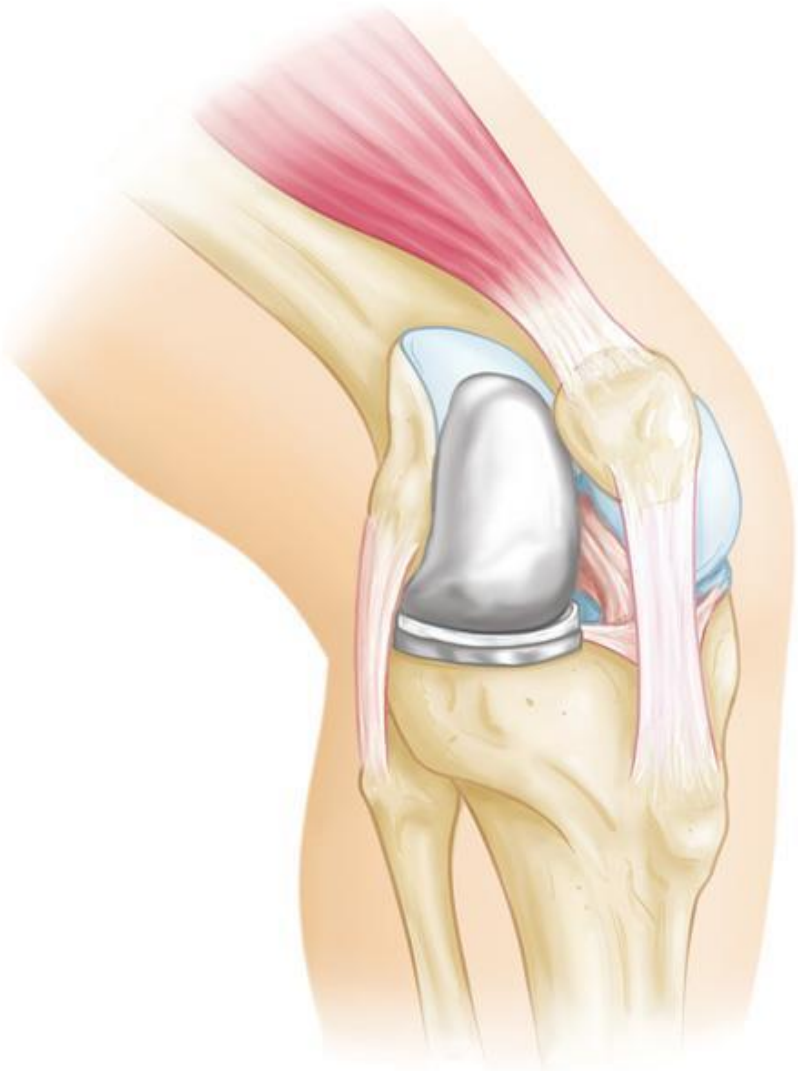
Unicompartmental Knee Replacement Patient Information

University Hospitals of Derby and Burton NHS Foundation Trust

During knee replacement surgery, damaged bone and cartilage is resurfaced with metal and plastic components. In unicompartmental knee replacement (also called "partial" knee replacement) only a portion of the knee is resurfaced. This is an alternative to total knee replacement for people whose disease is limited to just one area of the knee.

A partial knee replacement is done through a smaller incision. This usually means less time in the hospital and return to normal activities sooner than after having a total knee replacement.

There are a range of treatments for knee osteoarthritis and your doctor will discuss with you the options that will best relieve your individual osteoarthritis symptoms.



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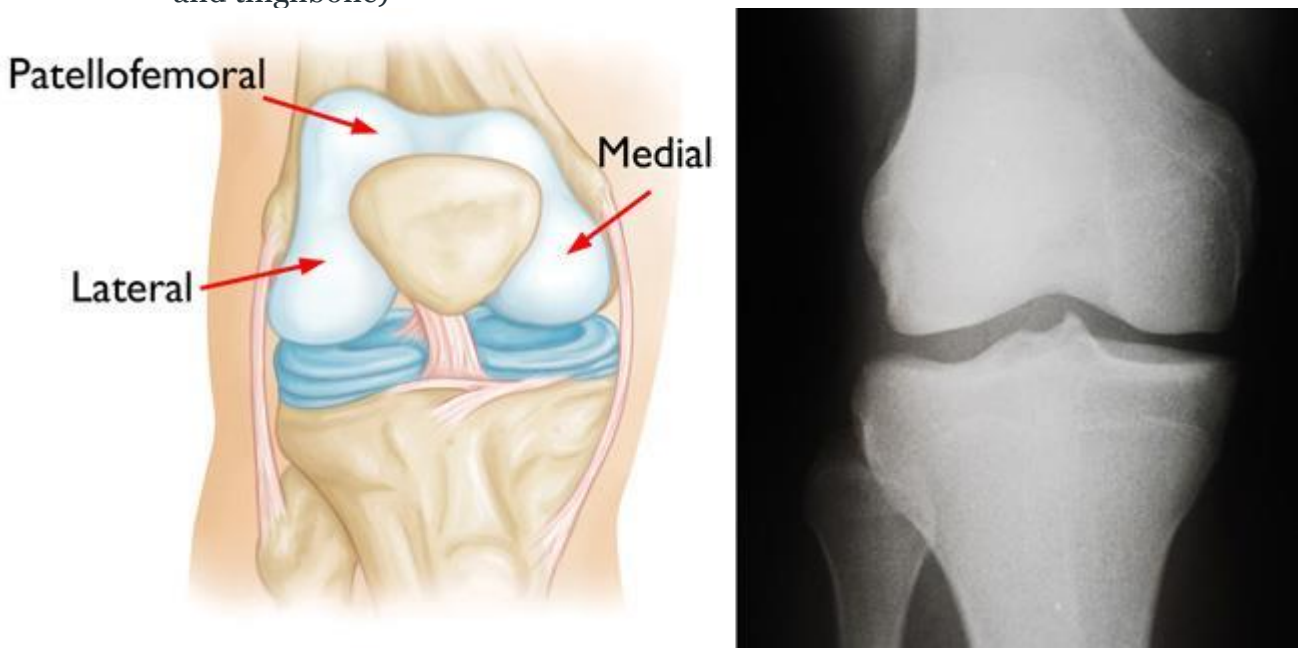
Description

