

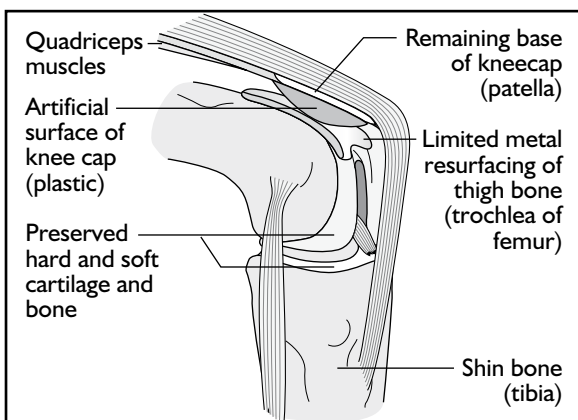
### **Unicompartmental replacement**

If arthritis affects only one side of your knee – usually the inner side – it may be possible to have a half-knee or unicompartmental replacement (sometimes called hemiarthroplasty) (see Figure 4). The unicompartmental operation is only suitable for about 1 in 4 people with osteoarthritis. This is a less extensive operation than a total knee replacement and should therefore mean a quicker recovery. In general, this type of joint provides better mobility than a total knee replacement although it is more likely that another operation will be needed within 10 years than with a total knee replacement. If a second operation is needed it would be a total rather than another unicompartmental replacement.



## Kneecap replacement

It is possible to replace just the kneecap (patella) and its groove (trochlea) if this is the only part of your knee which is affected by arthritis. This is also called a patellofemoral replacement or patellofemoral joint arthroplasty (see Figure 5). Again this is a less major operation with speedier recovery times. The longer-term results are still unclear. The operation is only really suitable for about 1 in 10 people with osteoarthritis.



**Figure 5. A kneecap replacement**

## Minimally invasive surgery

Any of the above operations can be performed using a technique called minimally invasive surgery (MIS). This means the operation is carried out through smaller-than-usual cuts (incisions) in the body. In conventional surgery the incision needed for a knee replacement would be about 20–30 cm (8–12 in). In minimally invasive surgery the incision would be about 10–12 cm (4–5 in). About 1 in 20 knee joint operations are now performed using minimally invasive techniques. With a smaller scar you should recover more quickly, stay in hospital for a shorter time, and become mobile sooner. Set against this is the extra difficulty for the surgeon of operating within a very small space, which

might mean there is a higher risk of complications. As this is a relatively new technique, long-term studies of its outcomes are needed before it can be widely recommended.

## **Image-guided surgery**

This is a new development which means that the surgeon performs the operation with the aid of computerized images. Usually this is done by attaching infrared beacons to parts of the leg and to the operating tools. These are then tracked on infrared cameras in the operating theatre. Results so far suggest this offers greater accuracy in positioning the new knee joint, but longer-term studies are needed. Most hospitals do not yet have the equipment for image-guided surgery, so only about 1 per cent of knee operations are currently performed in this way.

## **What are the risks?**

In surgery generally it is thought that a risk of less than 1 in 1,000 (0.1%) is relatively safe. With major surgery like knee replacement the risks are higher than this. Most knee joint operations are problem-free but complications do arise in about 1 in 20 cases (5%), despite precautions being taken to avoid them. When they do happen, most complications are minor and can be successfully treated. Overall the risk of death, usually due to a heart attack, a stroke, or a blood clot reaching the lungs, is about 1 in 200 (0.5%), but this risk varies between patients. On the whole, a younger patient with no other medical problems will be at lower risk than an older patient with medical problems such as diabetes or heart disease. Your surgeon or anaesthetist will be able to discuss these risks with you.

## **Thrombosis**

Any operation on the lower limbs can lead to a small blood clot forming in the leg. This is known as deep vein

*thrombosis*. Usually this causes no problems but about 1 person in 20 (5%) will have some pain and swelling. The problem is usually treated with blood-thinning medicines such as *heparin* or *warfarin*. In a very small number of cases the blood clot can travel to the lungs (pulmonary embolism), which leads to breathlessness and chest pains. Usually this too can be treated with blood-thinning medicines and *oxygen therapy*. In extreme circumstances, pulmonary embolism can be fatal.

## **Wound infection**

As with all operations, there is a small risk that the wound will become infected. On average this happens in about 1 in 50 cases (2%). Usually such infection can be easily treated with antibiotics. Rarely, in about 1 in 150 patients (0.6%), a deep infection can develop which may mean further surgery, taking out the new knee joint to help clear the infection. In extremely rare cases, where the infection cannot be cured, the knee replacement has to be removed and the bones fused together to make a stiff limb. In a few exceptional cases, the leg has to be amputated above the knee and replaced with an artificial one.

