

Patient information from BMJ

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Knee replacement surgery

This information tells you what to expect when you have surgery to replace a knee. It explains how the operation is done, how it can help, what the risks are, and what to expect afterwards.

Different hospitals do things in slightly different ways, so your operation might not happen exactly as we describe it. You can use our information to discuss your surgery with the doctors and nurses treating you.

What is knee replacement surgery?

A knee replacement is usually used as a treatment for severe problems caused by a type of arthritis called **osteoarthritis**

During a knee replacement, a surgeon removes the parts of your knee that have been damaged by arthritis. These damaged parts are then replaced with new parts made of metal and plastic. Together, these artificial parts are called **prosthesis** or **prosthetic knee joint**

Your knee joint has three parts:

- the **thigh bone (femur)**
- the **shin bone (tibia)** and
- the **kneecap (patella)**

Your knee joint is a type of joint called a **hinge joint** because your knee moves in the same way that a hinge on a door allows a door to move.

Where your knee bones meet, they are covered in a hard, slippery material called **cartilage** that helps them slide over each other easily.

The whole joint is held together with tough bands of tissue called **ligaments** and is lubricated with a natural fluid.

Arthritis damages the surfaces where the three parts of your knee slide over each other. This damage can:

- cause pain, which can be severe

Knee replacement surgery

- stop your knee from bending properly
- weaken the knee, and sometimes
- bend the knee out of shape.

During a knee replacement operation, the surgeon will replace at least two of the following parts of the knee joint:

- the bottom of your thigh bone (femur)
- the top of your shinbone (tibia)
- the back of your kneecap (patella).

There are two types of knee replacement.

- **Atotal knee replacement** resurfaces your whole knee.
- **Apartial knee replacement** resurfaces only the inner or outer half of your knee.

Partial knee replacements only work for people with arthritis in one half of the knee (for most people this is the inner half, nearest your other leg).

A partial knee replacement usually means that you can move your knees again sooner than after a total knee replacement. You might also be able to go home from hospital sooner.

Why might I need a knee replacement?

Most people with osteoarthritis of the knee don't need a knee replacement. But your doctor might suggest that you have one if:

- you are in pain most of the time and it is getting worse
- your pain stops you from sleeping
- you can't walk properly
- your arthritis affects your quality of life by stopping you from doing things you normally do, such as working, seeing friends and family, gardening, doing housework, or shopping
- your arthritis is making you rely more than you want to on other people
- other treatments such as painkillers, physiotherapy, or physical aids either haven't worked, or they caused severe side effects
- your pain is making you anxious or depressed, or
- your knee keeps giving way or locking up.

What happens during the surgery?

A knee replacement is a major operation. It takes between 60 and 90 minutes.

You will need either a **general anaesthetic** or an **epidural** so that you don't feel anything during the operation.

Knee replacement surgery

- With a general anaesthetic you sleep through the operation.
- An epidural is an injection into your spine. The lower part of your body will be numb but you'll be awake. You won't be able to see the surgery, but you will be able to hear what's going on. A nurse or anaesthetist will probably talk to you from time to time, to ask how you are and let you know what's happening.

Here's what happens during the surgery.

- The surgeon makes a long cut, usually over the front of the knee.
- The surgeon then trims the bottom end of your thigh bone (femur) to remove the damaged surface. It's then shaped to fit the metal part of the knee replacement.
- The damaged top end of your shin bone (tibia) is cut off to make a flat surface so that the lower part of the new joint can be fitted.
- The new parts are fitted over both bones and tested to make sure that they fit and that the joint works well. The new parts are often cemented in place, but this depends on which products your surgeon uses. Some replacement knee parts don't need cement.
- Some people have a new surface fitted onto the back of the kneecap.
- If you are having only half of your knee replaced, the surgeon will only prepare and fit the new parts over the damaged half.
- When the new parts are fitted and working, the surgeon will close the wound using stitches or clips.

What are the risks?

There are risks with all operations, and your surgeon should talk through these before your surgery.

Anaesthetics

One common cause of problems is **anaesthetics** which can have side effects, including feeling nauseous (sick) for a while after your operation.

Some people have an **allergic reaction** to the anaesthetic. You should tell your doctor before the operation about any allergies you have.

Anaesthetics can also cause breathing problems and heart problems. These problems are serious but rare. Your blood pressure, heartbeat, temperature, and breathing will be closely monitored during your operation.

Other possible problems

As with many types of operation, some problems can happen during or soon after surgery, while others happen over the longer term.

This list of possible problems might look long. But remember, these are things that might happen, not things that definitely will happen. Many people who have knee replacements have no problems at all.

Knee replacement surgery

Possible short-term problems

- **Blood clots (deep vein thrombosis, or DVT).** Getting a blood clot in one of the veins in the leg is not uncommon with this operation. But these blood clots don't usually cause problems, and most people never know they have had one. If you have a blood clot that causes symptoms you will need treatment with blood-thinning drugs.
- **A blood clot in your lungs.** A blood clot that forms in the leg can sometimes travel through your blood to your lungs. This is more serious and can even be fatal.

