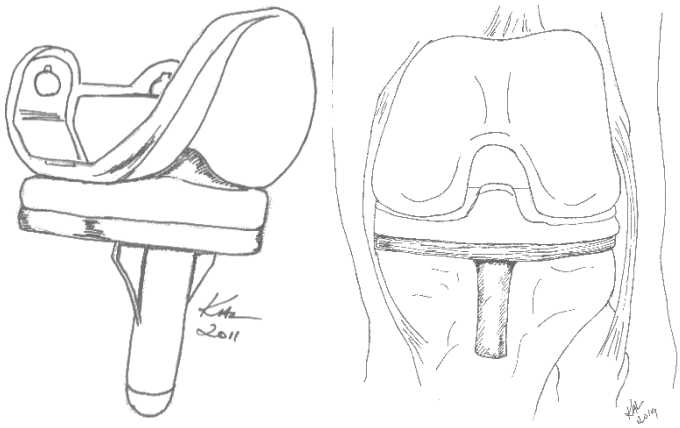
Advice and exercises after total knee replacement

This leaflet is for people who have a total knee replacement (TKR). It gives general advice following surgery to help you regain strength and mobility, and information to help you to get the maximum benefit from your new knee. If you have any queries, please ask your physiotherapist.

Introduction

Total knee replacement



A total knee replacement is usually done for severe arthritis and primarily used to treat pain.

In most cases, you will regain the range of movement you had pre-operatively and sometimes a little more, but it will not allow you to fully squat or sit back on your heels, and they are not made for high impact activities like running and jumping. You are likely to be aware to some degree that you have had a knee replacement. It is common for pain to persist along the joint line for up to two years after the surgery.

During the surgery, the end of the thigh bone (femur) is replaced with a metal component, the upper end of the shin bone (tibia) is also replaced with a metal component and a plastic spacer inserted between the two.

For a total knee replacement, a skin incision is made down the front of the knee and the underlying tissues moved to one side of the kneecap (patella). The patella is then deflected to one side. This stretches the muscles around the knee, resulting in bruising, swelling and weakness so it is very important to start your exercises early to overcome these problems.

After your operation

Pain

- Having a joint replacement will relieve the arthritic pain from the joint itself, but because of the trauma to the soft tissues surrounding the joint during surgery, you may experience some pain. Taking regular pain relief and following the guidelines in this leaflet should help minimise this.
- If the pain relief provided is not enough, please let the nursing staff or your doctor know so they can give you further pain control medication.
- On discharge from hospital, some pain may persist for a further few weeks / months and you should use this as a guide when increasing your daily activities. A moderate ache that settles quickly is acceptable, severe pain that takes hours to settle is not.
- If you experience sharp pain, **stop the activity immediately**, and if symptoms persist contact your GP for advice.

Swelling

- Your knee / calf may swell for up to three months or more after your operation.
- If this happens, sitting with your leg up and applying an ice pack will help ease the swelling. You may use crushed ice, a gel pack or a pack of frozen peas, which must be wrapped in a damp towel or tea towel before being placed on the knee.
- **Do not keep the ice pack on any longer than 10-20 minutes**. Any longer than this, the body will increase the blood flow to the area in an attempt to warm the tissues up again. This will make the swelling worse. Leave 20-30 minutes between applications.

Wound care

- The knee is likely to remain slightly warm for up to 3-6 months after your knee replacement.
- On discharge from hospital, you must arrange an appointment with your GP practice nurse for a wound check 10-12 days post-op to either remove clips or to trim sutures, depending on which option was used.
- If you have any concerns about your wound, e.g. it is red, weeping or bleeding, please call the **Orthopaedic Outpatients Department on 0118 322 6938.** Please note this is an answer service only. It is checked in the morning on working days only (not weekends or bank holidays). Leave a message and we will contact you with an appointment as soon as possible.
- If you feel that the problem cannot wait, leave a message and then either contact 111 for advice or attend your local emergency department (A&E). If you feel unwell or feverish, and particularly if the wound appears infected, please attend your local A&E as soon as possible.