## **Other problems**

There is a small risk that the ligaments, arteries or nerves around the knee will be damaged during the operation. About 1 in 50 people (2%) suffer some damage to the ligaments. This can usually be mended during the main operation or else protected while it heals by wearing a brace in the weeks after surgery. Likewise the arteries may suffer accidental damage. This too is rare – happening to roughly 1 person in 1,000 (0.1%) – and requires further surgery to repair the damage. Damage to the nerves occurs in less than 1 in 100 patients (1%). This is usually due to stretching and it gradually recovers over time. Very rarely – in about 1 in 5,000 cases (0.02%) – the blood flow within the muscles around

the new joint is reduced after surgery. This is called ‘compartment syndrome’ and requires further surgery. Another extremely rare problem is that the bone around the artificial knee may break after a simple fall. When this happens it tends to occur after several months or years in people with weak bones (osteoporosis). Major surgery may be needed to mend the fracture or change the knee parts. When a mobile plastic bearing is used there is a small risk of dislocation of the knee, and this would also require further surgery.

## Are there any alternatives?

You will probably want to make sure you have tried the various non-surgical options before contemplating a knee replacement (see **arc** booklet ‘Osteoarthritis of the Knee’). These include:

- **Diet**  
Losing weight will reduce the load on your knee.
- **Exercise**  
Exercising improves the flexibility and strength of your knee joint.
- **Medication**  
Painkillers can reduce the pain in your joint while anti-inflammatory tablets may help if your knee is swollen. These tablets have side-effects of their own so long-term use should be avoided if possible (see **arc** leaflet ‘Non-Steroidal Anti-Inflammatory Drugs’). Some patients take glucosamine, which may be helpful in some cases of osteoarthritis. Injections (for example, steroid injections) into the knee can relieve the symptoms for a while but do not reverse the damage inside the joint.

If you have exhausted these options you may want to look at the surgical alternatives to knee replacement. Generally these do not provide such good results as a new knee joint but they may allow you to postpone

having a knee replacement operation for some years. Some of these options are new and long-term studies of their benefits are still needed.

## **Arthroscopic washout and debridement**

‘Arthroscopy’ is a method of viewing the inside of a joint using a special instrument (the arthroscope) which is inserted through small incisions (about 5mm or ¼ in). The technique can be used to help with diagnosis or to carry out treatment or ‘keyhole’ surgery (using miniaturized instruments). In arthroscopic debridement the surgeon clears away debris and smoothes damaged cartilage in the knee. Its benefits are controversial. Some recent research suggests it is no better than fake (placebo) surgery for arthritis. Other evidence suggests it is useful for younger patients with less advanced arthritis. However, it is not recommended for severe arthritis.

## **Microfracture**

This operation, which is performed by keyhole surgery, entails making holes in the bone surfaces with a drill or pick to encourage new cartilage to grow. The benefits are not well proven and the results are not as good as knee replacement for advanced arthritis.

## **Osteotomy**

This major operation is sometimes performed on younger people with arthritis. The surgeon cuts the shin bone crosswise and creates a wedge to shift the load through the knee joint away from the area affected by arthritis. This may allow a knee replacement to be postponed but it shows poorer benefits in the long term than a new knee joint. It may also make the operation more difficult if a knee replacement is needed later on.

## **Other surgical options**

There are several other techniques which are occasionally offered to people with arthritis although they are primarily designed to deal with accidental injury to the

knee joint. If it is only the hard cartilage that is damaged, it is possible to grow new cartilage in a test tube from your own cells and apply this to the damaged area. This process is known as autologous chondrocyte therapy (ACT) or autologous chondrocyte implantation (ACI). Another technique, called mosaicplasty, involves moving hard cartilage and some bone from another part of the knee to repair the damaged surface. Graft procedures combining these two techniques may be used to cover larger areas of joint damage. The Medical Research Council is currently funding a large clinical trial of ACI, based on promising initial results. Both mosaicplasty and ACT/ACI may be more widely used in the future, though it is not possible to be certain of this yet.

## What happens in hospital?

### **Pre-operative visit**

If you and your doctors agree you should go ahead with a knee replacement operation you will usually be invited to a pre-operative assessment clinic some time before your planned admission date. At this visit you will be assessed by a doctor or nurse to see if you are generally fit enough to cope with the operation. This will involve a number of tests. Usually samples of blood are taken to check that you are not anaemic and that your kidneys are working properly. A urine sample will be taken to rule out infection. Your blood pressure will be recorded and an electrocardiograph (ECG) tracing will be carried out to make sure your heart is healthy. At this visit you should have the opportunity to ask any questions about your operation or discuss anything you are concerned about. You may wish to take this booklet with you. You should also meet a physiotherapist or occupational therapist who will talk about exercises you will need to do after your surgery and discuss your arrangements for going home.

