NHS
Sandwell and West Birmingham
NHS Trust

Knee replacement

Information and advice for patients

Trauma & Orthopaedics

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What is a knee replacement?

A knee replacement is an operation to replace a damaged knee joint.

A total knee joint replacement involves replacing the lower end of your thigh bone (the femur) and the upper end of your lower leg (the tibia) with metal and plastic components. The back of the kneecap (the patella) may be resurfaced too. Some patients may only need a partial knee replacement and the surgeon will explain this in more detail if appropriate.

Why do people need knee replacements?

The knee is an important weight-bearing joint that is prone to "wearing out". The joint surfaces are normally covered by a very strong elastic tissue called cartilage. Normally the cartilage is smooth and allows the joint to move freely and bear weight without pain.

As you get older the cartilage can wear away. This causes the two bones to rub against each other which can cause pain. Osteoarthritis can be a very painful disorder which may affect your mobility, or even stop you from sleeping.

What are the benefits of having a knee replacement?

The knee replacement can reduce pain and improve movement, which can help improve activities including general mobility and sleeping.

However, you shouldn't expect your new knee to be as good as it was in your youth.

What are the risks of having a knee replacement?

Common risks

Pain and stiffness

It is normal to experience some pain and stiffness in your knee after the operation. You will be given painkillers to help relieve this and the pain will improve in time. To avoid stiffness you will need to exercise your knee regularly as advised by the physiotherapist. Some people will experience long – term pain after a knee replacement.

Blood Clots

A small percentage of people develop a blood clot in a vein in their leg, known as a Deep Vein Thrombosis/DVT or a blood clot in the lungs known as a pulmonary embolism (PE).

To reduce your risk of a blood clot, you will be given blood thinning injections or tablets and tight stockings that must be worn for 6 weeks.

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Bleeding
Bleeding from the wound may occur in a small number of people. This may require additional treatment, including a blood transfusion, iron tablets and very rarely, further surgery.

Infection
An infection can be treated with antibiotics, but may require further intervention including:

- Washout the joint
- Replace the implant
- Fusing the joint
- In very rare cases amputation.

To reduce the risk, you will be checked for signs of infection, including MRSA.

N.B. It is advisable to see a dentist prior to your operation to ensure you have no potential sources of infection in your mouth.

Problems passing urine (urinary retention)
Half of patients have trouble passing urine in the first 24 hours after surgery either due to the anaesthetic or not being able to stand up. If this occurs you may need to have a tube inserted into your bladder (catheter) to drain the urine.

Constipation
Some people become constipated for a short time after the operation. If you become constipated you may be offered laxatives, suppositories or an enema. Eating a high fibre diet can help bowel movements before surgery and help prevent any further bowel problems after surgery.

The implant needs replacing
10% of patients need to have their knee replaced again in the future. This can be because the implant has become loose due to wear and tear, or there is an infection in the joint.

Less common risks

Scarring:
When your wound has healed you will have a scar. In some people the wound can become red, thickened and painful; this is more common in Afro-Caribbean people. Massaging the scar can help reduce its appearance.

Nerve damage:
The nerves around the knee can be damaged during surgery. This is rare but may cause temporary or permanent altered sensation around the knee or along the leg.

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Rare risks

Bone damage:
This occurs in a very small percentage of patients. The bone may be broken when the prosthesis (new joint) is inserted and this may need to be operated on during the surgery or with a further operation.

Blood vessel damage:
This is also occurs in very few patients. The vessels around the knee can be damaged and require further surgery to repair the damage.

Kidney problems:
Some patients develop a kidney problem after this operation. This means that the kidneys aren't able to remove water, salt and waste products properly. You will need treatment to correct this, and to maintain the correct levels of water and salt in your body.

Death
Very rarely patients die from complications of joint replacement surgery, such as pulmonary embolus.

What are the risks of not having a knee replacement?

If you choose to decline knee replacement surgery the arthritis in your knee will gradually worsen over time and lead to increasing pain and/or reduced mobility.

Are there any alternatives?

Before opting for surgery you should try the following methods that may help reduce your pain and improve your mobility:

- Losing weight
- Avoiding strenuous exercises or work
- Using a stick or a crutch
- Medicines, such as an anti-inflammatory drugs or steroids
- Physiotherapy and gentle exercises
- Steroid injection into the joint

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Preparing for a knee replacement

The Hip & Knee Club

Prior to you operation you will receive the following information:

- Information about your operation and anaesthetic
- An opportunity to look at the implants
- Information on pain management
- Exercises to strengthen your muscles
- Advice on what we expect from you and you can expect from us
- Advice on discharge planning
- The opportunity to watch videos of previous patient experience
- Contact numbers to answer future questions

Pre-operative Assessment

You will hear from the pre-operative assessment team in regards to this appointment.