In knee osteoarthritis, the cartilage protecting the bones of the knee slowly wears away. This can occur throughout the knee joint or just in a single area of the knee.

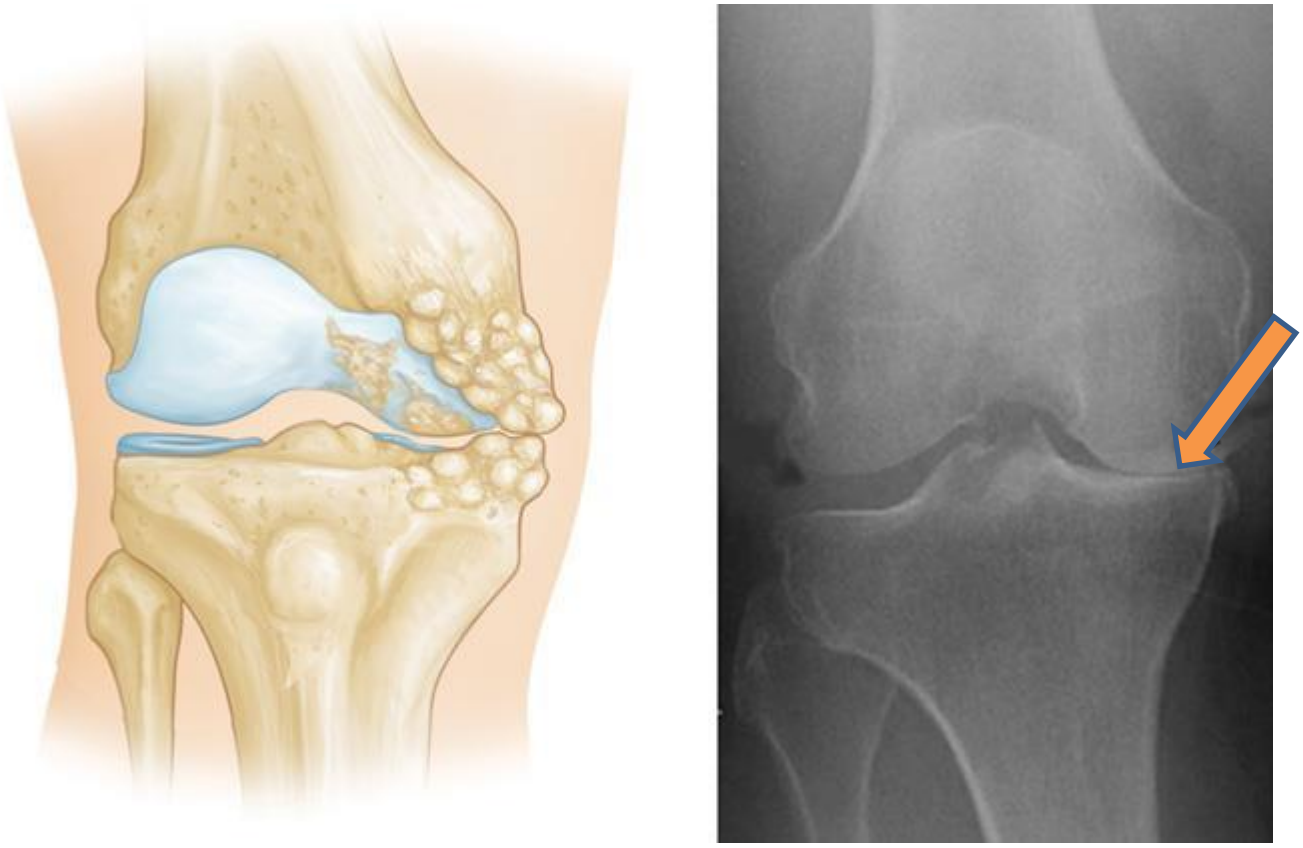
Your knee is divided into three major compartments:

- Medial compartment (the inside part of the knee)
- Lateral compartment (the outside part)
- Patellofemoral compartment (the front of the knee between the kneecap and thighbone)



(Left) A normal knee joint: The medial, lateral, and patellofemoral compartments are shown with red arrows. (Right) An x-ray of a normal knee joint showing healthy space between the bones.

Advanced osteoarthritis that is limited to a single compartment may be treated with a unicompartmental knee replacement. During this procedure, the damaged compartment is replaced with metal and plastic. The healthy cartilage, bone, and all of the ligaments are preserved.



(Left) Osteoarthritis that is limited to the medial compartment. (Right) This x-ray shows severe osteoarthritis with "bone-on-bone" degeneration in the medial compartment (arrow).