To help prevent blood clots in your legs or lungs, you will probably be given elastic stockings to wear after your operation. These stockings help to keep the blood flowing in your legs.

You might also be given blood-thinning drugs during your stay in hospital, to help stop clots from forming.

- **Blood transfusions.** Some people need a blood transfusion to replace blood lost during the operation.
- **Damage to the nerves in your leg.** It's rare, but nerves in your leg can be damaged during this type of surgery. This causes numbness and tingling in your leg, and sometimes weakness in your ankle or foot. Most people make a full recovery in time.
- **A heart attack, stroke, or chest infection.** Any major operation puts a strain on your heart, brain, and chest. These problems are rare with this surgery but they do happen.

These problems are more likely to happen if you already have heart or lung problems. It is a good idea to stop smoking before an operation, as this makes these problems less likely.

- **Wound infection.** If the skin and tissue underneath the wound become red and sore, it could be a sign of infection. If you have an infection you will be treated with antibiotics.

If the infection spreads to the knee replacement, you might need an operation to clean out the joint. In the most severe cases, an operation might be needed to remove the replacement.

- **Bladder problems and urine infections.** Some people (especially men) who have knee surgery have problems urinating immediately after surgery. This is caused by the anaesthetic. If this happens, you might need a small tube called **acatheter** inserted into your bladder to drain the urine.

Problems passing water can lead to urine infections, which are treated with antibiotics.

- **Dying during or after the operation.** There is a risk of dying with any major operation. About 1 in 100 people who have a knee replacement die within a month of the surgery.

Possible longer-term problems

- **Your knee gives way or buckles.** Doctors call this **instability**. It's painful and can interfere with your daily life. It also increases the wear and tear on your new knee. If your

Knee replacement surgery

knee starts to give way, you might need a second operation to make it more stable. Or you might need another knee replacement.

- **Ongoing pain.** If your knee is still giving you pain after your operation, your surgeon will try to find out why. Sometimes there isn't a clear reason. The pain usually goes away but it can take many months.
- **Your new leg might be shorter than the other one.** This is rare. But if it happens you can wear shoes with one raised heel to stop you from limping.
- **You have problems bending your knee.** If this happens, you might need to have physiotherapy.
- **The new knee stops working as it should.** This is rare. But if it happens your surgeon will need to investigate. You might need another operation.
- **You need a second knee replacement.** Your new knee should last for about 20 years. But some people need one sooner than that. This is usually because the knee prosthesis has worked loose from the bone. If this happens, your knee will become painful and feel unstable.

You might be able to have a second knee replacement. But second operations are more difficult to do, and problems are more likely.

- **An infection in the knee joint.** Very rarely, new knees can become infected months or years after surgery. If antibiotics don't help, you might need an operation to clean out the joint.
- **Your artificial joint has to be removed.** This can happen after a severe infection. If it happens, you might need an operation to fasten the bones around your knee joint together. This means that you won't be able to bend your knee. But you will be able to put weight on your leg, and you shouldn't get any pain.

What can I expect afterwards?

A total knee replacement is a major operation and you will need time to recover.

You will have a large cut on your knee, which will be closed with stitches or clips and covered with a waterproof dressing. A nurse will take out your stitches or clips after about 10 days.

The pain of your arthritis should be gone quite soon after your operation, but it could be a few weeks or even months before you feel completely normal.

You are likely to have some pain immediately after the operation, but you will be given painkillers. If these don't help enough, you must tell a nurse or doctor, as pain can slow your recovery.

Immediately after your operation

When you leave the operating theatre you will go to the **recovery area** until you are fully awake.

You will have a drip in your arm, and possibly one or two small plastic tubes coming out of your knee. These are **drains**. They stop fluid from collecting under your scar. The drip and the drains come out after 1 or 2 days.

Knee replacement surgery

If you had an **epidural** anaesthetic, you might not be able to feel or move your legs for several hours after your operation. This is normal. You won't have any pain either.

While recovering in hospital

You should start **physiotherapy** the day after your operation, when you should be able to sit on the side of your bed and move your knee. You will have physiotherapy every day until you leave hospital, and perhaps for longer.

Your knee will feel stiff at first but you should be able to walk with a frame or sticks after a few days.

You should be able to go home 3 to 5 days after your operation.

Going home

When you get home, you will probably still need a **frame, crutches, or walking sticks** to help you get about for a while.

It's important to carry on with the **exercises** that your physiotherapist showed you in hospital.

You don't need to worry about sleeping in a special position after a knee replacement. But you should avoid **sex** for about 6 weeks after your operation.

You can **drive** again after about 6 weeks, and even go back to work if you have an office job. But if your work involves a lot of standing or lifting, you should stay off work for longer - usually about 3 months.

Looking after your new knee

There are some simple but important things about your recovery that your doctor and physiotherapist should discuss with you before you go home. For example:

- **do** keep doing your physiotherapy exercises, but don't force your knee to do things that aren't comfortable
- **do** avoid twisting your knee
- **don't** cross your legs for 6 weeks after the operation
- **don't** kneel on your new knee until your surgeon says it's okay, and finally
- **do** tell your doctor or surgeon if you have any problems with your new knee.

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Knee replacement surgery

