INFORMATION FOR PATIENTS

Total Knee Replacement (TKR)

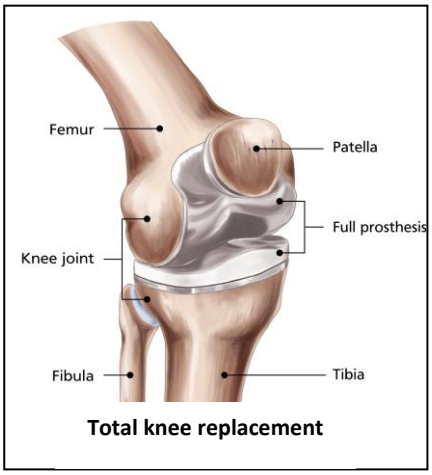
Introduction

This leaflet is for patients who are undergoing or thinking about having total knee replacement (TKR) surgery. The aim of the leaflet is to provide information surrounding knee replacements, an explanation of the surgery and recovery.

The knee is a complex joint formed by the femur (thigh bone), the tibia (shin bone) and the patella (knee cap). The knee has 3 compartments, the medial compartment (inner), the lateral (outer) and the anterior (knee cap). Arthritis can affect either one or more than on compartment.

What is a knee replacement?

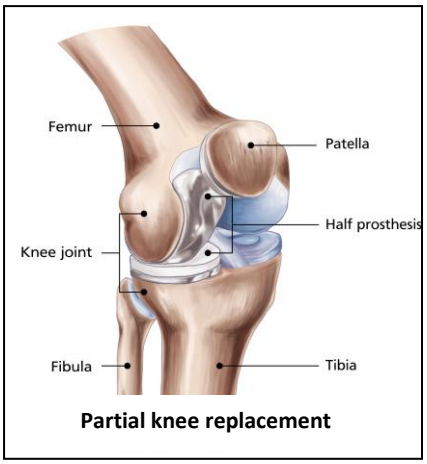
A knee replacement is where all or part of your knee joint is replaced due to arthritis, pain, decreased mobility or quality of life. It is likely that you may have been offered and tried other treatments to manage your knee before having a knee replacement such as physiotherapy, pain relief or steroid injections.



Total knee replacement

Total knee replacement

This is the most common type of knee replacement which involves replacing both joint surfaces of the knee joint (tibiofemoral joint). The end of the thigh bone (femur) and the top of the shin bone (tibia) are replaced with artificial components, which are usually cemented in place. Most total knee replacement surgeries will result in you still having your own knee cap (patellofemoral joint). However, if there is evidence of arthritis at the back of the knee cap, then the surgeon may choose to resurface and replace this too.



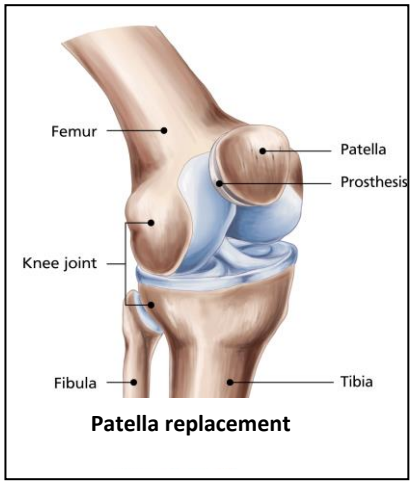
Partial knee replacement

Uni-compartmental knee replacement

When arthritis only affects one compartment and the other compartments are completely normal, the surgeon may advise a uni-compartmental replacement. This is where only the affected compartment is replaced.

Total knee replacement with kneecap – patellofemoral arthroplasty

It is possible to resurface and replace the joint where the knee cap glides over the thigh bone (patellofemoral joint). However, this is much less common than other types of knee replacement and is only required if there is wear on the back of the kneecap. If required, this can be done at the time of a full knee replacement.



Patella replacement

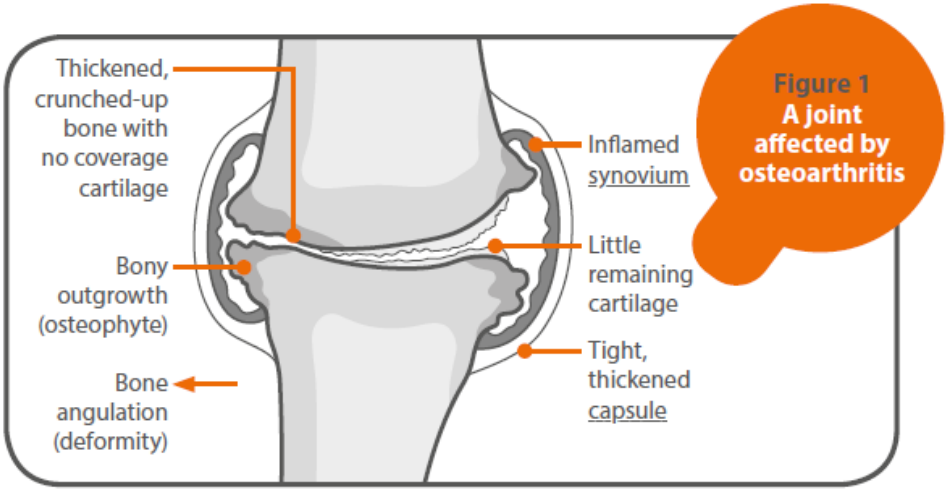
Complex or revision knee replacement

If you have had your knee replacement for a long time or you are having issues with it, then the surgeon may decide to revise the joint. This is where they will remove the existing components and replace them with a new second joint. If the knee replacement is classed as ‘complex’ then it may be that the surgeon uses a slightly different type of replacement with a longer component into the bone to keep it securely in place.

Why may I need a knee replacement?