Advantages of Partial Knee Replacement

Multiple studies show good results with unicompartmental knee replacement in appropriate candidates for the procedure.

The advantages of partial knee replacement over total knee replacement include:

- Quicker recovery
- Less pain after surgery
- Less blood loss

Also, because the bone, cartilage, and ligaments in the healthy parts of the knee are kept, many patients report that a unicompartmental knee replacement feels more natural than a total knee replacement. A unicompartmental knee may also bend better.

Disadvantages of Partial Knee Replacement

The disadvantages of partial knee replacement compared with total knee replacement include:

- Slightly less predictable relief of pain
- Potential need for further surgery. If arthritis develops in the parts of the knee that have not been replaced it may be necessary to revise to a Total Knee replacement (TKR).

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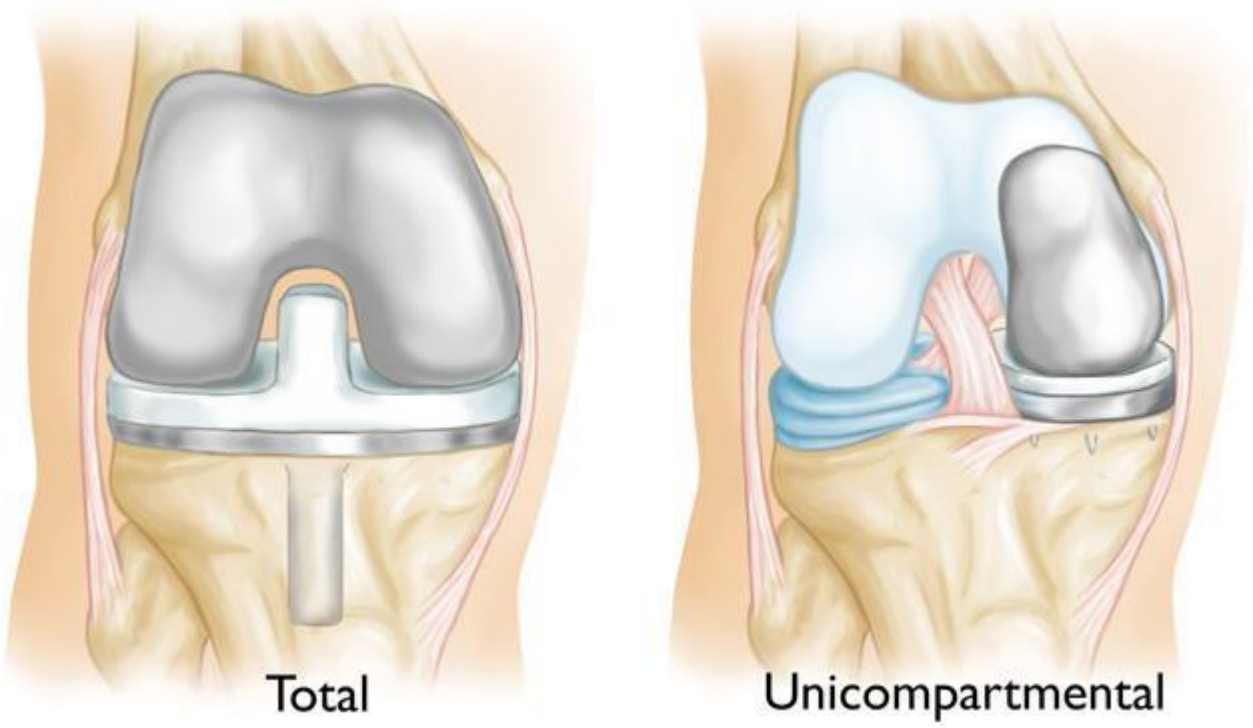

An advantage of partial knee replacement over total knee replacement is that healthy parts of the knee are preserved, which helps to maintain more "natural" function of the knee.

Am I suitable for this Surgery?

If nonsurgical treatment options are no longer relieving your symptoms, your doctor may recommend knee replacement surgery.

If your arthritis is limited to one compartment of your knee you may be suitable for unicompartmental knee replacement .

If you have any of the following conditions, you may **not** be eligible for the procedure:

- Inflammatory arthritis
- Significant knee stiffness
- Ligament damage

How Long will my Knee Replacement Last

With proper patient selection, modern unicompartmental knee replacements have demonstrated excellent medium- and long-term results in both younger and older patients. (95% still working at 10 years. 80% still working at 20 years)

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Orthopaedic Evaluation

A thorough evaluation with an orthopaedic surgeon will determine whether you are suitable for a partial knee replacement.

Medical History

Your doctor will ask you several questions about your general health, your knee pain, and your ability to function.

Location of pain. The Doctor will be specifically concerned with where you feel your pain. If your pain is almost entirely on just one side of your knee, then you may be a candidate for a partial knee replacement. If you have pain throughout your entire knee or pain in the front of your knee (under your kneecap) you may be better with a total knee replacement.

Physical Examination

Your doctor will closely examine your knee and will try to determine the location of your pain.
They will also test your knee for range of motion and ligament quality. If your knee is too stiff, or if the ligaments in your knee feel weak or damaged, then your doctor will probably not recommend unicompartmental knee replacement (although you still may be a great candidate for total knee replacement).

Imaging Tests

- X-rays. These images help to determine the extent of wear and deformity in your knee. Your doctor will order several x-rays of your knee to see the pattern of arthritis.
- Magnetic resonance imaging (MRI) scans. Some surgeons may also order an MRI scan to better evaluate the cartilage.