Returning home after surgery

Washing – for 2 weeks you should wash at a sink. You can shower after removal of your stitches or clips. This is to decrease the likelihood of infection, but should not attempt to get into a bath for at least 6 weeks.

Stairs – You will need at least one stair rail on your stairs.

Additional Help – if you feel you may need additional help with personal care, your GP can arrange this via social services.
Short term help with shopping is available from a number of community services. Please inform the therapy team if you need support with shopping.

Remember, usually, if you could manage before surgery you should be able to manage after your surgery.

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Physiotherapy

You can start doing the below exercises prior to your surgery. It is important to begin exercising your muscles as soon as possible and perform the exercises regularly in the weeks leading up to your operation.

Ankle Pumps

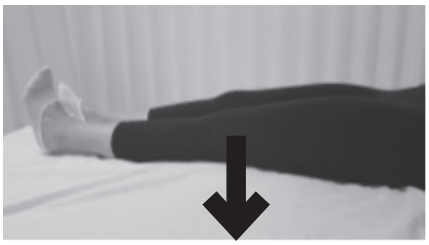
1. This can be performed in a chair or bed.
2. Move your foot up and down as far as it will go.
3. This will help to improve your circulation.
4. Repeat x 10, 3 times a day

Static Gluteals

1. Sitting or lying, squeeze your buttocks
2. Hold this for 5-10 seconds
3. Relax
4. Repeat x 10, 3 times a day

Static Quadriceps

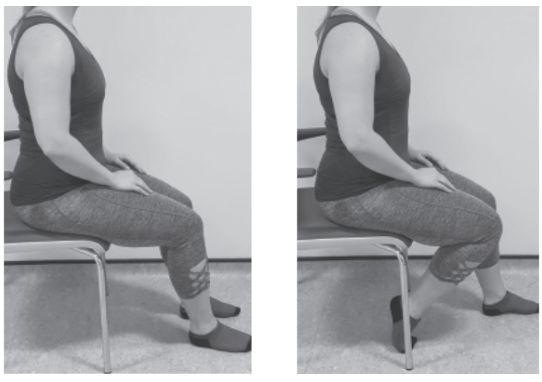
1. Sit or lie with your operated leg straight.
2. Tighten your thigh muscle and push your knee into the bed.
3. Hold this for 5-10 seconds
4. Relax
5. Repeat x 10, 3 times a day



Knee Flexion

1. Sit on a chair.
2. Bend your knee back until you feel a stretch.
3. Hold for 5 to 10 seconds.
4. Relax.

Repeat this x 10, 3 times a day



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The National Joint Registry (NJR)

You will be asked to sign a consent form giving permission for your details to be placed on the National Joint Registry (NJR). The NJR collects information on hip and knee replacement operations in England and Wales to help find out which are the best performing implants and the most effective types of surgery.

Patient Reported Outcome Measures (PROMs)

You will be asked to complete a questionnaire (PROMs) before and after your operation. This is to look at your health and quality of life and the information collected is used to improve the quality of care for all patients.

Enhanced Recovery

The Enhanced recovery programme encourages faster recovery from surgery and the key principles are:

- Pre-op carbohydrate drinks
- Spinal anaesthesia (with sedation)
- Analgesia is injected around the joint as the surgeon closes the operation
- Early mobilisation – either on the same day as surgery or first thing the following morning.

The day of your operation

You should have nothing to eat or drink (nil by mouth) from midnight on the night before you come in to hospital for your operation. The only exception to this is if you are given special carbohydrate drinks. You need to drink two the night before, between your evening meal and midnight and another one at 6am on the morning of your surgery.

Before coming into hospital

Please bring the following with you:

- Comfortable clothes to wear after surgery.
- Sensible shoes (trainers are recommended).
- All of your normal medications, creams, inhalers and drops in their original packaging.

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When you arrive for your surgery:

- You will be taken to your bed space
- You will be seen by a doctor, who can answer any additional questions you may have.
- Your consent will be confirmed
- The limb being operated on will be marked with an arrow.
- Nursing staff will give you any medication you need before surgery and provide you with compression stockings.
- You will need to shower and get dressed in a theatre gown.
- Seen by anaesthetists, who will discuss different types of anaesthesia for you.

Anaesthetics

There are 3 main types of anaesthetic used for joint surgery:

1: Spinal anaesthetic (a form of regional anaesthesia)
95% of our knee replacements are performed under a spinal anaesthetic. This procedure is performed more frequently as the side effects are less and patients are able to eat and drink immediately post operatively.

2: Epidural anaesthetic (a form of anaesthesia)
This procedure is very similar to the spinal anaesthetic; the difference is that a very thin tube is left in the epidural space in your spine. It is secured in position by tape to give a longer duration of anaesthetic and may be used for post-operative pain management. You will have no control of your bladder while the epidural is in place so you will have a catheter (a tube into your bladder) that will drain your urine directly into a bag.