The main reason for needing a knee replacement is arthritis of the joint. This is a condition that can develop over time as people get older. The condition causes wear and tear of the knee joint, narrowing the cartilage and changing the bone which can result in pain, stiffness, decreased function and mobility. Many people may have these changes to their joints and not know about it, but as the condition develops and you experience more symptoms, then a knee replacement may be considered.

A knee replacement may correct the changes that have occurred at the joint due to arthritis which may have resulted in using the leg less and favouring your other leg. Over time this can result in tightness at the back of the knee and weakness in the thigh muscle that may still be present after the operation. This will be one of the reasons you will need to follow your physiotherapy exercise program and advice.



(Arthritis Research UK, 2015)

Initially you will have post-operative pain and while your body gets used to the new knee it is likely to be painful. However, a knee replacement will usually help to reduce the pain felt in the joint in the long term.

Other treatment options

Physiotherapy

Before having a knee replacement you may have undergone physiotherapy treatment. It is likely that you have struggled with pain for some time in the knee, which can lead to decreased movement and strength. Physiotherapy can help you to stretch and strengthen muscles and you will be given advice on how best to manage your activities and pain. In some cases, physiotherapy can help reduce symptoms efficiently enough to not require and operation for quite some time.

Steroid injections

A steroid injection may be offered if you are experiencing pain in the knee. This can be given at an outpatient appointment and it **may** increase your pain for the first 48 hours. The injection is usually a combination of local anaesthetic and steroid, with the aim to reduce inflammation and therefore pain. Steroid injections can take up to 6 weeks to work and can have long lasting effects. The benefits of these injections can vary greatly from person to person.

Pain relief
Medication, such as pain relief and non-steroidal anti-inflammatories (NSAIDs), can help you to manage your pain and therefore continue with your activities of daily living as best as possible. Consult your GP or pharmacist for advice on the most appropriate pain relief for you. Most people should require pain killers occasionally and you should aim to avoid becoming dependent upon very strong painkillers.

Benefits of a knee replacement

The surgery will involve replacing some or the whole knee joint which has been affected. It should decrease your pain levels, improve your mobility and subsequently improve your quality of life. It is likely that modern knee replacements can last for at least 20 years in 8 out of 10 patients. The duration of the replacement may vary and if in time it needs replacing, this can be done (it is called a revision of a total knee replacement). There is an 80-85% success rate of total knee replacement surgery, however, 20% of people may not be totally satisfied with the results. In order to help improve the outcome following your knee replacement, it would help to be as fit as you can with appropriate weight management and exercises before and after your operation. It is also beneficial to try to cut down your painkillers, and reduce or stop alcohol intake and smoking.

Possible risks of surgery

There are possible risks of any surgery, however, your pre-operative assessment will attempt to highlight the risk and minimise it where possible. The possible complications you may be exposed to include:

Deep vein thrombosis (DVT)	A DVT is a blood clot in the leg, which can occur after any operation, but is more common after operations on the leg. The risk of a DVT is increased in those who have had previous clots or are significantly overweight.
Infection	There is a risk of infection with any surgery involving breaking into the skin. To avoid infection you will be screened for bacteria and will be given a special wash to use before and after your operation. Symptoms you may experience include feeling unwell, having a temperature, a sharp increase in pain or a wound that is leaking.
Pulmonary embolism (PE)	A PE is a blood clot in the lung, which can occur when a blood clot breaks away from a limb and travels to the lungs. You may develop chest pain and significant shortness of breath.
Bleeding	There is a risk of bleeding with all surgery but this is minimised as much as possible.
Ongoing pain	After the operation you will experience pain which will be different to the pain that you felt before the surgery. TKR surgery is significant and the pain can take weeks to months to settle down. People who were on very strong painkillers regularly before the operation and those who do not exercise, find it more difficult after the operation.

Instability	The joint can loosen from the fixing in your bone but this is uncommon. You may need other surgery to fix it if this is the case.
Stiffness	Stiffness can occur and for some people it can cause less movement than before the operation. Regularly following your exercise program will help to prevent this.
Nerve injury	The surgery can aggravate the nerves around the knee and it is very common to have a numb patch on the side of the knee for up to 2 years after the operation.
Fracture	There are occasions where a bone may break during the procedure but this is uncommon and is rarely serious.
Amputation	This is a major surgical procedure and so there is a risk of amputation but it is very rare, occurring in 1 in 1,000 people.
Loss of life	Death from this surgery is very rare and may happen to 3 people in every 1,000. The risk is minimised as best as possible through pre-operative assessment and monitoring.

For detection and signs of these complications please refer to the post-operative section of this booklet.

Health advice before surgery

In order to reduce the risk of post-operative complications and to optimise your recovery it is important to be leading a healthy lifestyle before your operation.

Diet

The National Institute for Healthcare and Excellence (NICE) guidelines suggest following a dietary pattern which includes eating **vegetables, fruit, beans and pulses, wholegrains and fish**. It may also be beneficial to reduce the amount of processed foods that are eaten (fried foods, biscuits, confectionary and fizzy drinks) and substituting these for fruit, vegetables or water. It is advised to use food and drink labels to choose options lower in fat and sugar and focus on portion sizes and avoiding additional servings.

Alcohol

Alcohol can add additional calories consumed per day, which can add to weight gain and an unhealthy lifestyle. It is advised not to regularly drink more than 14 units of alcohol a week (equivalent to 6 pints of average strength beer and 10 small glasses of low strength wine). To reduce alcohol consumption, try replacing alcoholic drinks with non-alcoholic drinks that do not contain added sugar, and increase the number of alcohol free days that you have.

Smoking

Smoking can have an effect on your overall health, including slowing down the body's natural healing process which can affect recovery after your operation.

There are many resources to help with quitting smoking such as the NHS website and stop smoking mobile apps. In addition your GP or healthcare professional can refer you to a smoking cessation service to help you quit.