Standing and walking

- You will be able to get out of bed the same day as or the day after your surgery.
- You are able to put all your weight on your operated leg but initially, this will likely be limited by pain.
- When walking, make sure that both steps are equal in length, try to spend the same amount of time of each leg and always put the heel of the foot to the ground first.
- When you first get up your physiotherapist will give you a walking aid to help. This is usually a frame and you will then progress to crutches or sticks as able.
- When walking, you should move the walking aid/s forward first, followed by the operated leg then the un-operated leg last.
- You should keep using two crutches or walking sticks until you can walk without a limp.
- You may progress to one crutch or stick around the house when you are confident, and to one stick / crutch or none when you no longer have a limp and are confident to do so, both indoors and outside.
- Once independently mobile and managed the stairs (if required), you can go home. Please note that this could be the same day as the operation.

Standing from a chair

- Place operated leg out in front of you.
- Push up with both hands on the arms of the chair, once balanced place hands on the frame.
- Do not use the frame to pull yourself up.
- OR push up with one hand on the arm of the chair, while holding your crutches or sticks in the other hand.
- Once balanced, place crutches or sticks in both hands.

Sitting down

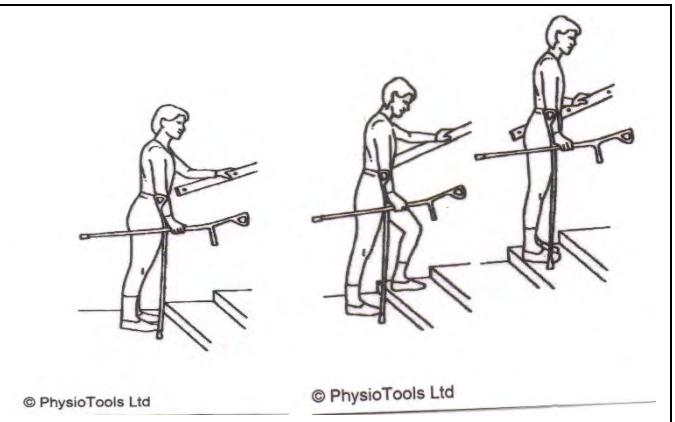
- Stand close enough to feel the chair against the back of your legs.
- Place operated leg out in front of you.
- EITHER let go of the walking frame and reach back to the arms of the chair with both hands OR place both crutches / sticks in one hand and place the other hand on the arm of the chair.
- Gently lower yourself into the chair.



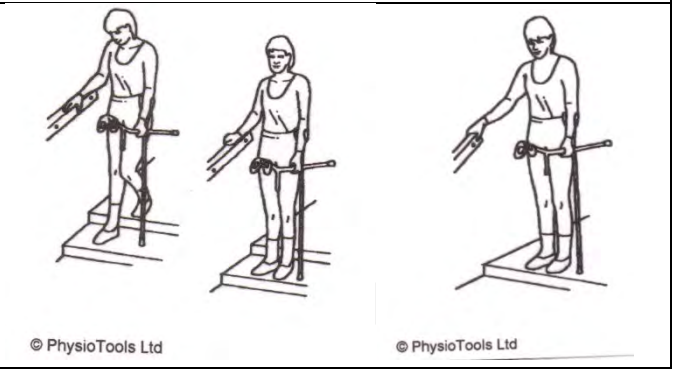
Stairs

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- To begin with, it is better to go up or down the stairs one step at a time.
- Place the crutches / sticks in one hand and hold onto the rail with the other.
- Going up, you should place the un-operated leg on the step above first, followed by your operated leg and crutch/stick.

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- Coming downstairs, you should place your operated leg together with your crutch / stick onto the step below first, followed by your un-operated leg last.

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Kneeling

- You will not do any harm to the knee replacement by kneeling on it.
- Some people can kneel on the knee within a few weeks of their surgery and some people never find it comfortable to kneel.
- Once the scar is comfortable, start by kneeling on a soft surface, e.g. the bed.
- Once you can comfortably kneel, try a firmer surface; you may find it beneficial to use a cushion or kneeling pad.