How should I prepare for surgery?

It's advisable to make sure your general health is as good as it can be before your operation, for example blood pressure control and diabetes management.
It's also a good idea to have a dental check-up and deal with any problems well before your knee operation. This is because of the risk of infection if bacteria from dental problems enter the bloodstream.

Exercising before surgery

It is important to be as fit as possible before undergoing knee surgery. Low impact exercise, such as walking, cycling and swimming, are all encouraged as long as you feel confident doing them and they do not aggravate your pain excessively.
Stop any exercise that is too painful. These ‘prehab’ exercises will help maintain your range of movement, muscle strength and confidence on the approach to your operation date.

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Burton Education and Exercise Session for Knees (Bees Knees Clinic)

This is a group clinic held in the physiotherapy department
You will meet a physiotherapist or occupational therapist, who will talk about the exercises you need to do after your surgery and arrangements for going home.
Your occupational therapist will discuss with you how to manage at home and will advise on aids and appliances that might help you.

Your physiotherapist will be able to advise you on getting about after the operation and will explain the exercises you need to do to keep improving your mobility.
Keeping up your exercises will make a big difference to your recovery time. Build up the exercises gradually to strengthen muscles so that you can move more easily.
An occupational therapist or physiotherapist will explain the best ways to get dressed, take a shower and move about. They will also assess what equipment you might need to help you.

Pre-admission clinic

You will usually be invited to a preadmission clinic a few weeks before the operation. This will involve tests to assess whether you are generally fit and healthy enough to undergo surgery.
The tests may include:

- blood tests to check for anaemia and to make sure your kidneys are working properly
- an MRSA swab to check that you are not carrying resistant bacteria
- a urine sample to rule out infection, especially if you have a history of this
- an electrocardiogram (ECG) tracing to make sure your heart is healthy.

You should discuss with the team in the Pre-admission clinic whether you should stop taking any of your medications or change the dosage or timings before you have your surgery.
You will also have the opportunity to ask questions and discuss anything you are concerned about.
You need to plan for return home and recovery arrangements as early as possible.
If you are not invited to see an occupational therapist and you are worried about coping at home after the operation, you should ask about home help and aids when you go to the pre-admission clinic.

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THE DAY OF SURGERY

Before arrival

• You must not eat after midnight before the day of your surgery. You may have clear liquids (water, black coffee) up to 2 hours before surgery.

•You may take medications with a small sip of water on the morning of surgery if they have been agreed at the pre-admission clinic. If in doubt ask at Pre Admission.

•Do you need someone to stay with you for a while after your operation? If not, have you arranged a period of time in a nursing home?

•Have you set up your home ready for your return, with everything you need within reach and any obstacles or trip hazards tidied away?

•Do you have any specialist equipment ready for when you leave hospital?

•Have you arranged for someone to pick you up after surgery?

•Pack an overnight bag with nightclothes and toiletries .

Going into hospital

You'll be admitted to the Treatment Centre on the day of your operation and it is important to ask any questions you may still have at this stage.

DO NOT BRING VALUABLES TO THE HOSPITAL.

•Please bring in all your usual medicines.

• Please arrive at your scheduled time.

• Be aware that there may be several patients on the list so your arrival time is not the same as the operation time.

• The anaesthetist and surgeon will see you before surgery.

• You'll be asked to sign a consent form if you haven't already completed one, which gives the surgeon permission to carry out the treatment.

• Your knee will then be marked for the operation.

• Before surgery, you will be asked to remove jewellery, dentures, contacts, wigs, etc.

• A urinary catheter may be inserted prior to surgery.

• A tube will be put in your arm for antibiotics, fluids, and anesthesia

• Your surgery will take 1 to 2 hours. Anesthesia before and after the procedure adds to the time in theatre.

• Your surgeon will have an assistant helping with your surgery.

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Anaesthesia during surgery

What types of anaesthesia are available?

We ensure that you have a pain-free operation and as little discomfort as possible in the post-operative period. Decisions about your anaesthetic are tailored to your personal needs.
There are four types of anaesthetic:

A spinal anaesthetic

- This is the preferred option for a Unicompartmental Knee and will be suggested to most patients.
- Anaesthetic is injected near the nerves in your back.
- You go numb from the waist downwards.
- You feel no pain, but you remain conscious.
- If you prefer, you may remain awake but can be given medicines to make you drowsy and less aware of what is going on (sedation).

General anaesthetic

- It is a combination of medications that will put you to sleep for the duration of the surgery.
- This is delivered through your cannula (needle in the arm).
- It is associated with more vomiting and nausea when compared to a spinal anaesthetic so is less used in Day Case.

Regional anaesthesia

A combination of anaesthetics

You may have a spinal anaesthetic and a general anaesthetic together.

- You gain the benefits of a spinal anaesthetic, but are unconscious during the operation.
- The general anaesthetic will be lighter, and there may be fewer unpleasant after-effects.

You may have a nerve block with a general anaesthetic, or after a spinal anaesthetic. This should be more comfortable for some hours after the operation than with a general or spinal anaesthetic alone.

Local anaesthetic

This is injected into and around your knee at the time of surgery.

Will there be any side effects?