3: General anaesthetic
This is when you are put to sleep. We prefer not to use general anaesthesia because it is too dangerous for some of our patients and even our youngest healthiest patients feel unwell after a general anaesthetic.

What are the risks of the anaesthetic?

The anaesthetist will discuss the risks and potential complications of your anaesthetic, and you will be given a separate booklet called “you and your anaesthetic” which has been produced by the Royal College of Anaesthetists which describes the risks.

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Your Operation

When it is time for your operation a member of the theatre staff will come to take you to theatre and you will be checked out of the ward by a nurse. You will need to remove your underwear and jewellery at this point but can keep your wedding ring on provided that it is taped over. If you wear dentures and/or glasses these can be removed when you arrive in the theatre reception but please make sure you have a receptacle with your name on to put them in so they can be returned to the ward with the nurse.

You will be away from the ward for about 3 hours, but your operation does not take all this time; it is split between your anaesthetic, your operation and time spent in recovery.

ECG dots will be put on your chest to monitor your heart, a blood pressure cuff will be put around your arm and a pulse oximeter will be placed on your finger to monitor your oxygen levels and pulse. You will then have a cannula (needle with a plastic port) inserted into a vein on your hand to allow drugs or fluids to be given directly into your blood stream and your anaesthetic will then be administered. Once this has taken effect your operation will begin.

After having a Knee replacement

After your operation you may have drains in your wound to take away excess blood from the operation site. If a drain is inserted it will be taken out the day after your operation by the nursing staff on the ward.

Your leg will be bruised and swollen after surgery. As you become more mobile the swelling will decrease, but it can take up to 3 months for it to settle completely. Bruising will normally settle within a few weeks.

Pain relief after your operation

You will be in pain after your operation but it should not be severe and we will try to ease it. There is a variety of ways to manage your pain:

Regional Blocks

Anaesthetic is injected around the nerves that supply the operated area. These are usually performed in the anaesthetic room by an anaesthetist.

Patient Controlled Analgesia (PCA)

This is a hand held unit that allows you to give yourself pain relief as required. The drugs used are Opioids, such as morphine. You will not be able to overdose. Opioids can make you sleepy so you must wear oxygen while the machine is attached to you.

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Skin patches
A number of pain-relieving drugs can be delivered through your skin via self-adhesive patches however; this is not used routinely for all patients having a knee replacement.

Oral medication (tablets or liquids)
This is the most popular and frequently used method of taking medication.

Injections
Pain killing injections can be given, but are not used often. Injections may also be used to give drugs to stop nausea and vomiting.

Local infiltration of the joint
During the operation the surgeon may inject a mixture of long and short acting local anaesthetic into and around your knee

X-ray
Your knee will be x-rayed after surgery. This is just to check the position of the implants and it does not usually affect your rehabilitation.

Physiotherapy
After returning to the ward after your surgery, you should start your exercises as soon as you can (refer to previous exercises). You will start the knee flexion exercises once you have been assessed by a therapist.

- The exercises will help to relieve pain
- Maintain muscle strength, joint movement and balance
- Prevent chest infections, constipation, pressure sores and blood clots.

Exercises
If you have returned from surgery before midday, a therapist will come to see you. However, if you return after midday a therapist will see you the following morning. Your therapist will assess your ability to lift your leg when you are in lying or sitting – this is known as a straight leg raise. It is quite normal to have a weak SLR.

It is important to walk as advised by your therapist, as walking helps muscles to recover.

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The therapist will see you every day whilst you are in hospital and agree rehabilitation goals. The typical program is:

Day of surgery

- Hourly routine exercises (unsupervised)
- Get out of bed with the help of a therapist or nurse
- Take a few steps with a Zimmer frame
- Sit out of a chair

Day 1 after surgery

- Continue routine exercises hourly
- Begin advanced exercises as instructed by your therapist
- Walk short distances with a frame and minimal supervision

Day 2 or 3 after surgery

- Continue all exercises
- Progress to walking independently with sticks or crutches
- Progress to being taught how to get up and down a flight of stairs safely
- Discharge home

Going home

You can expect to be in hospital for about 2-3 days, although some patients require longer than this. Your discharge day is planned from the day you are admitted to hospital, so you and your relatives will know when this is.

To go home you should:

- Work towards a straight leg raise
- Aim for 90 degrees range of movement at the knee
- Be able to walk with 2 walking aids (crutches or sticks)
- Be able to use the stairs if required

On discharge you will be given:

- Advised to book an appointment at your GP to have your sutures or clips removed. These are removed at around day 14 by the nurse at your GP surgery. District nurses will only do this if you are bedbound.
- Information about your physiotherapy appointment
- A follow up appointment for 6 weeks' time with the Consultant's team.