Functional activities

- Avoid jarring and twisting activities, such as pushing a shopping trolley or vacuuming, for 6-8 weeks.
- You should avoid having a bath until the wound is fully healed and you are able to get out of the bath again; this is unlikely to be before 6 weeks.
- If you have a walk-in shower, you can use it immediately as the dressing is showerproof. Always take your time and try to hold onto something solid when stepping in and out, or have someone with you. It is advisable to use an anti-slip mat for safety. If a separate shower is unavailable, we recommend a strip wash.
- You may find that standing up to strip wash is uncomfortable, so sitting on a chair or stool may be easier.
- Dressing – you may have problems putting clothes over your operated foot and leg. Try dressing your operated leg first and undressing it last. If this is still difficult, your occupational therapist can advise you on which dressing aids may help.
- Preparing food and drink – you may find that standing up to prepare food and drinks is uncomfortable. It is advisable to sit on a chair or stool in the kitchen.
- You will return home with walking sticks or crutches and so will find it difficult to carry food and drink from the kitchen, so it is advisable to organise an area in the kitchen to eat meals, particularly if you live alone.

Before admission

Also consider in advance how you are going to manage domestic activities such as shopping, cleaning, putting out the dustbin and feeding pets after surgery.

Driving

- Do not drive until you can do an emergency stop. Normally this will take about 6 weeks.
- In order to drive, you should be relatively pain-free, not be heavily dependent on walking aids, have a good range of movement and your reflexes should be good enough to do an emergency stop.
- Even then, you should take it easy to begin with and have a ‘test drive’ with an experienced driver before you go out on your own.
- You need to contact the DVLA and your insurance company if you are not driving after three months because of the knee replacement. Failure to do so can result in a fine and prosecution if you are then involved in an accident.

Work

- If you plan to go back to work after your operation, you should check with the surgeon when this would be appropriate.
- If you need a fit note for your employer, please ask the nurses before you leave hospital. Further certificates can be obtained from your GP.
- You can usually return to work around 4-8 weeks following your operation if you have a sedentary (non-active) job. A job that includes more physical activities, such as prolonged walking, standing or heavy lifting, may require up to three months off.

Sports / hobbies

- If you wish to return to sport, consult your surgeon before doing so.
- Walking and swimming are encouraged but sports that call for jogging or jumping, or contact sports are not.
- Golf – can start playing at 8-12 weeks but start with chipping and putting before playing 9 or 18 holes. Avoid the driving range for up to three months as the repetitive twisting can aggravate the knee.
- Gardening is fine but take care with heavier work such as digging. Start very gradually and do not increase the amount of activity until you feel confident and have suffered no adverse symptoms. Invest in a kneeling stool for weeding etc. If you cannot kneel, long handled tools may help.

Travelling

It is not advisable to fly within six weeks of having a joint replacement due to the increased risk of developing venous thromboembolism (VTE) – blood clot. Long haul flights should be avoided for three months.

Follow-up on discharge

Your clinic appointment will be arranged by the ward team for 6-8 weeks after discharge.

Please note this appointment will be with a specialist physiotherapist, not a doctor.

Physiotherapy follow-up is also arranged, dependent on circumstances and where you live.

If haven’t heard from the physiotherapists within 2-4 weeks of your operation, please ring the number at the end of the leaflet.

Day 0 (day of surgery)

Mobilising

- You can get up today.
- We will provide you with the most appropriate walking aid for you; this is likely to be a frame initially. Once you can mobilise round the ward independently with a frame, you will be progressed to crutches or sticks.
- Once you are safe on crutches / sticks and can use the stairs, you may go home.
- **Please note that you may reach these targets and be discharged home on the same day as the surgery.**

<table>
<tr><td colspan="2">Start the following exercises on the day after your surgery and do them a minimum of 5 times each, 1-2 times a day with each leg. Your physiotherapist will help explain how to do them. If this results in no increase in your pain and swelling, you can increase the exercises to 10 times each, 3-4 times a day.</td></tr>
<tr><td>Static quads
Sit or lie with your leg straight out in front of you.
Tense your thigh muscles (quads) by pushing the knee down into the bed, pulling your toes towards you.
Hold for a slow count of 5-10.
Repeat 5-10 times.</td><td></td></tr>
<tr><td>Straight leg raise
Sit or lie with your leg straight out in front of you.
Tense your thigh muscles (quads) as for exercise 3, then lift your leg approximately 2 inches off the bed.
Hold for a slow count of 5-10.
Repeat 5-10 times.
It is essential that you at least attempt this exercise. Even if you are unable to achieve this straight leg raise you will still be working the muscles in your leg.</td><td>
© PhysioTools Ltd</td></tr>
<tr><td>Knee flexion on the bed
Sit with your back supported or lie flat.
Bend your knee up towards you and then slowly lower it back down.
Repeat 5-10 times.
Please note: A sliding board can be useful for this exercise, at home a tray and talcum powder or a plastic bag will work equally effectively.</td><td></td></tr>
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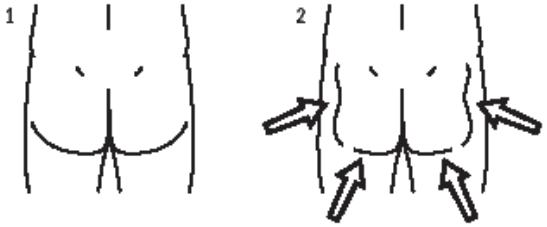
Static hamstrings