## **Going into hospital**

You will probably be admitted to hospital on the day of your operation or the evening before. You will be asked to sign a form consenting to surgery, and your knee will be marked for the operation. You may also be asked if you are willing for details of your operation to be entered into the National Joint Registry (NJR) database. The NJR collects data on hip and knee replacements in order to monitor the performance of joint implants. See ‘Useful addresses’ for details of how to contact the NJR for further information.

## **Anaesthesia**

The operation will be performed under a general or spinal anaesthetic so that you feel no pain. If you have a general anaesthetic a small plastic tube is inserted into a vein, usually in the back of your hand. This tube is used to inject drugs for relaxation, sleep and pain control, and antibiotics to reduce the risk of infection. Once you are asleep, a tube carrying oxygen and gases is passed down the windpipe to make sure you remain asleep and to take away any sensation of pain. Sometimes a nerve block is used along with the general anaesthetic. In this case, while you are asleep, the anaesthetist injects the area around the nerves in the thigh to block pain in the leg for up to 36 hours after surgery. Most knee joint replacements are now performed under a spinal anaesthetic. This means a very fine needle is inserted into your back so that anaesthetic can be injected into the fluid of the spinal canal to ‘freeze’ the body from the waist down. You will remain awake but still feel no pain. Alternatively, an epidural anaesthetic may be used which also freezes the lower half of the body – in this case anaesthetic is injected into the space surrounding the spinal cord.

## **The operation**

This usually takes between 45 minutes and 2 hours depending on the complexity of the surgery. The sur-

geon will make a cut through the front of the knee. Many surgeons place a tight band (tourniquet) around the patient's thigh during the operation. This reduces blood flow around the knee and makes the operation easier. After the implants have been inserted, the wound is closed either with absorbable stitches, removable stitches or metal clips.

## **After the operation**

Before going back to the ward you will spend some time in the recovery room. Here you may be given more fluids and drugs, such as painkillers, through the tube in your arm. You may be given a switch so that you can administer painkillers to yourself at a safe rate according to how much pain you feel. This is known as 'patient-controlled analgesia' or PCA. Oxygen therapy is likely to be given through a mask or through tubes into your nose. If necessary you will be given a blood transfusion. Increasingly there is a trend to recycle blood which drains from your knee – by returning it into your body through a tube in a vein ('auto-transfusion') – rather than using blood given by blood donors.

## **Reducing the risk of complications**

Your hospital team will take various precautions to reduce the risk of complications. To counter infection the cement used to fix the implant may be impregnated with antibiotics. In addition or instead, antibiotics may be injected into a vein before and after surgery. Many different methods are used to reduce the risk of a blood clot developing. You may be given medication, such as aspirin or warfarin tablets, or heparin, which is given by injection, to thin the blood and aid circulation. Other methods to help blood circulation include having a pump attached to your foot or calf, which applies pressure to help push the blood through the veins. An alternative is to wear special elasticated knee-high stockings, although there is some evidence that these can cause more harm than good and not all hospitals use them.

## **Getting mobile again**

After the first day or so, the various tubes giving pain-killers, fluids or oxygen therapy will be removed and, with the help of nursing staff and physiotherapists, you should be able to start walking. The length of time it will take you to become mobile will vary according to your circumstances and the outcome of your operation. If you have had minimally invasive surgery you may be able to walk on the same day as your operation. However, people progress at different rates and you should not become downhearted if it takes longer than you expected. At the same time, you should take care not to be over-enthusiastic and cause more bruising to your knee. In fact, surgeons' views differ on whether it is best to get walking as quickly as possible or to rest for a little longer. You can discuss with your surgeon and physiotherapist what is best for you.

Generally, if you have had a spinal anaesthetic or nerve block you will have very little feeling in your leg for the first day or two. You may have a temporary brace or plaster on your leg for a short while if there is any risk of weak ligaments, deformity or poor wound healing. You may have a tube (catheter) inserted into your bladder for a few days to help you pass water, especially if both knees have been replaced at the same time. Your surgeon may recommend longer rest if your knee replacement is due to rheumatoid arthritis or if your tissues are particularly delicate, for example, if you are taking steroids.

