



Practice
Plus
Group

Patient information

Total knee replacement



Insert contact details sticker here:

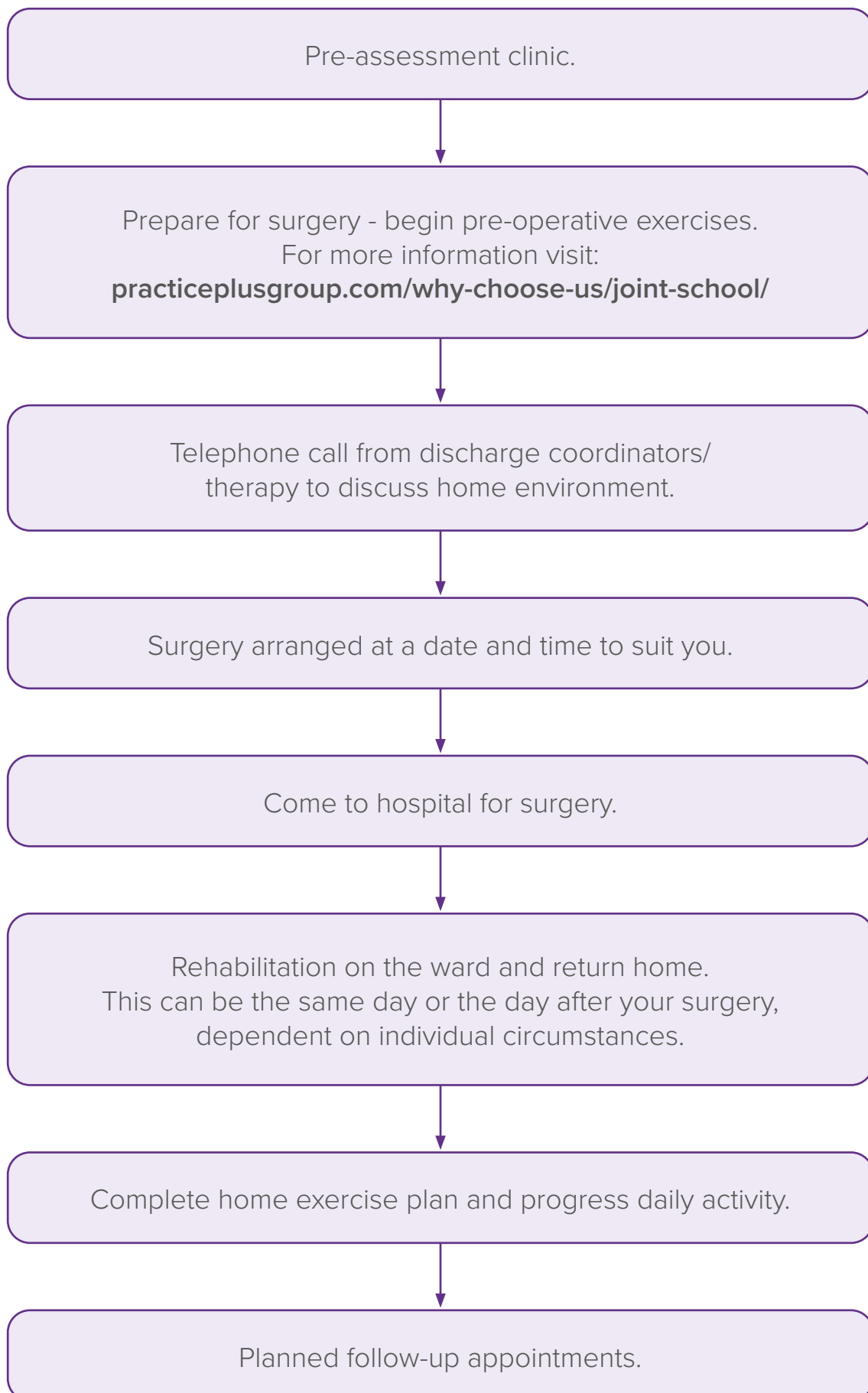
A huge thanks for choosing Practice Plus Group for your knee replacement surgery. We're delighted to have you onboard and can't wait to welcome you through our doors! Whether you've had surgery before or this is your first time, we work hard to make sure your experience with us is comfortable and you have all the support you need to get back on your feet.

This booklet is packed full of useful information about what you can expect on the day of your surgery, all the way through to the best ways to manage any post-surgery discomfort at home. Each section is marked with page numbers to make it super easy to use, but if you don't find the information you're looking for, remember we're just a phone call away! Don't hesitate to give us a call on the numbers provided and one of our team will be happy to help.

This booklet is structured under the following headings

What is a total knee replacement?	page 4
The benefits of a total knee replacement	page 5
Preparing for surgery	
Pre-operative appointments	page 9
Getting prepared for total knee replacement surgery	page 11
Pre-operative knee exercises	page 13
How long will I be staying in hospital for?	page 17
What should I bring to hospital with me?	page 17
On the day of surgery	
Total knee replacement - on the day of surgery	page 19
After your total knee replacement surgery	
The day after your total knee replacement surgery	page 23
Before leaving the inpatient ward for home	page 30
Managing pain at home	page 30
Managing swelling at home	page 31
Caring for your wound	page 31
Bathing and showering	page 31
Causes for concern	page 32
Frequently asked questions	page 32
My notes section	page 36
Appendix	
1. Pre-operative knee exercise progressions	page 37
2. Patient self assessment tool	page 41
3. Knee flexion progress chart	page 42

What will my knee replacement journey look like?



What is a total knee replacement?

The knee is a 'hinge' joint located between the ends of the femur (thigh bone) and tibia (leg bone). As a weight-bearing joint, the knee can become worn and damaged, which can negatively impact your quality of life through restricted mobility and pain, even at rest.

If these symptoms cannot be addressed conservatively through pain relief, injections and physiotherapy, you may benefit from a total knee replacement surgery. Which involves replacing the worn and damaged knee joint with a prosthetic (artificial) joint.

To replace the knee joint, a surgeon firstly makes a long incision on the front of your knee. After moving the patella (knee cap)

out of the way, the surgeon then cuts and removes the worn-out joint surfaces from the ends of both the femur and tibia. The ends of the bones are then fitted with a metal prosthesis which is specifically designed to match your knee.

Most surgeons will use bone cement to securely fix the prosthesis in place, but some use a press fit technique that doesn't need cement but can be equally as strong. A high-density polyethylene bearing is then placed between the two metal implants. Since the patella already has very thick cartilage, it typically doesn't require additional work. However, if there are signs of significant wear and tear, the patella can be resurfaced during the total knee replacement surgery.