Your anaesthetist will discuss the risks and benefits associated with the different anaesthetic options, as well as any complications or side effects that can occur with each type of anaesthetic. These may include nausea and vomiting, constipation, headache, dizziness, sleepiness, and sometimes mild confusion. Although less of a problem today, because of improved anaesthetic agents and techniques, these side effects still occur for some patients. They can be reduced with anti-sickness drugs, plenty of fluids, laxatives and rest. Please let the nurses know if you feel any of these side effects. You will not become addicted because the doses will be controlled. If you are taking other medication, or have had a reaction to medication in the past, please let us know.

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Surgical Procedure

In the assessment area your surgeon will speak with you to confirm that your symptoms have not changed. If your surgeon feels that your knee is now unsuitable for a partial knee replacement, he or she may instead recommend a total knee replacement.
If you have come to the Treatment centre for the operation and are assessed as more suitable for a Total Knee replacement then you will then be sent home and a new date made for the Total knee Replacement

This contingency plan will have been discussed with you before your operation to make sure that you agree with this strategy.

Inspection of the joint.

Your surgeon will make an incision at the front of your knee.

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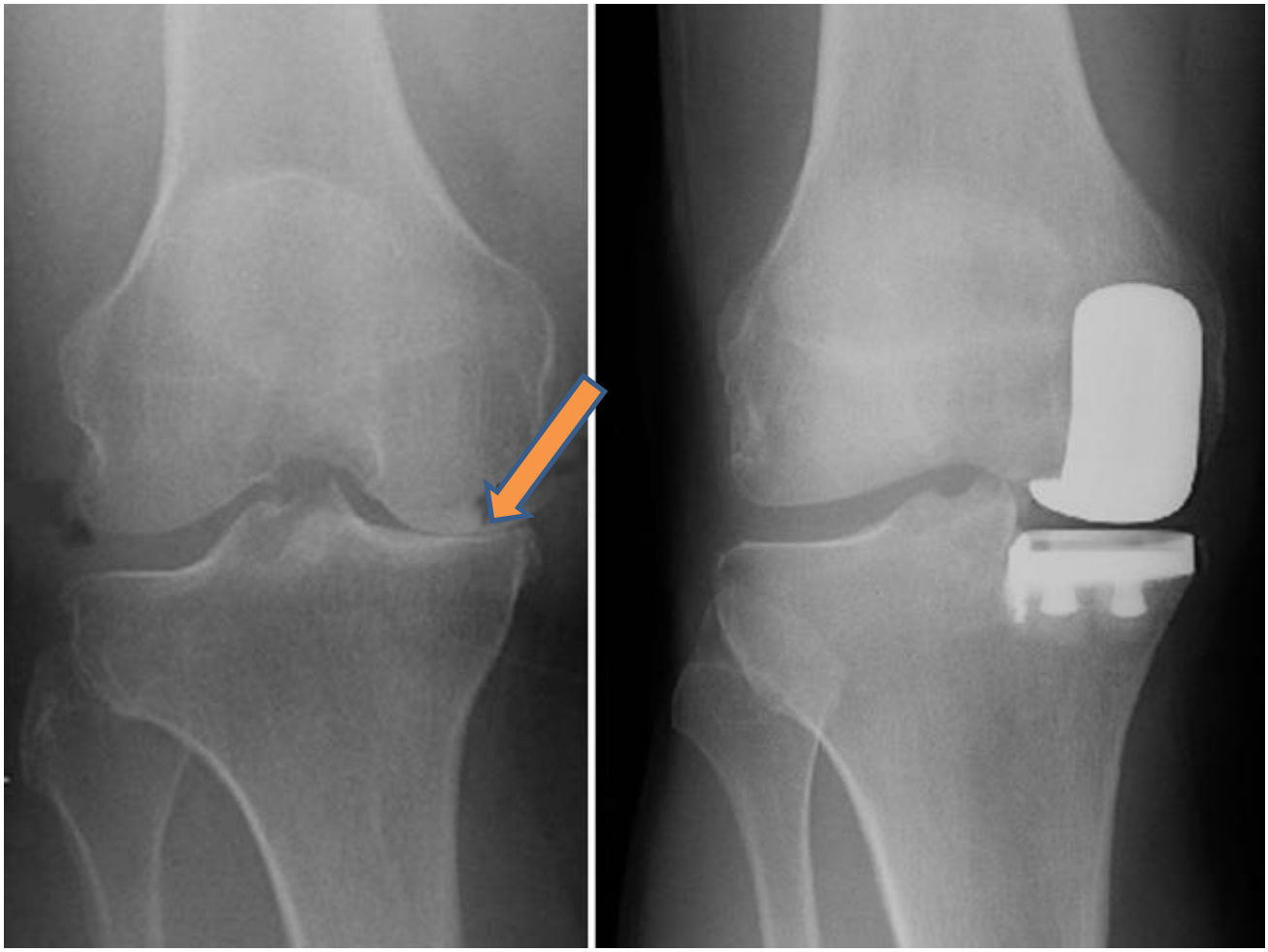

X-rays of a good candidate for partial knee replacement. (Left) Severe osteoarthritis limited to the medial compartment. (Right) The same knee after partial knee replacement.

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A partial knee replacement implant.

Partial knee replacement. There are three basic steps in the procedure:

- Prepare the bone. Your surgeon will use special saws to remove the cartilage from the worn out compartment of your knee.
- Position the metal implants. The removed cartilage and bone is replaced with metal coverings that recreate the surface of the joint. These metal parts are typically held to the bone with cement.
- Insert a spacer. A plastic insert is placed between the two metal components to create a smooth gliding surface.