Physical activity
Physical activity can help to lose or maintain a healthy weight, boost mood and assist in leading a healthy lifestyle. Find an activity that you enjoy as this will help you to stick to it and increase the amount of activity that you do. Taking regular breaks from sitting activities and reducing time spent watching TV or being sedentary will help in being more active.

After your operation, for the first 4-6 weeks, you may be in some discomfort and less mobile and able than before the operation. It is therefore important to think about extra help that you may need at home with washing, dressing, shopping, cooking and cleaning. If you are a carer for somebody else, it is also advisable to try and organise someone to cover or help with this.

If you are normally a carer for somebody you may need to organise additional help for after your operation. If you do not have help from immediate friends or family, you can contact the Nottingham County Council Customer Services “Golden Number” for help and support.

Golden Number: 0300 500 80 80

Pre-operative assessment

You will have an assessment before your operation to check your general health, ensure you are fit for surgery, to highlight any possible risks and to take steps minimise these. During your assessment it is likely that you will be measured for your height, weight, blood pressure, heart rate, oxygen levels and you may be asked to complete a urine sample, have a blood test or have swabs completed. If you are prescribed strong opioid analgesia for pain, you will be given an appointment to see a pain nurse specialist before your operation.

You will also be assessed for your consent to the operation. Your consultant or a nurse will explain the procedure and the risks and benefits that will come from having the operation. If in agreement then you will be asked to sign a consent form.

You will be invited to attend an education group in the Therapy Department. The therapist will discuss exercises, mobility and what to expect from the operation and your recovery.

You will be measured for elbow crutches ready to become familiar with and practice your walking prior to your operation.

Patients who attend the pre-operative class feel more prepared for surgery. It is likely that your outcome after the operation will be improved if you started your exercises before the surgery and have improved your diet and managed your weight. Attending this group will also help to reduce your length of stay in hospital after your operation.

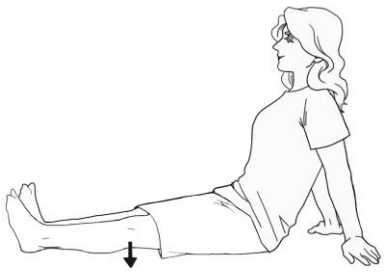
Please bring your elbow crutches into hospital with you on the day of your surgery.

Pre-operative exercises

Exercises will be very important in your recovery and will determine your outcome. These will help you to increase your range of movement, strength and stretch your tight muscles.

These exercises are to be completed before you have your operation.

Repeat all exercises 10 times, 2-4 times daily.



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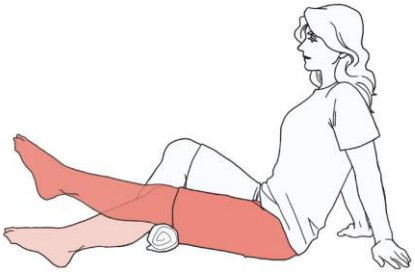
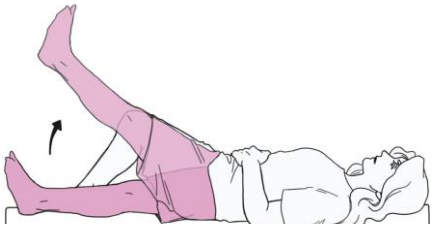


2) **Inner range quads.** Lying or sat up in bed put a thick, rolled up towel under your knee. Tighten your thigh muscle and lift your heel off the bed to straighten your leg. Hold for 5 seconds then relax.

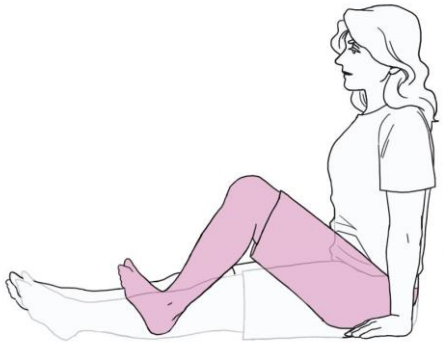
Remember to never rest with a pillow or towel under your knee as you may risk losing the ability to get the knee fully straight.



3) **Straight leg raise.** Lying or sitting up in bed, squeeze your thigh muscle, pull your toes up towards you and lift your leg off the bed.

The leg only needs to be lifted off the bed surface and the aim is to keep the knee as straight as possible.

To make this harder try and hold the knee straight for 5 seconds.



4) **Knee flexion.** Seated or lying, bend and straighten your leg slowly as far as possible.

Occupational therapy

You will be contacted by the occupational therapy team to talk through any concerns you may have about managing at home after your surgery. Following the telephone consultation you may be provided with some equipment that will aid your recovery. Advice can also be offered about bathing and strip washing.

Please consider how you think you will manage after your operation:

- **Can you ask family and friends to support you in the short term?**
- **Will you need to prepare meals or have help preparing meals?**
- **Can you prepare meals in advance to keep in the freezer for after your operation?**
- **You will not be able to carry anything whilst using your walking aids so consider alternatives and how you are going to manage. You can discuss any concerns with the occupational therapy team during your telephone consultation or on the ward.**

Before your operation

You will need to book an appointment at your GP surgery with a practice nurse to have your clips removed. **This will need to be booked for 14 days after the day of your operation.**

If you feel that you are suffering from any kind of infection (for example urine, dental or stomach infection) please make the orthopaedic team aware before the operation.

We encourage all patients to use this website to gain more understanding around the procedure including consent and different types of anaesthetic. You will need to register for free to access the content which can be accessed via this link:

https://www.consentplus.com/

Hospital stay

After your operation you will be admitted to an orthopaedic ward at Kings Mill Hospital – ward 21. It is likely that you will need to stay in hospital for 1-3 days after your operation, but this will vary depending on your progress.