Before



After



At this hospital, total knee replacement surgery is delivered using the principles of enhanced recovery (also known as rapid or accelerated recovery). Enhanced recovery is a well-established, evidence-based approach to total knee replacement surgery. While your surgery will still likely be a physically and emotionally challenging experience, enhanced recovery aims to:

- Ensure that you are as healthy as possible prior to having your surgery.
- Ensure that you receive the best possible care during your surgery.
- Ensure that you receive the best possible post-operative care following your surgery.

The benefits of a total knee replacement

Total knee replacement surgery is widely regarded as a safe and successful procedure. The main benefits and risks have been summarised below, but your surgeon will discuss these with you in detail to make sure you're happy to proceed with the surgery.



Scan the QR code to find out more about the risks, benefits and alternatives related to your medical procedure.

Expected benefits:

Reduced pain

The main purpose of total knee replacement surgery is to achieve good relief from the pain you were experiencing before surgery. As it is a highly invasive surgery, it is normal to experience some pain in the early stages of your post-operative recovery.

Reduced stiffness

The new joint will move more freely, and the aim is for you to have less joint stiffness than before surgery. However, stiffness from prolonged sitting and standing can be normal for up to a year post-operatively.

Increased mobility

The combination of reduced joint stiffness and pain will likely improve your overall mobility. This helps you to return to a fitter and more active lifestyle, therefore improving your quality of life.

Potential complications:

Infection

We all carry millions of bacteria on both the inside and outside of our bodies. Normally, these don't cause any problems but if they get into an open wound, they may then become an issue. To reduce this risk, you will be provided with a special skin wash which must be used as per the instructions prior to your surgery.

It is also important that you do not have any cuts, grazes or sore areas on your legs before attending your surgery. To reduce the risk of your surgery being cancelled, try to avoid activities that may lead to cuts (like gardening and shaving) for a few weeks before your surgery. It's also really important to maintain good hand hygiene before and after your surgery. This is to avoid transmitting germs to your knee via touch.

While it is normal for a new surgical wound to be slightly warm and red to touch, if you start to feel unwell or feverish, the pain is getting worse and/or the wound starts to leak fluid, please contact either the hospital, your GP or 111.

Deep Vein Thrombosis (DVT) / Pulmonary Embolism (PE)

Blood clots can occur after any type of surgery but the risks are higher in surgeries involving the lower limbs. To reduce the risk of blood clots, you'll be given blood-thinning medication and should start circulation exercises as soon as you can following your surgery.

A DVT occurs when blood in a vein of the lower limb clots. This may cause your leg to become hot, reddened, hard or painful to touch during the first few weeks after surgery. Please contact the hospital, your GP or 111 initially, to assess whether you need to attend A&E.

Although very rare, a PE occurs when the clot in a vein breaks off and then travels through your blood stream to become lodged within your lungs. You should seek urgent medical treatment if you experience sharp chest pains, breathlessness and/or are coughing up blood.

Bone fracture

Although rare, fractures can occur in the bones around the new knee joint. The management of any fracture will be decided by your surgeon dependent on its location and size.

Ligament and knee instability

Is usually characterised by a 'giving way sensation' and/or a weakness in the primary muscles around the knee joint. The surgeon may request that you wear a brace following your surgery in order to allow the ligaments time to fully heal, and for the primary muscles around the knee to fully strengthen.

Artery or nerve damage

Can be characterised by weakness and lack of sensation in the affected leg. It is also common to have some minor sensation loss to the skin around the surgical scar.

Loosening

Loosening of the artificial knee joint will result in pain and reduced knee function.

Muscle weakness

While it is rare, sometimes patients can be left with weakness in the muscles around the knee joint. This can happen if the muscles need to be cut during surgery and fail to fully heal.

Persistent pain

Knee replacement surgery is usually a very effective treatment for arthritis. However, due to many of the factors listed above, some patients are unfortunately left with persistent pain or discomfort around the wound and/or knee joint.

Stiffness

Stiffness is quite normal, and can last for between six and 12 months after total knee replacement surgery. It is usually caused by a combination of excessive swelling, tight muscles, and scar tissue. While total knee replacement surgery is primarily designed to help reduce pain, improved flexibility and function of the knee isn't always guaranteed.

Occasionally this stiffness may linger for several years depending on your age, activity levels, and how well the knee was moving before surgery. If you have had a long history of knee stiffness prior to surgery, this is likely to continue to some degree after your knee replacement surgery.

To help reduce the risk of knee stiffness, it's important to follow and complete the exercises we give after your surgery. If your consultant thinks you're especially at risk of knee stiffness, you'll be offered physiotherapy sessions following your treatment.

Swelling

Is very common in the thigh, leg, and foot in the early stages of recovery following total knee replacement surgery. This will normally resolve without a problem over time, but occasionally the swelling can be caused by a DVT (or blood clot) in the leg.

Urinary incontinence/retention

May be temporarily experienced following spinal anaesthesia until full bladder sensation returns. If you're unable to pass urine, you may need a catheter. This will help empty your bladder and can usually be removed once your normal bladder sensation returns.

Constipation

Can commonly occur with the increased use of analgesia, dietary changes, and reduced mobility. Oral laxatives can be prescribed if you experience significant discomfort and changes to your normal bowel habit(s).

Delirium

Delirium or acute confusion can affect anyone being admitted to hospital, especially those undergoing major surgery. Some people have higher risk factors than others prior to their admission, and common causes are a reaction to analgesia, signs of infection, constipation, dehydration and alcohol/drug withdrawal.

Preparing for surgery



Pre-operative appointments

Once you've had your initial consultation and decided to proceed with your total knee replacement, you'll be assessed by one of the outpatient nurses. This is to make sure you're physically ready to have surgery. The nurse will check your:

- Height.
- Weight.
- Bloods.
- Blood pressure.
- Heart rhythm via Electrocardiogram (ECG).

You will then be assessed by the anaesthetic team, who will discuss your fitness for surgery and discuss the benefits, risks, and possible complications of anaesthesia.

Finally, you will be assessed by one of our team (usually by telephone), who will discuss your home environment and recommend any changes that you could make to better support your recovery once you get home from hospital. If clinically needed they can also supply equipment to use at home and inform you of the return process.

A member of our team will provide you with lots of advice to make returning home after your surgery as stress free as possible.

- If living alone, arrange for someone to assist you with your shopping, cleaning etc.
- If you have pets, arrange for someone to care for them whilst in hospital.
- Fill your fridge and freezer with easy to prepare meals or pre-cooked meals

that can be microwaved when you get home.

- Move objects you may use regularly from very high or low cupboards and drawers to easily accessible places.