Recovery room. After the surgery you will be taken to the recovery room, where you will be closely monitored by nurses as you recover from the anesthesia. You will then be taken to your hospital room.

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What will my recovery involve?

- **After the operation**
- Before going back to the ward you'll spend some time in the recovery room,You may also be given painkilling injections or tablets.
- Oxygen therapy is likely to be given through a mask or through tubes into your nose.
- There's often no need for you to have a blood transfusion because your body can replace any blood lost during or after surgery. If the operation is more extensive you may need blood from a donor.
- Pain will usually be worse on the second or third day after surgery when the anaesthetic and strong medication wears off, and you'll probably need painkillers to control this. Without them it'll be difficult to do the exercises needed to strengthen the muscles and restore mobility.
- How quickly you get back to normal depends on many factors, including your
- age, your general health, the strength of your muscles and the condition of your other joints.

Hospital discharge.

Partial knee replacement patients usually experience less postoperative pain, less swelling, and have easier rehabilitation than patients undergoing total knee replacement. In most cases, patients go home the day of the surgery.

Pain management.

- After surgery, you will feel some pain, but your hospital team will make every effort to help you feel as comfortable as possible.

- Many types of medicines are available to help control pain, including opioids, non-steroidal anti-inflammatory drugs (NSAIDs), and local anesthetics. Treating pain with medication can help you feel more comfortable, which will help your body heal and recover from surgery faster.

- Opioids can provide excellent pain relief, however, they are a narcotic and can be addictive. It is important to use opioids only as directed by your doctor. You should stop taking these medications as soon as your pain starts to improve.

Enhanced recovery programme

- Most patients are able to start moving about soon after surgery, which is good for lung function and the circulation.
- The hospital team encourage most patients to follow the enhanced recovery programme (ERP).

This programme aims to get you walking and moving within hours of the operation. Most go home the same day.

- The ERP will start when you go to the Bees Knees clinic.
- After the operation the programme aims to get you moving and eating normally as soon as possible, and when you're discharged from the Treatment Centre you will be given supporting therapy and follow-up checks. The programme focuses on making sure that you take an active role in your own recovery process.
- The Therapy team will telephone you within the first few days following discharge to check on your progress and offer any further advice or exercises, if required.

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Getting mobile again

Nursing staff and physiotherapists will help you to start walking on the same day as your operation. At first you'll need crutches. If you've had a spinal anaesthetic or nerve block you will have very little feeling in your leg at first and it's important to be aware of your state of recovery to avoid falling over.
You will be given support stockings to help reduce swelling and help to prevent blood clots in the legs

Rehabilitation exercise.

A physical therapist will give you exercises to help maintain your range of motion and restore your strength.

Doctor visits.

You will continue to see your orthopaedic surgeon for follow-up visits in his or her clinic at regular intervals.

Looking after your knee

Your knee will continue to improve for as much as two years after your operation as the scar tissue heals and the muscles are restored by exercise.
During this time you 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. Try placing your foot on the first or second step of the stairs, hold on to the banister and lean into your knee. This should help to improve movement and flexibility in your knee. It's very important to continue with the exercises you were working on in the hospital.
Pain – Pain caused by bruising from the operation is normal in the first two months, and you'll probably still need to take painkillers at six weeks to help you sleep through the night. You may still have some pain for as long as six months.
If you still have pain after this, speak to your physiotherapist or GP.
Swelling – This is a very common problem after a knee replacement, particularly affecting the ankle and foot, and may last for up to three months or so after the operation. The ankle swelling usually settles as your walking ability improves.
Swelling of the knee itself is also common over the first few months after surgery. Applying ice can be very helpful for a swollen joint, making sure you protect your skin from direct contact with the ice pack. Ice can be applied for up to 20 minutes at a time. Raising your foot above hip height (on a footstool or similar) is another good way of reducing swelling, but make sure you get up and walk around for at least five minutes every hour to help reduce the risk of a blood clot.
Infection – If you notice any signs of infection (for example breakdown of the wound with oozing/pus or sores, increased pain, redness and the affected area feeling warmer than usual or smelling unpleasant), you should seek early advice from your GP or hospital.
You should also look after your feet – see a doctor or podiatrist if you notice any problems such as ingrown toenails that could become infected.

Caring for your wound

- Keep the wound dry and clean for the first two weeks, or as instructed in your discharge letter.
- Please contact the ward staff if there is increased leakage, redness, pain, odour or heat around the wound. If you feel warm or sick, take your temperature. Call us if it exceeds 38ºC.

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Warning signs

Contact the Orthopaedic Ward 19 staff (Telephone 01283 593051) if you have 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 that needs treatment. Contact your nearest hospital or GP immediately if you experience chest pains and/or breathlessness at any time after your operation. Although very rare, this could mean you have a clot on your lung that needs urgent treatment.

Getting back to normal

It'll be some weeks before you recover from your operation and start to feel the benefits of your new knee joint. Your knee is likely to be sore at first. Make sure you have no major commitments – including long-haul air travel – for the first six weeks after the operation. Keeping up your exercises will make a big difference to your recovery time.

You'll probably need painkillers as the exercise can be painful at first.

Gradually you'll be able to build up the exercises to strengthen your muscles so that you can move more easily.

It's important to use crutches or walking sticks during the first few weeks after surgery as falling could damage your new joint. You'll also need to take care in the first few weeks when moving around and doing household jobs so that you don't damage your new knee.