What to bring

You will want to pack an overnight bag to bring into hospital with you. This should include spare clothes and pyjamas, wash bag, suitable supportive footwear and something to do such as a book to read or an electronic device. You may wish to bring your own towel for showering. You do not need to bring bedding with you as this will be provided on the ward. **Please bring your usual medications with you.**

Admission day

On the day of your operation you will arrive at the admission lounge. You may wish to bring something to read or occupy yourself with while waiting. You will have to stop eating 6 hours before your operation to prepare for the anaesthetic and procedure. You must stop drinking water or clear fluids (diluted squash, cordial, black tea or coffee) 2 hours before the operation.

When you are admitted to the ward you will be seen by the anaesthetist and medical professionals who will discuss your anaesthetic, post-operative pain relief and your overall plan for surgery. The leg requiring surgery will be marked.

Members of the team involved in your care will include:

- Doctors
- Anaesthetists
- Nurses
- Healthcare assistants
- Physiotherapists
- Occupational therapists
- Pharmacists.

Anaesthetic

You will be fitted with a compression stocking on your un-operated leg before you go for your operation. Another stocking will be fitted onto your operated leg after your operation. These are called TED stockings and information regarding these can be found later in the booklet. Your anaesthetic procedure will be discussed with you before your operation. The type that you have will depend on many factors such as previous experiences, other conditions you may have and the anaesthetist's recommendations.

Spinal anaesthetic

You will usually be offered a spinal aesthetic, which could be with or without sedation. The procedure involves a dose of local anaesthetic injected into your lower back near the nerves in your spine. This is considered very effective and will temporarily numb your body from the waist down. You will not feel anything during the operation other than some movement, but you will still be conscious.

The advantages of a spinal anaesthetic compared to a general anaesthetic are that you are likely to feel less sick or drowsy after the operation and you can usually eat and drink sooner. Therefore you may feel up to mobilising on your new joint sooner. Another advantage of a spinal anaesthetic is that it is likely you will not need a lot of strong pain relief after the operation as you will still have the benefits of the analgesia. You will also be in control of your own breathing after the operation, making you feel better quicker.

Sedation

Sedation can be used at the same time as a spinal anaesthetic, which can make you feel more relaxed. It may be given as light or deep sedation. If required, this will be adjusted to your personal needs which will be discussed with your anaesthetist.

Epidural
An epidural may be offered if the anaesthetist thinks the operation may last for longer than 2 hours, or you will need more long-lasting pain relief after your surgery. The injection is similar to a spinal injection but a fine plastic tube is inserted into your back, which can allow for more anaesthetic to be given as required.

General anaesthetic
Having a general anaesthetic will make you unconscious for the surgery so you won't feel anything, but this is completed in a controlled way and you will be constantly observed. You will usually receive anaesthetic drugs, oxygen to breathe and you may need medication to help relax your muscles. You will need a breathing tube in your throat for the operation. The advantages are that you will be unconscious throughout the procedure. The disadvantage includes needing extra pain relief after the operation, which can make some people feel unwell.

We encourage all patients to use this website to gain more understanding around the procedure including consent and different types of anaesthetic. You will need to register for free to access the content which can be accessed via this link:

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The operation

The operation is likely to take about 1½ hours. Once your operation is complete you will be taken through to the recovery ward.

Recovery

In the recovery ward you will be monitored by a nurse as you begin to come round from the anaesthetic. You may feel slightly confused or drowsy as you come round but this is normal as the anaesthetic wears off. Your nurse will be monitoring your vital signs (pulse, oxygen, checking the wound and assessing your pain) and ensuring you are comfortable.

Once you are stable and the doctors and nurses are happy with how you are then you will be taken back to the orthopaedic ward to continue your care. On the way back to the ward you will have an x-ray. The staff on the ward will make sure that your pain is well controlled and will assist with your care as needed. They will continue monitoring your temperature, pulse rate, blood pressure, bladder and bowel function and the feeling in your legs after the anaesthetic.

After your operation (post-operative)

Day of surgery You will be encouraged to sit up in bed, eat and drink, move your feet and begin your physiotherapy exercises. You may be mobilised on this day if it is safe, appropriate and you are well enough to do so.

Day 1

You will be encouraged to be as independent as possible. We advise that you try to get dressed in your own clothes (loose and easy fitting along with supportive slippers). The staff will be able to assist you where needed but you will be encouraged to do as much by yourself as possible. A physiotherapist will go through your bed exercises, which you will be expected to carry out on the ward at least 6 times a day. They will also assist you to get out of bed for the first time and help you walk with your elbow crutches. In addition, it is likely that you will be seen by an occupational therapist.

Day 2 and 3

Continue the bed exercises each day as this will help you to achieve a good outcome following surgery. You will still be encouraged to be independent and you may complete a stair assessment.

Post-operative complications

There is the possibility of developing post-operative complications as mentioned previously. Signs and symptoms to look out for include:

- Severe pain when touching an area of skin, especially the calf area.
- Extreme swelling of the whole leg, not just the knee, especially in the calf.
- Skin that is hot to touch, very red and looks tight or stretched.
- Wounds leaking discharge that may look dirty, yellow in colour or pus filled.
- Chest pain or shortness of breath.

If you experience any of these symptoms or are concerned then you should **seek medical advice as soon as possible** to ensure the right treatment is started and to avoid any further complications.

In order to reduce the risk of post-operative complications, staff will help you to mobilise as soon as your condition allows, you may be advised to wear stockings and will be given blood thinning medication.

Wound

It is important to monitor your wound to check for signs of infection such as weeping or excessive bleeding after your operation. To close the wound, clips are used to hold the skin together. These are usually taken out 2 weeks after the operation by your GP practice nurse. **You will need to organise this appointment.**

There are dissolvable stitches under the skin to help to repair the wound, which should dissolve within 6-8 weeks after your operation. You may notice a small piece of thread protruding through the wound, which can be normal. Do not pull at it, it should dissolve and come away. At times the area at either end of the wound can become pink in colour which can be normal. If it becomes very pink or you notice any pus coming from this area you will need to contact your GP and you may require antibiotics.