At first you will need crutches or a frame to walk. Your physiotherapist will be able to advise you on climbing stairs and other activities and should also explain the exercises you will need to do in order to keep improving your mobility in hospital and at home.

## **Going home**

It is usually possible to go home as soon as your wound is healing well and you can safely walk to and from the

toilet, get dressed, and manage stairs with the help of crutches or a frame. If you have had minimally invasive surgery you may be able to return home the same day as your operation. Most people are fit to go home between 4 and 9 days after surgery but it may be longer in some cases. If you still have stitches to be removed these can be taken out on a later return to hospital, or at home by a visiting nurse, or at your local GP's surgery.

Before you leave hospital do ask your occupational therapist or physiotherapist about the best ways to get dressed, take a bath, get in and out of bed, and use the toilet, and about any dressing or bathing aids that you may need. This is especially important if you have had both knees replaced at the same time.

## **Follow-up appointments**

You will usually have a follow-up hospital appointment about 6 weeks after your operation to check on your recovery. Further follow-up appointments – about every 2 years – are usually arranged by the hospital team to check on any difficulties which may arise.

## **When will I get back to normal?**

Obviously it will be some weeks before you recover from your operation and start to feel the benefits of your new knee joint. You can make a big difference to how quickly you become mobile again by making sure you follow the advice of your hospital team and keeping up your exercises.

You should make sure you have no major commitments – including long-haul air travel – for the first 6 weeks after the operation. At first your knee is likely to be sore and you will need to get around with two crutches or a walking stick. It is important that you use crutches during the first few weeks after surgery as falling could damage your new joint. Gradually you will be able to build up

the exercises to strengthen your muscles so that you can move more easily and independently. You will probably need painkillers as the exercises can be painful at first. You will also need to take care in the first few weeks when moving around and doing household jobs so that you do not damage your new knee. Your physiotherapist or occupational therapist should advise you on these tasks but here are a few pointers:

- **Walking**

It is important at first that you do not twist your knee as you turn around. Take small steps instead. It should be possible to walk outside about 3 weeks after your knee surgery but make sure you wear good supportive outdoor shoes.

- **Going up and down stairs**

When going up the stairs use the handrail and hold your crutch or crutches in your free hand. First put your unoperated leg onto the step, place your crutches on the stair with your free hand, then move your operated leg up. When you go down the stairs, it is the other way round. Put your operated leg down first with your crutches, followed by your unoperated leg.

- **Sitting**

Make sure you do not sit with your legs crossed for the first 6 weeks.

- **Sleeping**

You do not have to sleep in a special position after knee surgery, as you would after a hip replacement. However, you should avoid lying with a pillow underneath your knee. Although this may feel comfortable it can result in a permanently bent knee.

- **Household jobs**

You will be able to manage light household tasks, like dusting and washing dishes, but for the first 3 months you should avoid heavy duties like vacuuming and changing

the beds. You will need help with heavy chores like these at first. Try to avoid standing for long periods as this could lead to your ankles swelling. If you are ironing, sit down if possible and take care not to twist. When working in the kitchen, avoid stretching up or bending down for the first 6 weeks. Try to make sure you have everything you need between head and waist level when standing. You may find a stool useful at the worktop, sink or cooker.

- **Driving**

If you were driving before your operation, you should be able to drive again after about 6 weeks if your knee replacement was carried out by the conventional method, or about 3 weeks if you had minimally invasive surgery.

## How should I look after my knee?

Your new knee will continue to recover for as much as 2 years after your operation as the scar tissue heals and the muscles are restored by exercise. You do need to look after yourself and pay attention to any problems such as stiffness, pain or infection.

### **Stiffness**

Sometimes the knee can become very stiff in the weeks after the operation for no obvious reason. If this happens you should talk to your physiotherapist and GP. If the problem does not improve after about 6 weeks you may need to come back into hospital for a day or two so that the surgeon can move or manipulate your knee under general anaesthetic.

### **Pain**

The pain in your knee caused by bruising during the operation should reduce after about 4 weeks although some pain and swelling is likely to continue for as much

as 6 months. If you still have pain after this you should talk to your physiotherapist or GP who may recommend more painkillers or a rest from exercise.

## **Infection**

It is especially important to prevent infection getting into the knee joint. This can happen if an infection begins in another part of your leg and then spreads. If you notice any infection or sores ('ulceration') on your shin you should seek early advice from your GP. You should also look after your feet in order to avoid infections. Make sure you keep your feet and toes clean, toenails cut, and see a doctor or chiropodist or podiatrist if you notice any problems such as ingrown toenails which could become infected.