Your physiotherapist or occupational therapist should advise you on these tasks, but here are a few tips:

Walking – Don't twist your knee as you turn around. Take several small steps instead. It should be possible to walk outside within three weeks of having surgery but make sure you wear good supportive outdoor shoes. After three weeks, try to take longer strides to regain full straightening (extension) of the leg.

Walking aids – Crutches are useful at first because the thigh muscles (quadriceps) will be weak after the operation. After two weeks, or sooner if you're confident, you can go down to one crutch and then a walking stick.

After about six weeks, if your muscles feel strong and supportive, you can try walking without aids.

Your surgeon or physiotherapist will be able to advise you on this.

When walking up stairs put your unoperated leg onto the step first, then move your operated leg up. When going down stairs, put your operated leg down first, followed by your unoperated leg.

Sitting – Don't sit with your legs crossed for the first six weeks.

Kneeling – You can try kneeling on a soft surface after three months when the scar tissue has healed enough, although most people find kneeling with a cushion is better. Kneeling may never be completely comfortable but should become easier as the scar tissue hardens.

Sleeping – You don't need to sleep in a special position after knee surgery. However, you shouldn't lie with a pillow underneath your knee. Although this may feel comfortable it can affect the muscles, making it difficult to straighten your knee.

Eating

Owing to your lack of activity, you may lose your appetite or suffer from indigestion. Small meals taken regularly can help. If you have lost your appetite, high-calorie drinks provide a source of energy.

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Household jobs

You should avoid strenuous and taxing jobs immediately after treatment. Only when you feel up to it should you attempt small chores, and even then, ideally, you should have someone helping you.

Washing

The easiest way is to strip wash using a stool to perch on in the bathroom, or use a walk-in shower. You should follow the advice given by the physiotherapy staff, which may include the use of specific aids. A rubber mat will reduce the risk of slipping in the bath or shower.

After the wound dressing has been removed (about 10–14 days after going home and your wound is completely healed), you may shower without a dressing on. It would still be advisable to avoid bathing until six weeks post-operation, due to the difficulty of getting in and out of the bath tub.

Return to Work

Usually you can return to work when you feel comfortable that you can continue with your normal role.

For a job that is mostly done in a sitting position, this may be 6–8 weeks, but if your job involves standing for long periods of time or manual work you may need 10–12 weeks.

If your job involves heavy manual work, you should discuss with your employer whether a lighter alternative can be found when you return to work as heavy lifting may damage the prosthesis.

If necessary, go back on a part-time basis and then build up your hours gradually. An initial sick note will be given by your nurse, which can be reviewed by your GP, and extended if necessary.

Driving

We do not recommend you drive for at least six weeks following your surgery. Once you are past the six-week stage, you must make sure you can reach and use the pedals without discomfort. If possible, make sure someone is with you the first time that you drive. Try out all controls and go through the emergency stop procedure. Start with short journeys and, if you take a long trip, stop regularly to get out, stand up and stretch. You may like to confirm with your insurance provider that you are covered.

What about sport and exercise?

Exercises and sport are recommended after knee replacement, apart from contact sports, which may weaken the cement and lead to loosening of the joint components. Recreational sports – including golf, tennis and skiing – gradually become possible depending on how fit and sporty you were before the operation.

Specific exercises for knee replacement patients

Exercising the main muscle groups around the knee is very important both before and after having a knee replacement. Try to do these exercises regularly, for instance for 10 minutes six to eight times a day. However, it's important to find a balance between rest and exercise so you don't overwork your knee.

Exercises following knee replacement surgery aim to help straighten, strengthen and aid bending the knee.

For more information contact your local physiotherapy department.

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Knee bending exercises

Knee bends on a bed: Using a sliding board, keep your heel down on the board and slide your foot towards you, bending your knee. Hold it at the full bend for three seconds and then release.

Knee bends in a chair: Sit in a chair with your foot on the ground. Slide your foot firmly towards you and then release. Hold for three seconds each time in the fully bent position. Don't allow your hips to move, just the foot.

What are the possible complications of knee replacement surgery?

Most knee joint operations are problem free but complications can arise in about 1 in 20 cases. Most of these complications are minor and can be successfully treated. The risk of complications developing will depend on a number of factors including your age and general health. In general, a younger patient with no other medical problems will be at lower risk of complications. It's important to remember that any drugs used throughout your stay in hospital, for example anaesthetic or painkillers, may also have side-effects. Your surgeon or anaesthetist will be able to discuss these risks and side-effects with you.

Blood clots

After surgery, some people can suffer from blood clots which form in the deep veins of the leg (deep vein thrombosis, or DVT), causing pain and/or swelling in the leg. This is because of changes in the way blood flows and its ability to clot after surgery. There are various ways we will reduce the risk of this happening, including special stockings and calf pumps to exercise the legs during surgery. You will be given Aspirin **or** Rivaroxaban to take for two weeks after the operation as long as there are no contraindications to these medicines. Blood thinning drugs can increase the risk of bleeding, bruising or infection so your surgeon will need to balance these risks.

Pulmonary embolism

In a very small number of cases a blood clot can travel to the lungs, leading to breathlessness and chest pains.

In extreme cases a pulmonary embolism can be fatal. However, it is usually possible to treat pulmonary embolism with bloodthinning medicines and oxygen therapy.