Bruising

This is normal and should fade within 6-12 weeks after your operation. Bruising can be extensive and go up towards your hip and down to your foot. You may also have a bruised feeling in your thigh where the tourniquet was applied during surgery.

Pain

Some pain after a TKR is considered normal; you have had major surgery and your body will be responding to the traumatic invasion. Many patients are concerned about an ongoing pain/ache weeks and months after the operation. Only occasionally do we have patients that feel the benefit of the new joint immediately. The procedure can be fairly painful if your body is used to pain killers. Most pain killers will help you manage rather than abolish your pain.

In the first few weeks after surgery we are very keen that you have adequate pain control to allow you to complete the exercises we have given you. You will be prescribed medication on the ward. In order to be able to do your exercises and begin your rehabilitation, you will need to manage your pain levels appropriately. If your pain is not under control then you will have difficulty moving the knee and mobilising, which can cause you to develop stiffness and weakness, slowing down your recovery process.

After the operation the ligament on the inside of the knee is often on more of a stretch than it was before surgery. Certain movements that involve a twist of the knee can pull on these already stretched fibres. Until this settles you may find certain movements such as rolling over in bed or getting in and out of a car uncomfortable. To minimise this discomfort, brace your muscles to support the joint and move cautiously, avoiding the twisting movement.

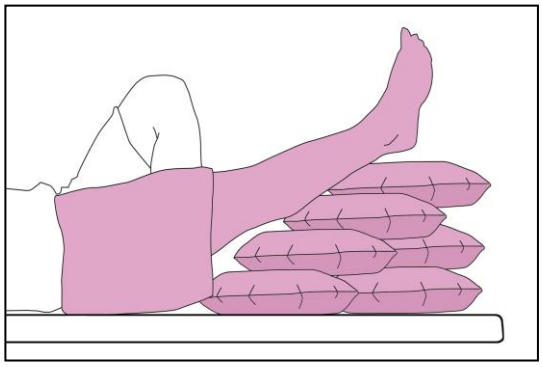
Below you will see a good technique of how to get **in a car** without putting too much of a strain on your new knee. Try to keep your knee cap facing upwards throughout. You can get out of the car in the same way but in reverse.

		
Sit into the car sideways	Technique for getting into the car if your operated leg is the **left**	Technique for getting into the car if your operated leg is the **right**

The joint may click, which is normal. It is usually a sign that swollen tissues are moving over each other differently than before. Again this should improve as healing continues.

Swelling control

An effect of the operation will be inflammation of the joint causing large amounts of swelling, which is normal after knee replacement surgery. Swelling can last from 1 year to 18 months.



It is vital to manage the swelling as best as possible, as it takes up space within the joint causing pain and restricting available movement.

Pottering little and often (every half an hour) is important to avoid circulation problems. However, overdoing the amount of time you are on your feet will increase your pain and swelling, particularly over that evening or during the following night.

If your knee is swollen, aim to regularly raise the foot above heart level. This can be achieved by lying on your bed with a stack of pillows or rolled up duvet under your heel. Rest in this position for up to 20 minutes.

Cooling the knee can also be helpful in easing symptoms of pain and swelling. You can use an ice pack or a bag of frozen peas wrapped in a tea towel or pillow case for **no longer** than 15 minutes at a time, several times a day with a 2 hour gap between each time.

Temperature

Your knee will feel warm after the operation - blood flows to the area for healing which causes the warmth. If your knee becomes **very hot** then you may need to consider what has caused this. Extra warmth can be a sign of infection but it more commonly occurs if you have been on your feet too long, tried to walk too far or you have been stood in one position for a period of time. This may have aggravated and inflamed your knee; swelling and an increase in ache or pain is the response. If this is the case, try to balance activity on your feet with rest.

Numbness

Numbness around the knee is due to small superficial nerves being disrupted during surgery. The patch usually gets smaller but there may be a permanent small area of numbness.

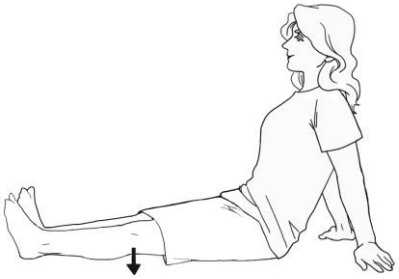
Total knee replacement class

You will be invited to attend the total knee replacement class or individual appointment at your local hospital following surgery. It is very important that you attend this appointment. At this time your progress will be assessed and your exercises will be reviewed and personalised to your needs. This will be a good opportunity to ask any questions about your progress or about any concerns you may have.

Exercises day 0 - day 7

Exercises will be very important in your recovery and will determine your outcome. These will help you to increase your range of movement, strength and stretch your tight muscles. **These exercises are to be completed during your stay in hospital and over the first week after your operation. Other exercises will be added at day 7.**

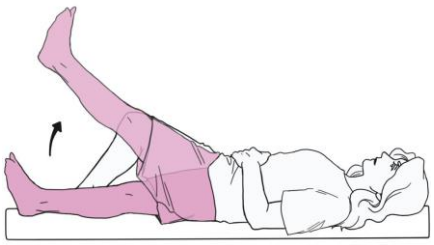
Repeat all exercises 10 times, 4-6 times daily.

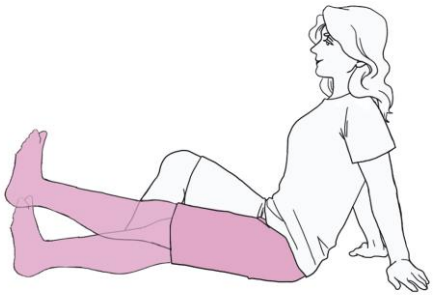


1) **Isometric quads.** Lying or sat up in bed, squeeze your thigh muscle and push your knee down into the bed. Hold for 5 seconds then relax.