Reducing your risk of falling

- Move furniture to allow you enough space to move with your walking aids.
- Consider having a handrail fitted if you have stairs without a banister.
- Remove loose rugs.
- Ensure that there are no trailing cables.
- Use a night light next to your bed so that you can get to your toilet safely at night.
- Use cordless or mobile phones so that you can contact someone in an emergency.
- Relocate items from low or high places to somewhere easier to reach.

Day case surgery

You may have been asked if you would like to have your total knee replacement surgery performed as a day case procedure. This means if you're well enough, you'll be able to go home on the same day as your surgery.

To be considered for day case discharge you will need to;

- Have good general health.
- Have someone at home to assist you.
- Be well motivated.

If you decide you no longer wish to be a day case, please let us know as soon as possible by ringing our bookings team. This will help us better plan our operating lists and avoid any last-minute cancellations.



Getting prepared for total knee replacement surgery

Before your total knee replacement surgery your GP and the outpatient nursing teams will want to identify and stabilise any health conditions that you may already have. They may also provide you with useful help and advice to support you to get in the best possible shape prior to you having surgery, although it is also very important that you try to help yourself by;



Scan the QR code for helpful pre-surgery patient resources.

1. Eating a good diet - helps to improve your recovery and tissue healing.

If you are overweight, reducing your weight prior to surgery can decrease the risks of wound healing problems, anaesthetic problems and help to improve your rehabilitation potential. It is also important to try to maintain a healthy weight after surgery to aid your on-going recovery. If you have any concerns about your weight, please see your GP as they can refer you for professional support.

Try to have sensible portion sizes at meal times, and limit your intake of inflammatory foods such as red meat, processed meats, sugar, saturated fats, salt and simple carbohydrates, whilst increasing your intake of anti-inflammatory foods, such as fish, nuts, seeds, fruits, vegetables and whole grains.

Daily water intake is required to replenish daily losses, on average females require 1.6 Litres per day, and males require 2.0 Litres per day.

If you have any concerns about your diet, please contact your GP for further advice.

2. Exercising - before your surgery is a great way to help yourself recover faster. You should try going for short daily walks, using an exercise bike or swimming as these are considered low impact activities. Also practise the exercises given in this booklet as this will help strengthen the primary knee muscles before your surgery.

3. Reducing smoking and alcohol - Reducing or stopping the amount you smoke, and the amount of alcohol you drink before surgery can help speed up your recovery.

The risk of smoking complications, such as wound infections, blood clots, heart attacks, kidney failure and revision surgery can be reduced from 52% to 18%, if smoking interventions occur six to eight weeks prior to surgery.

While the general consensus is to stop drinking alcohol at least 24 hours before the knee surgery, medical professionals tend to agree that the longer a patient can refrain from alcohol before surgery, the better.

If you require any assistance please ask at one of your pre-operative appointments. For further support and advice you can contact the NHS smoking helpline: **0300 123 1044**.

Try to get enough sleep

Aim for seven to nine hours of quality sleep each night. A good night's sleep is essential for your mental health.

4. Manage stress

Implement stress management techniques such as meditation, deep breathing exercises, yoga, or journaling.

5. Skin preparation

Ensure that you use the skin wash provided to you at your pre-assessment appointment as instructed. Using this will reduce the risk of post-surgical infection.

Please speak to a member of the team if you have any concerns before your procedure. It's important to us that your surgical journey is as worry-free as we can make it.

Our joint school resource provides key information to help you prepare for your surgery, including tips from strengthening your muscles to cutting out smoking. Visit: practiceplusgroup.com/why-choose-us/joint-school/



Pre-operative knee exercises

The exercises shown below are designed to increase your mobility and strengthen the muscles around your knee. While they might feel like hard work at first, or even be uncomfortable - try to stick at it. The more you progress through the exercises in this booklet, the greater your chance of making a full and speedy recovery. As your confidence improves try and progress to the intermediate and advanced exercises shown in appendix one on page 37.

Please try to do these exercises three times a day. It's important to note that if at any time the exercises cause severe pain, you should stop immediately.



Static quadriceps

Sitting up with your legs out straight. Tense and tighten your thigh muscles.

Hold for 10 seconds, then relax. Repeat 10 times.



Active knee extension

Sitting with your legs out straight. With your bad leg, point your toes to the ceiling, tense your thigh muscle whilst pressing the back of your knee down into the bed.

Hold for 10 seconds, then relax. Repeat 10 times.



Short arc quadriceps

Sitting with a rolled-up towel underneath the knee on your bad leg. Keeping the back of your knee on the towel, point your toes up to the ceiling and lift your heel off the bed.

Hold for 10 seconds, then in a controlled manner lower your foot back to the bed. Repeat 10 times.





Straight leg raise

Sitting up with your bad leg out straight, point your toes to the ceiling, tense your thigh muscle and lift the leg up off the bed.

Hold your leg in this position for 10 seconds, then slowly lower your leg back down. Repeat 10 times.



Static hamstring

Lying on the bed with your bad knee slightly bent (as shown in the picture) gently push your heel downwards into the bed, so the muscle on the back of the thigh is tense and tightened (no movement should occur at the knee).

Hold for 10 seconds, then relax. Repeat 10 times.



Static glutes

Lying on the bed with your legs out straight. Tense and squeeze your buttocks together.

Hold for 10 seconds, then relax. Repeat 10 times.

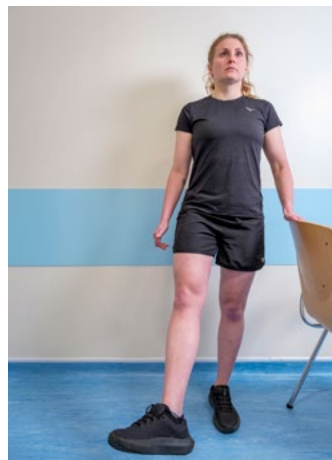


Seated active assisted flexion

Sitting up straight on a sturdy chair. Cross your ankles, with the good leg on top of your bad leg.

Move the foot on the bad leg backwards by bending your knee, assisting the movement with your good leg.

Hold this position for 10 seconds, then return to the starting position. Repeat 10 times.



Standing hip flexion - with medial (VMO) thigh bias

Standing close to a sturdy chair / worktop for support, turn the foot on your bad leg outwards. Whilst keeping your knee straight, then lift your leg forwards.

Hold for 10 seconds, then relax. Repeat 10 times.



Seated isometric hamstrings

Sitting on a chair and placing the good leg behind your bad leg. Push the 'bad' leg backwards against the resistance of the good leg as if you were trying to bend your knee (your legs should not move during this exercise - but you should still feel your thigh muscles tighten up).

Hold for 10 seconds, then relax. Repeat 10 times.