Wound infection

As with all operations, there's a small risk that the wound will become infected. On average this happens in about 1 in 50 cases. Usually the infection can be treated with antibiotics. About 1 in 100 patients develops a deep infection, which may mean washing out the joint or removing the new joint until the infection clears up, and then putting in a new knee replacement. In extreme cases, where the infection can't be cured, the knee replacement has to be removed permanently and the bones fused together so the leg no longer bends at the knee. Very rarely, the leg may have to be amputated above the knee and replaced with an artificial leg – but this is extremely unusual.

Nerve and other tissue damage

There's a small risk that the ligaments, arteries or nerves will be damaged during surgery.

- Fewer than 1 in 100 patients have nerve damage and this usually improves gradually in time.
- About 1 in 100 have some ligament damage – this is either repaired during the operation or protected by a brace while it heals.
- About 1 in 1,000 suffer damage to arteries that usually requires further surgery to repair.
- In about 1 in 5,000 cases blood flow in the muscles around the new joint is reduced (compartment syndrome). This usually also requires surgery to correct the problem.

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Bone fracture
The bone around the artificial knee joint can sometimes break after a minor fall – usually after some months or years and in people with weak bones (osteoporosis). This is extremely rare but when it happens further surgery is usually needed to fix the fracture and/or replace the joint components.

Dislocation
When a mobile plastic bearing is used there's a small risk of dislocation of the knee, and this would also require further surgery.

Bleeding and wound haematoma
A wound haematoma is when blood collects in a wound. It's normal to have a small amount of blood leak from the wound after any surgery. Usually this stops within a couple of days. But occasionally blood may collect under the skin, causing a swelling. This can either be reabsorbed by the body or discharge itself, causing a larger but temporary leakage from the wound usually a week or so after surgery, or it may require a smaller second operation to remove the blood collection. Drugs like aspirin and anticoagulants can increase the risk of haematoma after surgery.

Pain
For most people, pain gradually eases during the first few months after knee replacement surgery. However, some people seem to have ongoing pain or develop new types of pain. Research shows that 10–20% of people still have moderate or severe pain in the long term. This isn't always caused by a technical fault or recognisable complication, and therefore it can't be fixed by a repeat operation. This complication is known as chronic regional pain syndrome (CRPS).
Some hospitals have pain clinics that can help with this.

Stiffness
Some people experience continuing or increasing stiffness after surgery. Usually this resolves with exercise, and as the swelling improves. Pain may contribute to this complication if it stops you doing your exercises, allowing scarring to 'glue' together the soft tissues around the joint. Occasionally knee stiffness may be treated by manipulation of the joint under anaesthetic, followed by intensive physiotherapy.

How long will the new knee joint last?
In time, the new joint will wear out and may become loose. For most people (80–90%) the artificial knee should last about 20 years, and it may well last longer. For partial knee replacements the likelihood of a repeat operation is slightly greater – about 1 person in 20 needs further surgery within 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're overweight or involved in heavy manual work.

Revision surgery
Some people need a repeat knee replacement operation on the same knee. This is called a revision. The repeat operation is more difficult than the first, but the techniques are becoming more routine and more successful all the time.

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Glossary

Anaesthetic – a drug that's used during surgery to stop you feeling any pain. It's given by an anaesthetist. You may be given a local, spinal or general anaesthetic, depending on the type of operation.

Anaemia – a shortage of haemoglobin (oxygen-carrying pigment) in the blood, which makes it more difficult for the blood to carry oxygen around the body. Anaemia can be caused by some rheumatic diseases such as rheumatoid arthritis or lupus, or by a shortage of iron in the diet. It can also be a side-effect of some drugs used to treat arthritis.

Arthroplasty – the medical name for a joint replacement operation.

Arthroscopy – the medical name for keyhole surgery where small (less than 1 cm) incisions are used to allow a special light and camera to look at the inside of a joint. This can be seen by the surgeon on a television screen. The technique can be used to help with diagnosis or for treatment or surgery using miniaturised instruments.

Capsule – the tough, fibrous sleeve of ligaments around a joint, which prevents the bones in the joint from moving too far.

Cartilage – a layer of tough, slippery tissue that covers the ends of the bones in a joint. It acts as a shock absorber and allows smooth movement between bones.

Clopidogrel – a tablet used to thin the blood in people who might be at risk of heart attack or stroke.

Deep vein thrombosis (DVT) – a blood clot that forms in the deep-lying veins (usually in the leg or pelvis).

Electrocardiogram (ECG) – a test that records the electrical activity of the heart using a machine called an electrocardiograph. The aim of an ECG is to detect unusual heart rhythms and to identify heart problems.

Epidural – an injection given into the epidural space around the spinal cord in the small of your back to anaesthetise the lower half of the body. The full name is epidural blockade.

Ligaments – tough, fibrous bands anchoring the bones on either side of a joint and holding the joint together. There are four important ligaments holding the knee joint together.

Manipulation – a type of manual therapy used to adjust parts of the body, joints and muscles to treat stiffness and deformity. It's commonly used in physiotherapy, chiropractic, osteopathy and orthopaedics. A small, high-velocity thrust is given at the end of the available range of a joint's movement and outside the patient's control.

MRSA (Methicillin-resistant Staphylococcus aureus) – bacteria that cause infections. It can cause different symptoms depending on which part of the body it affects. MRSA infections are difficult to treat because they're resistant to some widely used antibiotics.

Contact the Orthopaedic Ward 19 staff (Telephone 01283 593051) if you have concerns that are not answered by this booklet