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- A one week supply of medication.
- A discharge summary.
- Information about how to administer your blood thinner.
- Any other information relating to your procedure.

Intermediate care

Some patients will need longer than others to achieve their rehabilitation goals. However, these goals do not have to be met in hospital and we do not recommend staying in hospital once you are medically well.

Patients needing longer than 3 days to be fit to go home may be offered an intermediate care bed or intermediate care at home. These facilities are dedicated to rehabilitation and they only accept clients after a detailed assessment. Intermediate care is not convalescence; you will be getting up and walking around. You will be expected to work hard to achieve your goals each day during your stay and will be discharged as soon as you are mobile enough to go home.

After discharge home

Once you are at home you will need to continue to wear your compression stockings for the **next 6 weeks** and should not go on any long car journeys or flights for the next 3 months. You should also not do any heavy housework, carry shopping bags or get into a bath until your doctor, nurse or physiotherapist advises you it is safe to do so.

Your wound

All wounds progress through several stages of healing. Depending upon treatment you may experience sensations such as tingling, numbness and itching. You may also feel a light pulling around the stitches or clips, or a hard lump forming. These are perfectly normal and are part of the healing process. It is also perfectly normal for your operated leg to swell for up to 12 months after surgery.

To prevent infection developing it is important to take good care of your wound, as instructed by your doctor or nurse. If you visit the dentist in the next few months you must tell them you have recently had joint replacement surgery.

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Managing pain

Once at home you should control any pain or discomfort by:

- Taking your pain medicine at least 30 minutes before doing the exercises given to you by your therapist.
- Applying ice packs to the knee regularly
- Gradually weaning yourself off any prescription medication for pain over a period of time depending on the severity of your pain.

If what you have been prescribed is not relieving your pain, or the pain is becoming worse, please see your GP.

Physiotherapy

The tissue and muscles around your new knee will take time to heal so it is important to continue doing your exercises daily and follow the advice below:

DO:

- Go for regular short walks
- Walk on level ground
- Continue using your sticks or crutches as advised by your physiotherapist
- Bend down to your feet
- Get on and off low toilets and chairs
- Go up and down stairs
- Attend your physiotherapy appointment
- Perform the exercises taught to you by the physiotherapy team. The exercises should be performed regularly for the life of your knee replacement.

DO NOT:

- Kneel down
- Go for long walks
- Drive until your doctor and insurance company say you can
- Go on long journeys

Most patients use both sticks or crutches for 6 weeks. When you are ready to use just one it should be used in the opposite hand. This means if you had your right knee replaced you should use one stick in your left hand.

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Occupational Therapy

Occupational Therapists provide advice and sometimes equipment for people who have difficulties with practical everyday tasks. The occupational therapy team does not routinely see patients having knee replacements. This is because you need to do all activities as you did before to ensure the surgery is a success. If you struggled with certain activities before your operation you should find them easier with your new knee.

A minority of patients will require an Occupational Therapist's input. They will be assessed by the Occupational Therapist and may be offered some equipment to help them carry out their daily activities.

Symptoms to report

If you experience any problems you should discuss them with your physiotherapist or your GP. In an emergency please go to your local A&E department.

If you have any of the following symptoms you should seek medical advice as soon as possible:

Signs of infection

- Increase in swelling and redness at the incision site.
- Change in the colour of the wound.
- Discharge of clear or pus-like fluid from the wound.
- Increased pain in the knee.
- Temperature higher than 38˚C.

Signs of Deep Vein Thrombosis (DVT)

- Swelling in the thigh, calf or ankle that does not go down with elevation of the leg.
- Pain, tenderness and heat in the calf muscle.
- Please note blood clots can form in either leg.

Signs of Pulmonary Embolus (PE)

If a blood clot becomes lodged in the lungs this is a Pulmonary Embolism (PE), which is serious. A PE is an EMERGENCY. If you have any symptoms of a PE call 999:

- Sudden chest pain
- Difficulty and/or rapid breathing
- Shortness of breath
- Sweating
- Confusion

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General enquiries

If you have any questions or concerns you can contact the hospital on one of the following numbers:

Hospital Switchboard
0121 554 3801

Ask to speak with the Pre-assessment booking team in Orthopaedics

Physiotherapy team can be contacted on 0121 507 2916

The orthopaedic surgical care practitioners can be contacted directly via switchboard and ask for extension 2800.

Hospital address

Sandwell General Hospital
Lyndon
West Bromwich
West Midlands
B71 4HJ

Further Information

Versus Arthritis
https://www.versusarthritis.org/ (Accessed 22 June 2020)

NHS Website
https://www.nhs.uk/conditions/osteoarthritis/ (Accessed 22 June 2020)

Sandwell and West Birmingham Hospital NHS Trust
www.swbh.nhs.uk (Accessed 22 June 2020)

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