- Sit or lie with your leg straight in front of you.
- Pull your heel into the bed by tightening the muscle at the back of your thigh.
- Hold for a slow count of 5-10.
- Repeat 5-10 times.



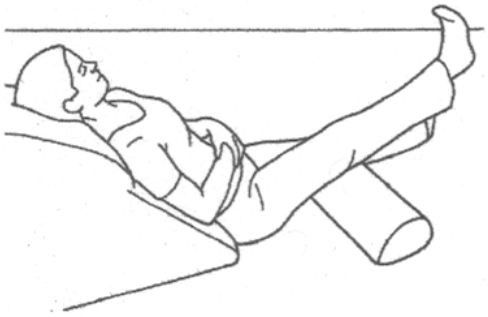
Static gluts

- Tense your bottom muscles.
- Hold for a count of 5-10.
- Relax.
- Repeat 5-10 times.



Inner range quads

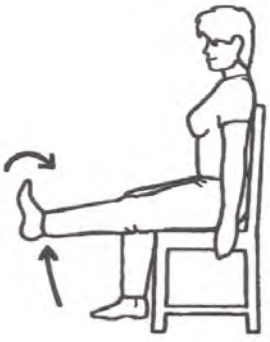
- Sit supported or lie on the bed.
- Place a rolled up towel wrapped around something solid like a tin under your knee.
- Straighten your knee, lifting your heel off the bed.
- Hold for a slow count of 5-10.
- Relax and repeat 5-10 times.



Once sat out in a chair you can also add in the following exercises.
Again, start with a minimum of 5 of each 1-2 times a day and increase as able.

Full range quads

- Sitting on the edge of the bed or in a chair.
- Pull up the toes of the operated leg, tense the muscles at the front of the thigh and straighten the knee.
- Hold for a slow count of 10 then relax.
- Repeat 10 times.



Knee flexion in sitting

- Sitting on the edge of the bed or in a chair.
- With your foot on the floor bend the knee as far as possible.
- Hold for 8-10 seconds then relax.
- Repeat 5-10 times.
- Please note that the scar tissue will tighten up in the first 6 weeks and it is very important to stretch early to achieve the maximum range of movement possible. After 3 months it becomes very difficult to improve flexibility.



Once home

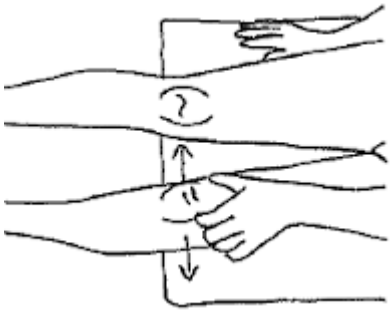
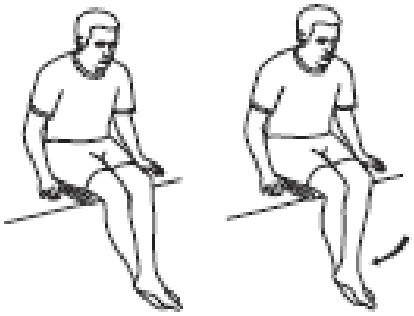
The following information and exercises are guidelines only. Everybody is an individual; some of you will find that you meet the targets documented easily and some of you will never achieve them. The same applies to the exercises; some of you will find them easy and others will not be able to manage them particularly the advanced ones. Only do those that you feel comfortable with.

Up to 2 weeks

Once home you must continue with the exercises you have been shown in hospital.