Seated isometric quadriceps

Sitting on a chair with your good leg on top of the bad leg. Push the bad leg against the resistance of the good leg as if you were trying to straighten your bad leg (your legs should not move during this exercise - but you should still feel your thigh muscles tighten up).

Hold for 10 seconds, then relax. Repeat 10 times.



Seated quadriceps

Sitting up straight in a chair with your feet on the floor. Point your toes to the ceiling and then fully straighten your bad leg.

Hold for 10 seconds then slowly lower your leg back down to the starting position. Repeat 10 times.

When able please progress onto the intermediate and advanced exercises listed in the appendix on page 37.

Walking pattern

If you are struggling with a marked limp, or you are finding that walking is very painful, it is recommended that you use a walking aid. This will allow you to improve your gait pattern, and also reduce the stress and load placed upon the rest of your body. A suitable walking aid can be sourced through your GP or a registered mobility shop.

It is recommended that you use your walking aid on the opposite side of the knee to be operated upon. Move your walking aid and soon to be operated side

together, this way each side of your body will share the load.

As you step forwards, the foot on the side soon to be operated on and your walking aid should hit the floor at the same time, then step forwards with the stronger leg. This will take some practise, as it's like having three legs but it's worth persevering with. Walking this way will help you develop a smoother walking pattern. When walking try as much as you can to bend your bad knee, maintain an upright posture, and strike the floor with your heel(s).

How long will I be staying in hospital for?

You will have your total knee replacement surgery on the day of your admission. Normally you will be medically discharged and ready to go home the day after your surgery. It is sensible to plan for a one to

two night stay even if you are aiming to be discharged home as a day case. It is also important that you plan ahead and make all of your home support arrangements before coming into hospital.

What should I bring to hospital with me?

- This booklet.
- Mobile phone and charger.
- Any toiletries that you use for everyday hygiene.
- Any glasses and hearing aids that you normally use (and spare batteries).
- Reading materials, puzzles, knitting etc. to help pass time while you are in hospital.
- Loose fitting nightwear, including a dressing gown.
- Comfortable day-wear; as you are having an elective procedure you will be expected to wear normal clothing throughout the day.
- Well-fitting, flat supportive footwear with backs (your feet may swell after surgery so bring footwear that allows a little extra room).
- All medications you are currently taking.

It's best to avoid bringing jewellery and other valuables with you to hospital.

On the day of surgery

The image features a solid purple background with a white, curved, abstract shape at the top, resembling a stylized wave or a partial circle. The text "On the day of surgery" is positioned within the white area.

Total knee replacement - on the day of your surgery

We'll let you know in good time when you should aim to arrive during your pre-operative phone call, but it's usually an early start: between 6.30am and 7.00am! This is to give the nursing team enough time to safely admit you, take any bloods, and to ensure that everything is as it should be prior to you having your total knee replacement surgery.

Your surgeon and anaesthetist will also likely want to talk to you prior to them starting their theatre lists for the day. Your surgeon will want to ensure that you fully understand the planned procedure, check your consent form, and draw a mark on the leg that is to be operated on.

Theatre expectations

Please be aware that the surgical list order is usually arranged and prioritised upon medical criteria. This does mean that some patients may have to wait a little while for their surgery, but the nursing team will keep you up-to-date of any changes to your surgery timings.

Members of the theatre team will wear special clothing, including hats and masks, while the surgeon and scrub nurses will also wear helmets and gowns in order to reduce the risks of surgical infection.

Anaesthetic

Before your surgery can begin, your anaesthetist will need to administer anaesthetic. Most patients have their knee replacement under a spinal anaesthetic which numbs your legs, hips and lower abdomen. This is administered into your lower back and means you'll be awake for the procedure but won't feel any pain.

It is often combined with sedation which will allow you to not be as awake during your operation and, whilst not a full, or general, anaesthetic, many patients sleep through their procedure with this technique. A spinal anaesthetic typically supports a faster recovery than a general anaesthetic.

If you'd prefer to receive a general anaesthetic, simply discuss this with your anaesthetist. This is administered through your veins and sends you to sleep for the entirety of the surgery. Whilst this is also an effective type of anaesthetic, some patients experience an unpleasant "hang-over" effect after their surgery, which can make them feel sick for some time and the recovery be a little slower. A nerve block may also be given in conjunction with both the spinal and general anaesthetics, and will help to numb the nerves in your leg during your surgery.

Once your anaesthetic has 'taken effect' your surgeon then carefully positions you on the operating table and prepares your leg with an antiseptic solution. Your surgeon then makes an incision on the front of your knee, and the total knee replacement surgery described earlier begins. During your operation we are happy for you to listen to some music of your choice, as this has been found to help reduce anxiety.

Following your surgery, you'll spend some time in the recovery unit. Our nurses will be keeping a close eye on you until you're ready to return to the ward.

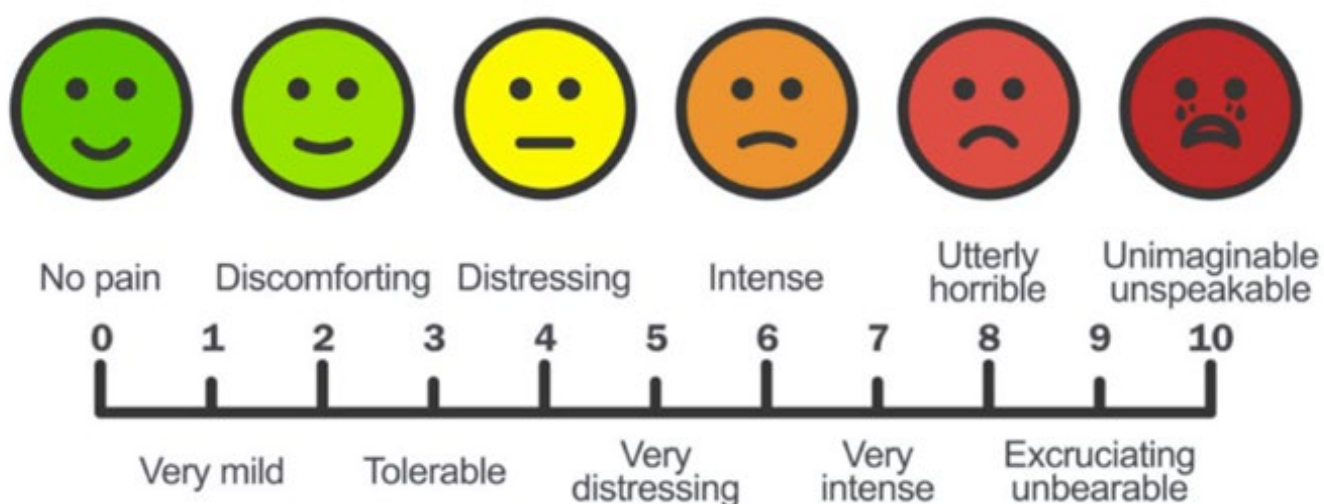
Returning to the ward

The inpatient nursing team will continue to monitor:

- Your blood pressure, pulse, temperature, respiratory rate and oxygen saturation levels.
- Your pain levels.
- Your bladder and bowel function.
- Your surgical wound.
- The return of sensation and power to your lower limbs.