2) **Inner range quad.** Lying or sat up in bed put a thick, rolled up towel under your knee. Tighten your thigh muscle and lift your heel off the bed to straighten your leg. Hold for 5 seconds then relax.

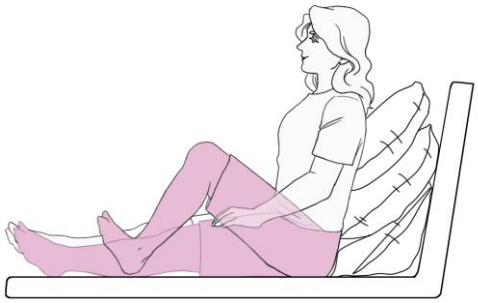
Remember to never rest with a pillow or towel under your knee as you may risk losing the ability to get the knee fully straight.



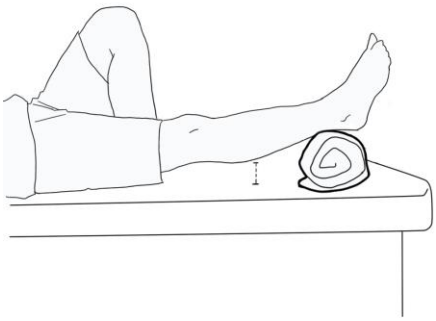


3) **Straight leg raise.** Lying or sitting up in bed, squeeze your thigh muscle, pull your toes up towards you and lift your leg off the bed. The leg only needs to be lifted off the bed surface and the aim is to keep the knee as straight as possible.

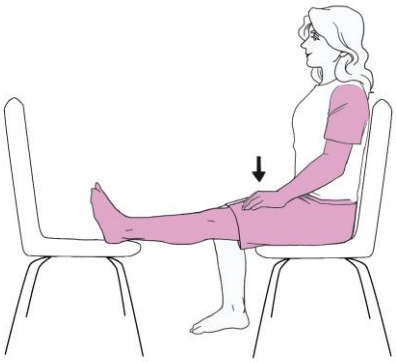
Once achieved, you can hold this for 5 seconds to make it harder.



4) **Knee range of movement bends.** Lying or sitting up in bed bend your knee towards you as much as possible and then straighten down fully.

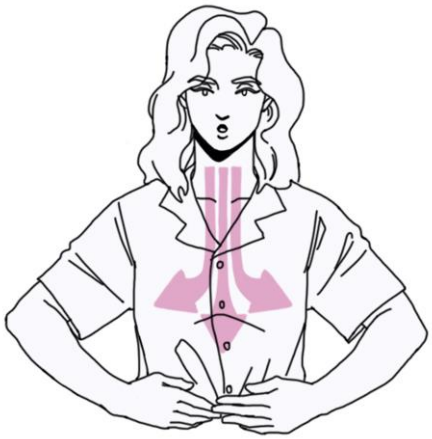


5) **Knee extension.** Lying or sitting up in bed, use a rolled up towel or pillow under your heel, this will create a gap under your knee to encourage it to straighten.



OR – seated, rest your heel on a chair or stool so there is a gap under your knee. This will allow gravity to help straighten the knee.

Build up the time you can tolerate these exercises, up to 3 minutes. This should be completed regularly throughout the day.



6) **Deep breathing.** While you are not moving around as much, it is important to complete deep breathing exercises regularly to keep the chest healthy and avoid developing chest infections

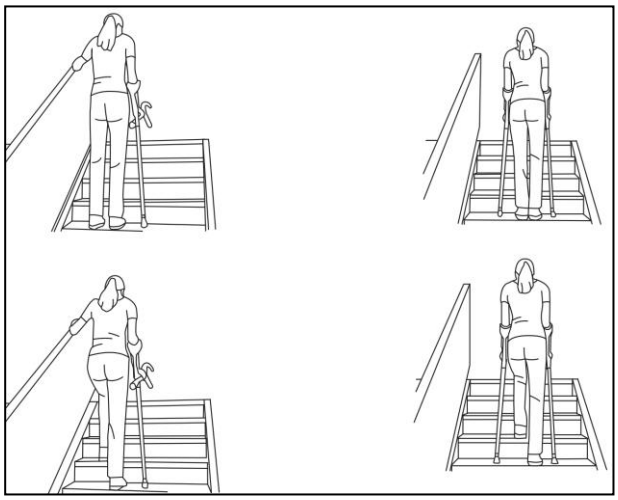
Imagine your tummy is a balloon and you are trying to fill it. Take a deep breath in through your nose for the count of 3, hold for 3 seconds and slowly breathe out through your mouth for 3 seconds.

Mobility

Your doctor or physiotherapist will let you know how much weight you will be allowed to put through the knee. It is likely that you were provided with crutches in the education group, but otherwise you will be given a walking aid on the ward, which is usually a pair of crutches or a Zimmer frame. You will be shown how to use these on the ward and the staff will ensure you are safe before going home.

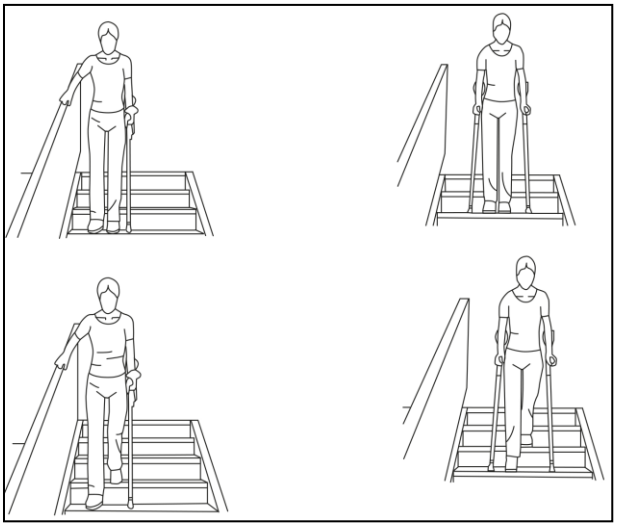
Stairs

If you have stairs at home then you will need to complete a stairs assessment with a therapist before you go home. They will teach you the safest way to complete the stairs to enable you to manage at home. When going up the stairs you should use your hand rail and a crutch in the other hand.