Be aware now that you are home you may feel more tired, this is normal and may take a few weeks to go away. You may still need to rest for part of the day.

You can also try the following exercises:

Patella mobs Your physio will show you how to move your knee-cap to prevent it from becoming stiff. Or watch: https://www.youtube.com/watch?v=ewsrnC2OTos	
Assisted knee bend in sitting • Sit in a chair, bend the operated leg as far as you can. • Cross the good leg over the front of the operated leg. • Give a gentle push with the good leg to increase the bend. • Hold for 8-10 seconds. • Relax, repeat 5-10 times.	
Resisted exercises in sitting • In sitting, cross your legs at the ankle with the operated leg underneath. • Use the top leg to resist as you straighten your knee. • Once the knee is straight, swap legs so that your operated leg is now on top. • Bend your knee providing resistance with the underneath leg. • Repeat 5-10 times.	

Using block in front of foot

- Sit in a chair, bend your knee as far as possible.
- Have someone block your foot with theirs or use something solid i.e. bottom stair or wall.
- Gently slide forward in the chair to increase the bend in the knee.
- Hold for 8-10 seconds. Repeat 10 times.



Passive hyperextension

This exercise is very good if your knee does not straighten fully because the muscles behind the knee are too tight.

- Sit in a chair, place the heel of your operated leg on a stool or chair with the knee unsupported.
- Push down gently with your hand on the knee.
- Hold for as long as tolerated.



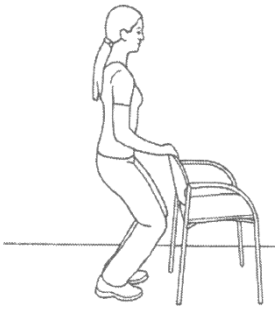
Heel raises in standing

- Standing, holding onto something solid.
- Rise up on your toes, lifting your heels off the ground.
- Relax.
- Repeat 5-10 times.



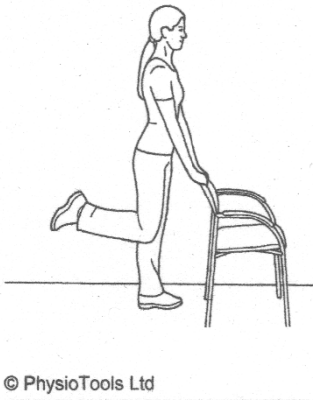
Half squats

- Standing, holding onto something solid, bend both knees.
- Go as far as you can comfortably then stand upright again.
- Repeat 5-10 times.



Knee flexion in standing

- Hold onto a support.
- Bend the knee behind you, lifting the foot off the floor as far as you can.
- Hold for 2-3 seconds then relax.
- Repeat 5-10 times.



2-3 weeks

Once the clips have been removed or the wound has healed if glued or sutured, you may start to massage the scar if you wish; this will help loosen and soften the scar.

Massage the scar with your thumb, making small circular movements along the incision. Change direction of the circles frequently. Do 10-15 circles in each area, then move about one inch along the scar and repeat.

Use of creams such as body lotion, vitamin E cream, cocoa butter or Bio-oil is purely one of personal choice. They will not harm the scar and will probably make the massage more comfortable.

By the end of week 2, you should be comfortable and confident walking around the house and will probably be using only one crutch / stick or none indoors.

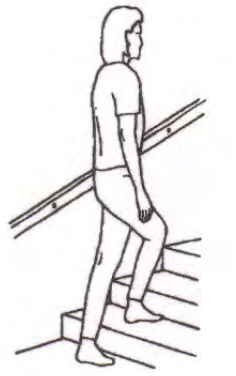
If you haven't mobilised outside the house, you should be able to do so now. Start by walking a few minutes in one direction and then back. Keep to sticks or crutches outdoors until you can walk without a limp or until you are confident to go without them. Gradually increase the distance you walk each day.

When negotiating a kerb, place both crutches down first, then the operated leg followed by the non-operated leg. Going up the kerb, put the non-operated leg first followed by the operated leg and then the crutches (the same as you would do for stairs/steps).

The following exercises are intended to help strengthen the quads muscles at the front of the thigh and to increase flexibility of the knee. This will hopefully increase your chances of managing your stairs normally. Only do them if you feel confident to do so.