As the anaesthetic wears off, it's normal to experience some discomfort. The nurses will provide regular pain relief to help manage this.

You will be asked frequently to rate your pain on a scale of 0 - 10 to gauge how effective your pain relief is. Try to be aware when your pain is climbing above four as catching it early can make the pain easier to control.



Please make the nursing staff aware if you feel your pain levels are not manageable.

When the anaesthetic wears off, you'll start to regain the feeling in your legs. At this point, one of the nurses or physiotherapists will assess whether you're ready to start moving. If this is the case, you'll be encouraged to get out of bed. Research has shown that the earlier a person gets out of bed, starts walking, eating and drinking after total knee replacement surgery, the speedier their recovery time will be.

If it was agreed at pre-assessment, and the multi-disciplinary-team believe it is safe to do so, it may be possible for some patients' to go home as a day case, following their total knee replacement surgery. Day case discharge will not be possible for everyone. Even if you were initially planned as a day case you may have to stay overnight if the medical, nursing and physiotherapy teams are not entirely satisfied that you are safe to be discharged as a day case.

Your surgical dressing

The dressing applied to your wound after surgery is a specialist post operative wound dressing, which is designed to soak up any leakage from your wound. This dressing should stay on until your clips and sutures are removed between 10-14 days after your surgery. You might see a small amount of bloody fluid within the dressing itself, but if this becomes excessive, please get in touch with us for advice.

Exercises to do while on the ward

Deep breathing exercises help maintain a clear chest: take a deep breath in through your nose so that your ribcage expands, then slowly exhale through your mouth. Repeat three more times and then cough. Please repeat this exercise every hour.

Foot and 'ankle pumps' are important circulatory exercises which help to reduce the risk of a DVT. Vigorously move both feet up and downwards for 60 seconds, every 30 minutes during the day.



After your total knee replacement surgery



The day after your total knee replacement surgery

Getting up, mobilising and starting to be independent after your surgery is very important. This helps speed up your recovery, and reduces the complications associated with prolonged bed rest.

While the medical and nursing teams will continue to assess and monitor your health, you will also be seen by a member of the physiotherapy team. They will make sure you can move around safely after surgery.

How to get in and out of bed safely

Most people find it easier to get into bed using the non-operated leg first, and getting out of bed using the operated leg first. However, if you prefer, it is fine to do the opposite of this too, unless doing so causes you a significant increase in pain around the knee.

When getting into bed always position your bottom near to the pillows as this will reduce the need for you to have to shuffle up the bed once you are on it.

Reaching back for the bed with your arms, slowly lower yourself down in order to sit on the edge of the bed. You may find it more comfortable to bring your operated leg forwards, and non-operated leg back whilst sitting down.

Using your hands on the bed to help, shuffle your bottom backwards towards the middle of the bed. Then turn your body and swing your legs around, so that you are lying comfortably in the centre of the bed.

To get out of bed, reverse these steps and remember to sit comfortably on the edge of the bed for a few moments before standing. This will allow your body time to adjust to a more upright position, and reduce your risk of falling.

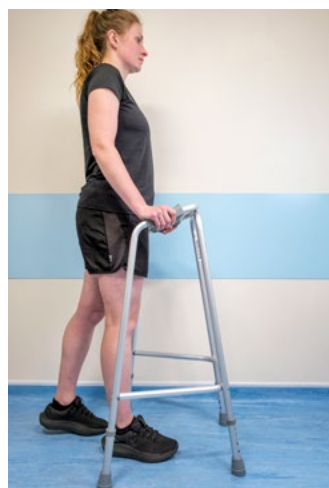
How to mobilise safely

Mobility aids are used to give you extra support and reduce the load on your new knee joint in the early stages of your post-operative recovery. Initially you will be shown how to use a walking frame and then if you are safe and comfortable to do so, you will progress to using elbow crutches.

Whilst your walking pattern may change as you get more confident, to begin with your walking pattern should be:

- Move your walking aid forwards.
- Step forwards with your operated leg.
- Step forwards with your good leg.

Frame use - FOG



Frame

Operated leg

Good leg

Crutch use - COG



Crutches

Operated leg

Good leg

Walking distances

The amount you need to walk each day often depends on your individual fitness levels. Initially you should try and walk 'little and often' around the house, perhaps every hour. As you become more confident you can set yourself realistic targets to try and increase your walking distances on a daily basis.

Practice walking short distances or time periods on your driveway, path or even street. As this becomes easier you can then slowly progress your walking time or distance, but make sure that you only build things up gradually.

If you notice that your knee and leg are becoming significantly more painful and

Initial post-operative exercises:



swollen as you start increasing your walking distances, your body is telling you that you are walking too far. If this is the case, listen to your body and rest, reduce your walking time and distances for a few days and increase your use of ice packs and elevation of the leg.

Start your home exercises

The following exercises are needed to improve the range of motion and strength in your new knee joint. While these exercises are likely to be uncomfortable at first, you must persevere and take ownership for doing them three times a day. To have a good outcome your new knee needs to be able to move freely and to be strong - completing your daily exercises will support this.

Static quadriceps

Sitting up with your legs out straight. Tense and tighten your thigh muscles.

Hold for 10 seconds, then relax. Repeat 10 times.

Active knee extension

Sitting with your legs out straight. With your operated leg, point your toes to the ceiling, tense your thigh muscle whilst pressing the back of your knee down into the bed.

Hold for 10 seconds, then relax. Repeat 10 times.

NB To progress this exercise further, you can place a rolled up towel underneath your ankle.



Short arc quadriceps

Sitting with a rolled-up towel underneath the knee on your operated leg. Keeping the back of your knee on the towel, point your toes up to the ceiling and lift your heel off the bed.

Hold for 10 seconds, then in a controlled manner lower your foot back to the bed. Repeat 10 times.



Straight leg raise

Sitting up with your operated leg out straight, point your toes to the ceiling, tense your thigh muscle and lift the leg up off the bed.

Hold your leg in this position for 10 seconds, then slowly lower your leg back down. Repeat 10 times.



Static hamstring

Lying on the bed with your operated knee slightly bent (as shown in the picture) gently push your heel downwards into the bed, so the muscle on the back of the thigh is tense and tightened (no movement should occur at the knee).