Going up stairs:

1. Push through your crutch and step up with your non-operated leg.
2. Now step up with your operated leg **to the same step.**
3. Bring your crutch onto the same step.



Going down stairs:

1. Put your crutch one step below.
2. Step down with the operated leg.
3. Now step down with your non-operated leg.

If you are unable to complete the stairs assessment then it may be necessary to consider living downstairs at home when you are discharged from hospital. This will be discussed with you and may only be temporary until you are able to use the stairs again.

Discharge home

Before being discharged home you must be fully stable with your medical checks and have gained full sensation back in your legs. Staff will be monitoring you throughout your stay in hospital to ensure that your pain is under control, you can walk safely and there are no signs of infection before you go home.

Stockings may be provided to reduce the risk of deep vein thrombosis (DVT), which is the formation of one or more blood clots.

You will be informed by medical staff if and for how long you may need to wear these for. In some cases you will only need to wear them while in hospital, in others you may be expected to wear the stockings for 6 weeks and only take them off for washing. If you feel that your stockings are digging into your leg or are too small, please contact the orthopaedic ward for advice.

When you have been discharged from hospital it is important to follow the advice given, monitor your pain levels and be sensible with the amount of walking you are doing. In the first 6 weeks we advise you do not stand still for periods longer than 2 minutes. We advise that you potter around the house, little and often, gradually building up the distance you walk, but we do not expect you to be going for long walks.

If you have been stood for too long or have walked too far, you may get an increase in heat and swelling at the knee, not necessarily at the time, but more commonly that evening or overnight. Some patients experience an increase in their ache and a restless, unsettled feeling. This is an indication that you are on your feet too much. However, when resting, you must try to do circulatory exercises (paddling feet) to compensate for not walking as normal.

Follow up

As previously mentioned, once you know your operation date you will need to book an appointment with your GP surgery to see a practice nurse. This should be for 14 days after your surgery to have your wound checked and your clips removed.

In addition to this you can expect to see a physiotherapist within 2 weeks of your operation. Your consultant should review you 6 weeks after your operation unless otherwise stated.

Home advice

If you have any specific needs or require extra help at home, this should be organised prior to your operation. On the ward the staff will help to show you how best to get yourself washed, dressed and in and out of bed. If necessary, equipment will have been organised by occupational therapy in order to help you manage at home. Your new artificial knee will feel very different to your knee before the surgery. You may have a sensation of heaviness, stiffness or clicking noises, which are likely to settle as you recover, but the knee may never feel as your own.

Movement

Your surgeon has put in a type of hinge which is designed to bend and fully straighten. The aim of physiotherapy is to get your knee as straight as possible and achieve a good bend so that you have a useful knee. Most types of implant will bend up to 125°of flexion. We find a minimum of 95° is required to have a functional knee. We are very keen that you achieve a knee that fully straightens as this allows the locking mechanism of the knee to work more effectively. If you do not achieve this, and if you have weak muscles of the thigh, you may find that the leg buckles under your weight. This will increase your risk of falling. Working on straightening the knee and strengthening the thigh muscle helps avoid this. Another reason we want the knee to be straight is so that it is the same length as the other leg to help your walk look normal.

Stiffness

After being seated for some time the knee can feel stiff when you stand up and it may take three or four steps before the knee moves more freely. This is because the healing tissues are still swollen and are slower to respond than normal tissue.

Walking

Initially you will be provided with 2 elbow crutches. We will advise how to wean onto 1 crutch and eventually to no crutches at your physiotherapy sessions. When you progress onto one elbow crutch or stick, you should hold the crutch in the **opposite hand** to your operated leg. You should be able to stop using the crutch or stick when you can walk as well without it, as with it. It will be better to use a stick if you still have a limp so that you do not get into bad habits that are hard to lose. There is no set time to wean off the crutches, it is done on an individual basis, dependent on your strength and previous ability.

Driving

You cannot drive until 6 weeks after the operation. This is due to insurance companies' policies. You may need to inform your insurance company when having the operation and re-inform them when you intend to restart driving.

We advise you to practice an emergency stop and moving your foot between the pedals in a static non-moving car. If this does not cause any problems, you may then resume driving after the six weeks with the permission of your consultant. Begin driving with somebody else in the car in case it is uncomfortable or you cannot manage; then gradually build up the amount of driving you are able to do.

Returning to work and resuming activities

You can return to work when you feel confident with your knee and the pain is under control.

Physiotherapy is about getting your knee to bend and straighten as far as it can without inflaming it. It is important to balance activity with rest. This balancing act will need to be continued over the next few months. As you are able to do more, you will be able to anticipate how much is too much. While doing an activity you should be aware of how long you are on your feet. Aim to rest before the knee starts aching and in time you may be able to anticipate this too. You may find that your knee becomes warm and inflamed in the evening or overnight as a reaction to what you have done earlier that day.

Discuss your job with your consultant, GP or physiotherapist and your work manager. You may return to an office based job earlier, but if your job involves standing for long periods, walking or heavy lifting, a minimum of 3 months off work is advised. A phased return is often the best option and will need to be discussed with your employer.

A static bike is very good for gaining more movement and strength once you have a 90 degree bend. You may need to start with the seat high to allow for a full turn of the pedals and without resistance. If you are unable to do so, you may pedal in half circles forwards and backwards. We recommend you can start this as soon as the pain is under control, and we can assess you within your physiotherapy sessions. Take care getting on and off the bike - avoid twisting the knee. Seated home pedals are good too.