## **Are there any warning signs to watch for?**

Watch out for any hot, reddened, hard or painful areas in your legs in the first few weeks after your operation. This may just be bruising from the surgery but it could mean a blood clot has developed. You should notify the nurses or doctors from your hospital team who will prescribe medication if needed. **IMPORTANT: If at any time after leaving hospital you experience pains in your chest and/or breathlessness you should immediately contact your nearest hospital or GP.** Although very rare, this could mean you have a clot on your lung which needs urgent treatment.

## **Are there likely to be longer-term problems?**

A replacement knee joint rarely lasts forever. In time, the new joint wears out and becomes loose. For most people (about 90%) the artificial knee lasts 15 years, and

it may well last longer. For unicompartmental or half-knee replacements the likelihood of a repeat operation is greater – about 1 person in 10 needs further surgery after 10 years. Younger patients are likely to need a repeat knee operation at some point in later life. The likelihood of needing another operation is increased if you are overweight or involved in heavy manual work.

## Can I have a repeat knee replacement?

It is not unusual for people to have a second, and even a third, knee replacement operation. This is also called a revision. The repeat operation is more difficult than the first, but the techniques are becoming more routine and successful all the time.

## Glossary

**Heparin** – a daily injection to slow blood clotting.

**Oxygen therapy** – oxygen gas given through a mask or tube in the nose to increase the amount of oxygen in the blood and ease breathing after surgery.

**Prosthesis** (plural: prostheses) – an artificial body part, such as an artificial knee joint.

**Thrombosis** – clotting of blood in the veins. A pulmonary embolism is when a blood clot reaches the lungs.

**Warfarin** – a tablet taken daily to reduce blood clotting.

## Useful addresses

### **The Arthritis Research Campaign (arc)**

PO Box 177, Chesterfield  
Derbyshire S41 7TQ  
Phone: 0870 850 5000  
[www.arc.org.uk](http://www.arc.org.uk)

As well as funding research, we produce a range of free information booklets and leaflets. Please contact the address above for a list of titles.

### **Arthritis Care**

18 Stephenson Way  
London NW1 2HD  
Phone: 020 7380 6500  
Helpline (freephone): 0808 800 4050  
[www.arthritiscare.org.uk](http://www.arthritiscare.org.uk)

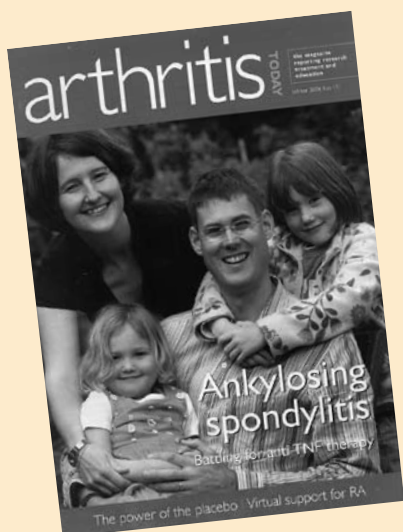
Offers self-help support, a helpline service, and a range of leaflets on arthritis.

### **National Joint Registry (NJR)**

The NJR Centre, Peoplebuilding 2  
Peoplebuilding Estate, Maylands Avenue  
Hemel Hempstead HP2 4NW  
Phone: 0845 345 9991  
[www.njrcentre.org.uk](http://www.njrcentre.org.uk)

Collects data on hip and knee replacement operations in order to monitor the performance of joint implants. This information is available to patients and medical professionals.

# Arthritis Research Campaign



The Arthritis Research Campaign (**arc**) is the only major UK charity funding research in universities, hospitals and medical schools to investigate the cause and cure of arthritis and other rheumatic diseases. We also produce a comprehensive range of over 80 free information booklets and leaflets covering different types of arthritis and offering practical advice to help in everyday life.

**arc** receives no government or NHS grants and relies entirely on its own fundraising efforts and the generosity of the public to support its research and education programmes.

*Arthritis Today* is the quarterly magazine of **arc**. This will keep you informed of the latest treatments and self-help techniques, with articles on research, human interest stories and fundraising news. If you would like to find out how you can receive this magazine regularly, please write to: Arthritis Research Campaign, Ref AT, PO Box 177, Chesterfield S41 7TQ.



## Information on drugs

Separate **arc** leaflets are available on many of the drugs used for arthritis and related conditions. We would recommend that you read the relevant leaflets for more detailed information about your medication.

A team of people contributed to this booklet. The original text was written by a surgeon with expertise in the subject. It was assessed at draft stage by doctors, allied health professionals, an education specialist and people with arthritis. A professional writer rewrote the text to make it easy to understand and an **arc** medical editor is responsible for the content overall.



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