Hold for 10 seconds, then relax. Repeat 10 times.



Seated active knee flexion

Sitting up straight on a sturdy chair so that your feet are supported on the floor.

Slide your foot backwards on the floor (which will bend your operated knee) as much as possible.

Hold the tension for 10 seconds and return to the starting position. Repeat 10 times.



Seated active assisted flexion

Sitting up straight on a sturdy chair. Cross your ankles with the good leg on top of your operated leg.

Move the foot on the operated leg backwards by bending your knee, assisting the movement with your good leg.

Hold this position for 10 seconds, then return to the starting position. Repeat 10 times.

Safely climb the stairs

Even if you do not have stairs at home it is a good idea to practice your technique in a safe and controlled environment. You are likely to come across stairs and steps in the early stages of your recovery, and being confident with your technique reduces the likelihood of you falling.

It is always advisable to use any available handrails you have in situ at home. The following explanation assumes that you have one handrail on your stairs. Please discuss your individual circumstances with your treating physiotherapist, who can advise you of the correct procedure if you have two, or even no handrails.

Getting upstairs safely:



1. Using the handrail for support move your good leg up one step.



2. Then move your operated leg up onto the same step.



3. Then move your crutch(s) up on to the same step.



4. Repeat this process for each subsequent step.

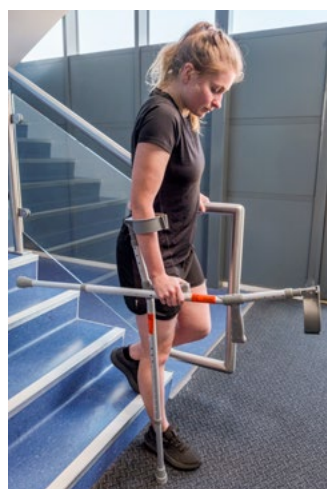
Getting downstairs safely:



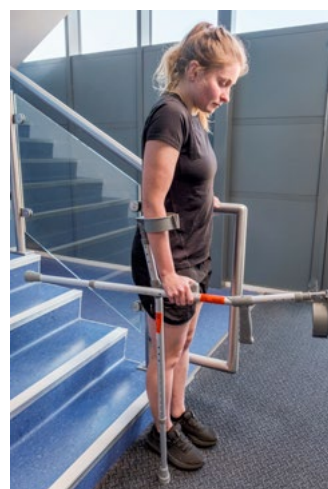
1. Using the handrail for support move your crutch(s) down one step.



2. Then move your operated leg down onto the same step.



3. Then move your good leg down on to the same step.



4. Repeat this process for each subsequent step.

Before leaving the inpatient ward for home

Please make sure you have packed all your belongings. You will be able to travel home by car, please arrange a lift with family and friends. If you are unable to arrange your own transport this can be done through your local community transport service. Please see your GP's surgery for more information.

You will be given wound care advice, including when and where you will need follow up wound dressing appointments.

You won't need to wear surgical stockings unless advised otherwise. You will however, need to take your full course of blood thinning medication.

You will be given your initial post-operative medications, once they have been checked by the nursing and pharmacy teams.

Upon leaving the hospital, we'll give you a discharge letter with information about your operation. We'll send a copy of this in the post to your GP to let them know how the operation went. You'll also be asked to complete a survey about your experience with us. This isn't mandatory but we love to hear your feedback!

Please let us know if you need a wheelchair to get to the hospital entrance. One of our team will be happy to help.

We will make a follow-up appointment at six weeks to see how you are progressing.

How to get in and out of a car safely

Before getting into the car, ask the driver to move the seat all the way back and recline the chair slightly to give you plenty of room to get in.

If the car is particularly low, sitting on a cushion can raise the seat height. Putting a plastic bag on the seat can help reduce friction, making it easier to swivel into a seated position.

Use your walking aid(s) to back up to the car until you can feel the car door sill on your legs.

Give the driver your walking aid(s) and place your hands on the car dash and/or door frame. **Don't hold onto the car door** as you risk pulling it towards you.

Gently lower yourself down onto the car seat, and then push yourself back until you have reached the back of the seat where the handbrake is.

Finally, lift your legs into the car as you turn your body to sit in your seat.

To get out of a car, reverse the steps above, remember not to pull up on the car door, and only hold your walking aids once you are stood safely.

Managing pain at home

You will be prescribed pain relief upon returning home. It is important that you take this regularly, as this improves the medication's effectiveness, so making your rehabilitation easier.

Remember, the aim is to keep your pain levels below a four out of 10 on the pain scale from page 20. With this in mind, it's important you don't run out of pain relief medication. If you do, your GP will be able to prescribe more.

In addition, if you feel the medication is not helping to keep your pain levels down, please discuss this with your GP, as alternative medications that work better for you may be available.

Managing swelling at home

It is normal to have some post-operative swelling after your knee surgery. This can also affect the foot and ankle. You can help manage this swelling by elevating your leg regularly with an ice pack (a bag of frozen peas wrapped in a pillow case will suffice) for 20 minutes every two hours.

Caring for your wound

It is very important that your wound heals quickly as this helps to reduce the risk of infection. As discussed earlier on page 11, eating a healthy diet is extremely important for supporting good wound healing. Normally the following process is followed:

- All clips and sutures will need to be removed between 10 and 14 days post-surgery. If you are an NHS patient you will need to arrange an appointment for this to be performed at your GP practice.
- Please do not try to change the dressing yourself.

- If you do not have clips and sutures, we will inform you of this prior to discharge.
- The wound should be kept dry until your clips and sutures are removed.
- We use a special waterproof dressing that allows you to wash or take a shower.
- Spare dressings can be provided for you, if required.
- If you notice any leakage, redness, increased pain or an offensive smell coming from your wound, please contact the inpatient ward for further advice.

Bathing and showering

Unless otherwise advised, you can shower with the dressing on that you leave hospital with. Once you have this dressing, and the clips and stitches underneath removed, the treating healthcare professional will advise you when it is OK to have a shower.

It is best to avoid fully submerging your knee in the bath for at least six weeks (and until the wound is completely healed) after your surgery.

Causes for concern

Please contact your GP, 111, or Practice Plus Group hospital if you experience any of the following:

- A severe, sudden increase in pain around the knee joint or leg which cannot adequately be eased with pain relief.
- Any shortness of breath or pain when breathing.
- A painful, tight, swollen leg that is red and hard.
- Persistent leaking of the wound, a painful wound that was previously settled, or if the wound appears much redder or hotter than normal.
- Any signs of **sepsis - a severe raise in temperature, shaking, confusion, struggling to pass urine, red dots on the skin or nausea**. Please contact your local Practice Plus Group hospital, GP or 111 initially, to assess whether you need to attend A&E.