Movement in water is good exercise but we recommend waiting until you have had your staples out and dressing removed. Only once your wound is clean and healed and not open you can start swimming. **There is a high risk of developing an infection if your wound is even slightly open, so avoid swimming until you are certain the wound is fully healed and closed.** We advise front crawl legs - avoid breaststroke legs as this increases the strain on the ligament on the inside of the knee.

Low impact sports such as **bowling** and **dancing** can be resumed gradually. The twist of a full swing in **golf** can pull on the inside of the knee, so waiting three months will be more comfortable. If you are doing well on a static bike then you can progress to **road cycling**. Always take care when getting on and off the bike not to twist your knee. High impact sports such as running are to be avoided.

Kneeling

Kneeling on your operated knee may cause discomfort but does not need to be avoided. The sensation may feel abnormal and 50% of people won't get back to kneeling. The wound may be too sensitive to attempt kneeling in the first few months, but in time you may attempt gently kneeling on a sofa or bed. When you do attempt to kneel on the floor do so on a mat or pillow and make sure you either have a chair or a second person there in case you can't get up.

Squatting

Even if you have achieved a very good bend after surgery, your knee will not go quite as far as a knee without a knee replacement, therefore you will only manage so far. Your new knee is not designed to go to a full squat.

Stairs – alternate legs

Your physiotherapist will help you practice this when they feel you are ready to progress from going one step at a time to alternate legs. It is very normal to find going up stairs alternate legs much easier than coming down alternate legs.

Bathing

You will usually be able to sit on the bottom of the bath after 12 weeks. However, it may be longer than this until you feel that you are ready.

Public transport

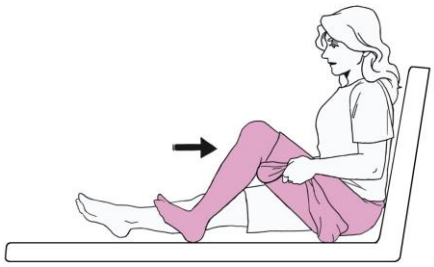
On a plane, coach or bus try to make sure you have legroom for comfort.

No long haul flights (over four hours) should be planned in the first three months. Most knee replacement joints will be made with stainless steel or cobalt chrome and therefore may set alarms off in security. If this is the case you will need to explain the situation to the security staff.

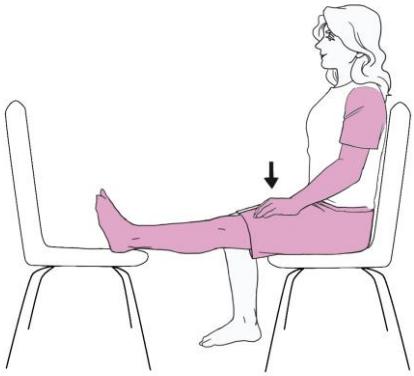
Exercises week 2 - week 6

Exercises will be very important in your recovery and will determine your outcome. These will help you to increase your range of movement, strength and stretch your tight muscles.

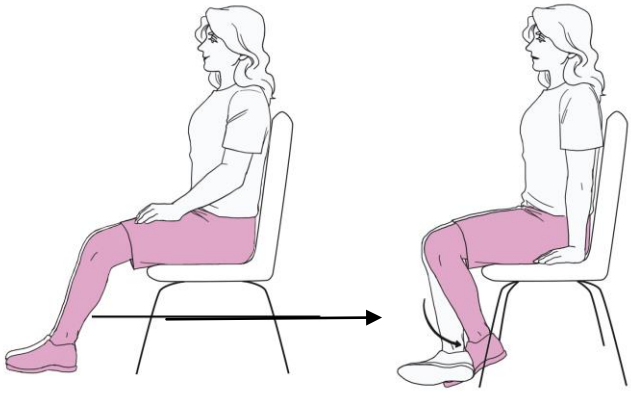
These exercises are to be completed in the second week after your operation. Continue with your original exercises PLUS these progressions.



1) **Towel assisted knee flexion.** Wrap a towel under your thigh, bend your knee as far as possible then use the towel to bend the knee further towards you, keeping your heel on the bed. Hold 15 seconds, repeat 3 times. Complete these 4-6 times per day.



2) **Knee extension.** In a seated position, rest your heel on a chair or stool so there is a gap under your knee. Allow gravity to help you straighten the knee. You can now use your hands to push down on your knee, being careful with your wound, to encourage it to straighten. Build up to 3 minutes.



3) **Assisted knee flexion.** Sitting in a chair, cross your non-operated leg over your operated leg. Slide the foot back as far a possible then use your non-operated leg to push back further. Hold for 15 seconds, repeat 3 times, 4-6 times per day.

Personal Exercise Diary

Use this diary to keep track of your exercises throughout the day.

Sessions completed during the day						
	1	2	3	4	5	6
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
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Contact details

King's Mill Hospital	Telephone 01623 622515
Newark Hospital	Telephone 01636 681681

Kings Mill orthopaedic ward:	Extension 3640 (Monday to Sunday, 24 hours)
Kings Mill physiotherapy outpatients:	Extension 3221 (Monday to Friday, 8am-5pm)
Newark physiotherapy outpatients:	Extension 5885 (Monday to Friday, 8am-5pm)
Orthopaedic ward:	Extension 3640 (Monday to Sunday, 24 hours)

Further sources of information

NHS Choices: www.nhs.uk/conditions
Our website: www.sfh-tr.nhs.uk
Arthritis Research UK: www.arthritisresearchuk.org

Patient Experience Team (PET)
PET is available to help with any of your compliments, concerns or complaints, and will ensure a prompt and efficient service.

King's Mill Hospital: 01623 672222
Newark Hospital: 01636 685692
Email: sfh-tr.PET@nhs.net

If you would like this information in an alternative format, for example large print or easy read, or if you need help with communicating with us, for example because you use British Sign Language, please let us know. You can call the Patient Experience Team on 01623 672222 or email sfh-tr.PET@nhs.net.

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