If you have any mobility or equipment concerns, please contact us.

Frequently asked questions

How long will I have pain for?

Total knee replacement surgery is an extremely invasive surgery so it is likely that you will continue to experience some pain and discomfort for several weeks.

Good pain control is important, as it allows you to complete your post-operative rehabilitation, which supports your overall recovery after total knee replacement surgery. While you will be given your initial post-operative medications before you

leave the inpatient ward, if you find that you are struggling with your pain levels please contact your GP for further support.

Why is my knee stiff?

Stiffness is quite normal, and is to be expected for between six and 12 months after total knee replacement surgery. It is usually caused by a combination of excessive swelling, tight muscles and scar tissue. Total knee replacement surgery is primarily performed to help reduce pre-operative pain levels, and it is not necessarily guaranteed to give you improved flexibility and functional ability.

How long you experience stiffness depends on the following factors:

- Your age.
- Activity levels.
- The mobility of your knee pre-surgery.

If you have had a long history of knee stiffness prior to surgery, this is likely to continue to some degree after your surgery. To help reduce the risk of knee stiffness it is important that you fully engage with, and complete the exercises given to you following your surgery. If you are assessed to be at particular risk of knee stiffness, you'll be offered further post-operative physiotherapy. From these sessions you'll get a home exercise plan tailored to your specific needs aimed at reducing your knee stiffness.

Is it normal to have disturbed sleep at night?

As with sitting, sleeping in bed at night involves you keeping your knee in a stationary position for a prolonged period of time. During such circumstances it is normal for your operated knee to stiffen

up, become uncomfortable and disturb your sleeping pattern. This may be the case for several weeks during the initial stages of your recovery.

As discussed earlier it is quite normal for the knee to feel stiff in the first few months following surgery, sometimes this can last between six and 12 months. This is usually caused by a combination of excessive swelling, tight muscles and scar tissue, and tends to be most apparent after a prolonged period of inactivity, such as sitting or sleeping.

How long will I have swelling for?

After any major surgical procedure, it is normal for tissues to become swollen. This process can last for several months. Gravity and activity levels can influence the amount of swelling, and it is important to elevate your legs two to three times throughout the day. The most effective position for elevating your leg is lying flat on your bed with two or three pillows underneath your leg (supporting your leg from mid-thigh to ankle). If you are struggling with large amounts of swelling, consider reducing your activity levels and resting your knee more frequently. Any swelling present pre-operatively may not disperse, and typically prolongs your post operative knee swelling.

Is it normal to be bruised after total knee replacement surgery?

Bruising is a common side effect of surgery, and can take a few days to appear. It can also travel away from the operated joint through gravity to the foot and ankle, and can last for a few weeks. Ice and elevation can assist with swelling and bruising control.

Why is my scar warm?

When tissue is healing it produces heat. With this in mind, it's normal for the skin around your scar to feel warm to the touch. This can last weeks or even months after your surgery.

Why is my wound feeling tight?

Wounds heal through the formation of new scar tissue. Scar massage can help make the wound site more flexible and can be performed once the nurse is happy that the wound has completely healed and all scabs have dropped off.

When can I take my dressing off?

Once the clips and/or staples have been removed, the nurse will advise you when to remove your dressing.

How do I know if I have overdone things?

Trying to get a fine balance between activity and rest can be difficult. Generally, overdoing things will lead to increased levels of swelling and heat around the knee joint, which then causes increased discomfort and pain for several days. It is therefore important that you gradually build up the amount of a particular activity that you do throughout the day. Listen, and then rest, if your body is telling you that it has had enough.

How far should I walk?

This will vary depending on your individual fitness levels. Set yourself realistic targets, building up your walking distance steadily on a daily basis. Overall, your exercise tolerance will improve and the distance you cover will increase. As above, listen, and then rest, if your body is telling you that you are walking too far.

When can I walk without crutches?

Usually, you will return home with a pair of elbow crutches. If your surgeon has told you that you are full weight bearing, you'll be able to switch to one crutch in the three weeks following surgery.

Make sure you always use the one elbow crutch on the non-operated side, stepping with your crutch and operated leg together. It is advisable to get used to using one elbow crutch indoors, before then trying it outdoors.

Do not discontinue your crutches completely unless you can walk without a limp. Speak to your physiotherapist if you feel you need more advice.

How long should I do my exercises for?

Please complete your exercises as instructed by your physiotherapist. Continue your exercises and increase your functional activities until you have reached normal levels at around 12 weeks, although this might be longer depending on the speed of your recovery and any particular goals you may have set yourself.

Why does my knee joint click?

Your new knee joint can take up to several months to fully settle, so it's common to hear a clicking sound as you move around. This is likely just the soft tissue healing.

When can I drive?

You should not drive (either an automatic or manual car) for six weeks following total knee replacement surgery.

After six weeks you may drive if you are comfortable to do so, can perform an emergency stop, and are confident that you can safely operate all the controls of

your particular vehicle. We recommend that you initially try this while the car is stationary. It is also advisable to contact your insurance company to check their individual policy requirements, as insurance companies may require you to be signed off as fit to drive.

When can I return to work?

Returning to work will depend on the nature and physicality of your particular job, but it is usually between six to 12 weeks after your surgery. You may be able to negotiate a phased return to work or lighter duties as required during the initial transition of returning to work.

When can I go swimming?

You should not swim for six weeks following total knee replacement surgery. Before you do get back in the pool, you need to make sure your wound is fully healed. As with walking, you should start slowly and avoid breaststroke legs for up to 12 weeks or until your knee feels more comfortable.

When can I return to the gym?

This will depend on your previous gym experience and fitness levels. Low impact activities such as cycling are encouraged. High impact activities such as running should be avoided initially, but can be discussed at your six week review appointment.

When can I sleep on my side?

If you prefer to sleep on your side, try it out as soon as it feels comfortable. If you do experience pain, try a different position. Normally, knee replacement patients find it easier to sleep on their non-operated side with a pillow between their knees.

If you try side sleeping and experience marked discomfort or pain around the knee joint then you should stop.

When is it safe for me to fly?

If you have had no incidence of DVT or PE following your surgery you may fly short haul (less than four hours) from six weeks after your total knee replacement surgery.

Long haul flights (more than four hours) should only be considered from 12 weeks after your surgery.

We recommend that you complete circulation exercises every 30 minutes throughout the flight, wear compression stockings, and if possible book a seat with extra leg room.

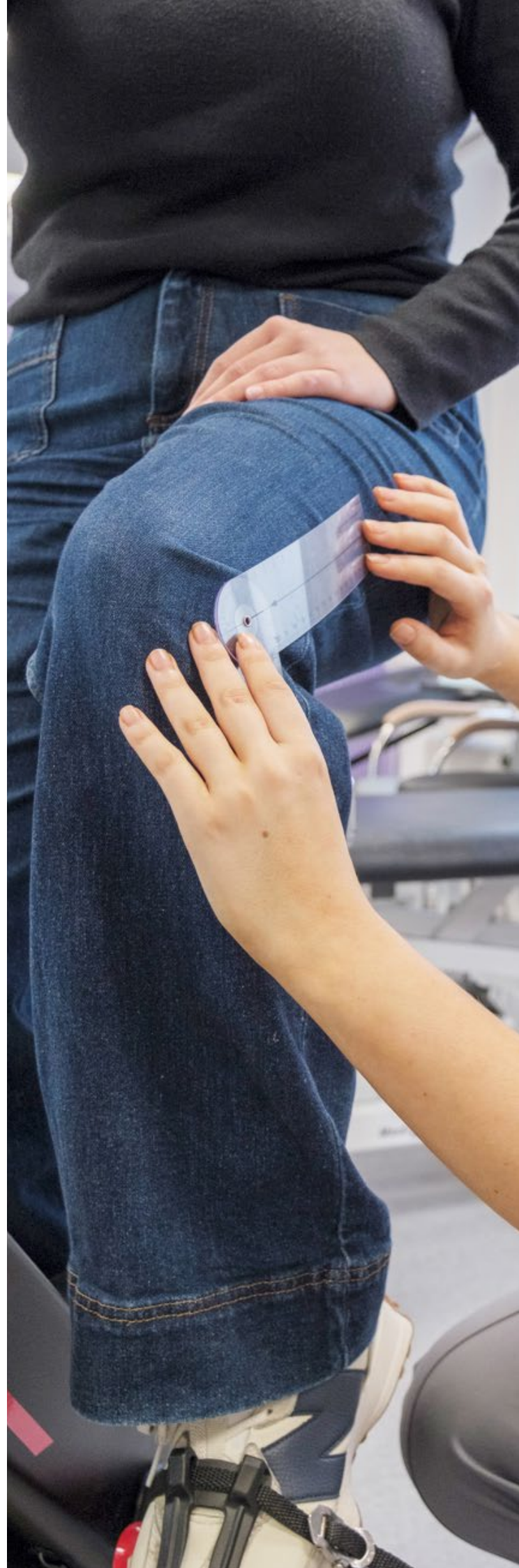
Where should I return my post-operative equipment?

Please return all mobility and home equipment to us at the hospital (unless you have been advised otherwise). This equipment will then be returned and repurposed with our equipment supplier.

When is it safe to have sex after surgery?

We are happy to provide an information booklet upon request.

Download our post-surgery sex and intimacy guide using the QR code below.



Appendix 1: Pre-operative knee exercise progressions

Intermediate pre-operative exercises;



Prone knee hangs

Lying face down on a table/bench with your lower leg over the edge. Let the weight of your feet straighten your knees.

Hold for 10 seconds. Repeat 10 times.

NB To progress this exercise further you can place a small weight around your ankle.



Seated quadriceps (with VMO bias)

Sitting up straight in a chair, so your feet can touch the floor.

Turn your foot on the bad leg slightly outwards and then fully straighten your knee using your front thigh muscles.

Hold for 10 seconds, then slowly lower your leg back down to the starting position. Repeat 10 times.



Resisted knee flexion in sitting

Sitting on a chair with your foot behind the bad leg. Bend your knee by pushing the bad leg backwards against the resistance of the good leg.

Hold for 10 seconds, then relax. Repeat 10 times.



Sit to stand with no arm support

Sitting upright with good posture. Place your arms across your chest. Gently lean forwards and use as much leg and core strength as you can to push yourself up. Once upright, stand up straight. When you feel comfortable, slowly sit back down, ideally with your arms across your chest. Try to keep a straight spine during the sitting.

Repeat 10 times.

Advanced pre-operative exercises;



Sit to stand with 'bad leg bias', and no arm support

Sitting upright with good posture. Have your bad leg slightly behind the good leg and place your arms across your chest. Gently lean forwards and use as much leg and core strength as you can to push yourself up. Once upright, stand up straight. When you feel comfortable, slowly sit back down, ideally with your arms across your chest. Try to keep a straight spine during the sitting.

Repeat 10 times.



Chair squats

Stand up, and position yourself in front of a chair. With your arms out in front of you bend your knees to go into a squat position and touch your bottom on the chair. Then, push up and go into the standing position. Throughout the exercise, keep your knee in-line with your foot, do not let your knee drift outwards or inwards. Also keep your hips and pelvis level as you squat. Be careful not to slump forwards as you squat and maintain good posture.

Repeat 10 times.



Seated quadriceps with an ankle weight

Sitting up straight in a chair, so your feet can touch the floor with a small ankle weight on your bad leg. Point your toes to the ceiling and then fully straighten your bad leg.

Hold for 10 seconds, then slowly lower your leg back to the starting position.

Repeat 10 times.



Mini lunges

You should keep your hips, knees and toes aligned on both legs whilst completing this exercise.

Stand tall (if needed next to a solid surface such as a worktop for support) with your feet shoulder distance apart. Take one step forwards, bending your knee in a lunging motion (your rear knee will lower towards the ground but your hip should remain fully straight).

Hold for 5-10 seconds, then slowly stand back up by pushing through your heel, then bringing your front foot back to the starting position. Repeat 10 times.



Step up

Standing in front of a step. Step up 10 times with one leg leading and then repeat with the other leg.

Appendix 2: Patient self-assessment tool

This “patient self-assessment tool” can help you to monitor your progress once you return home. Your physiotherapist will go through this with you before you are discharged home.

Bending your knee

Take a tape measure and a stick/crutch.

To assess: Sit in a chair with the knees bent and work towards achieving maximum knee bend with your foot tucked right back underneath the chair.

Hold the stick in front of the knee vertically so the base of the stick rests on the floor directly in front of the toes (not on the foot). Measure and record the gap (A) between the stick and your knee. The gap should decrease the more you bend your knee. You are aiming for the stick to touch the knee (B).



(A) Measure and record the gap between your crutch and knee.



(B) Aim for no gap between the crutch and the knee.



(C) Further improvement shows a gap between the toes and crutch.

If you have achieved this target, you are doing well as far as movement is concerned. You should aim to improve further by achieving a 2-inch gap between the stick and the toes when this plumb line assessment is done (C). This will achieve 110 degrees knee bend. For a more active lifestyle you should aim to take your foot back even further as you should be able to achieve 120 degrees knee bend following a total knee replacement. Refer to appendix three on page 42 to keep track on your progress.