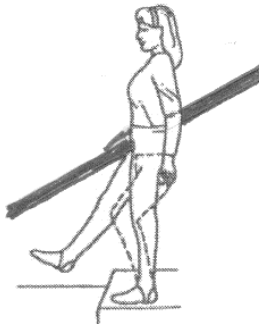
Step ups

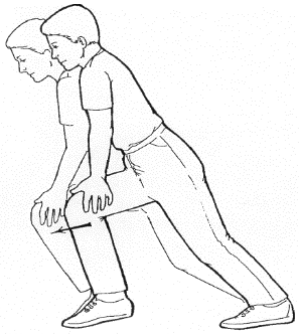
- Stand facing the stairs.
- Place your operated leg on the bottom step.
- Hold onto the banister, and try and lift you weight up on the operated leg and place your other foot on the bottom step.
- Lower the good foot back down to the floor.
- Repeat 5-10 times.



Step downs

- Stand on the bottom step facing down the stairs.
- Hold onto the rail.
- Try and lower your good leg to the floor.
- Straighten up and return foot to the bottom step.
- Repeat 10 times.



Foot on step to increase bend • Use a single step or the bottom stair. • Place the foot of the operated leg on the stair. • Hold onto the rail or something solid. • Keep your other leg straight and lean forward so that your knee bends more. • Lean forward till you feel a good stretch, hold for 8-10 seconds. Relax. • Repeat 5-10 times.	
Single leg balance • Hold onto something solid if you need to. • Put full weight onto the new knee and try and lift your good leg off the floor. • Hold for 20-30 seconds. • Repeat 5-10 times.	
Single leg heel raise • Hold onto something solid if you need to. • Put all your weight onto the new knee. • Raise yourself onto your toes, lifting your heel off the ground. • Hold for 8-10 seconds, relax. • Repeat 5-10 times.	

Week 4

From week 4 onwards, the knee will begin to move more freely and feel less stiff and more ‘normal’, although pain is likely to persist along the joint line.

You may have stopped using crutches or sticks around the house, but may be still using walking aids outside.

You can now use a static (exercise) bicycle if you have one. Make sure that the seat is low enough that you can mount comfortably and high enough that you stand the best chance of managing to pedal.

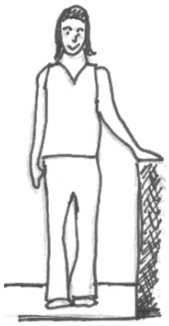
First move the pedal forwards or back until the knee cannot bend any further, reverse direction, do this for a few minutes as a warm up.

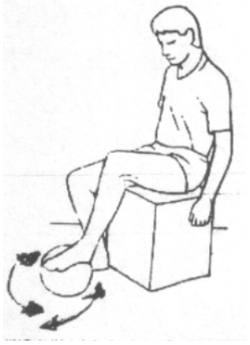
If after the warm up you still cannot pedal correctly, continue with the rocking motion pushing to end of range and holding for a few seconds.

Rock or pedal for 5-10 minutes three times a day.

Continue with the exercises that you are finding of benefit. Hopefully, you will have had contact from your local physiotherapy department, who will be able to guide you on which exercises to continue or how to make them more difficult to improve strength and flexibility.

The following exercises are designed to help improve your balance as well as strength and speed of movement:

Balancing with feet together Stand where you can hold onto something solid if needed. • Place both feet together. • Slowly let go with one hand, and then as you feel balanced let go with the other. • Hold for 10-15 seconds, repeat • 10 times. • Once you find this exercise easy, do it with your eyes shut.	
Balancing one foot in front of the other • Stand where you can hold onto something solid. • Place the heel of your TKR leg just in front of the toes of your other leg. • Slowly let go with one hand, and then the other. • Hold for 10-15 seconds, repeat 10 times. • Once you find this exercise easy, do it with your eyes shut.	
Rolling a ball forward and back while seated • Sitting in a chair, place a small football or similar sized ball under your TKR foot. • Start by rolling the ball forward and back for a few minutes as a warm up. • Next roll the ball back as far as possible, hold for a few seconds, then roll forwards. • Repeat 10-15 times.	

Rolling ball in small circles while seated • Sitting in a chair, place the ball under your TKR foot. • Roll the ball clockwise in a small circle ten times, then 10 times in the opposite direction. • As this exercise becomes easier, make bigger circles.	
Squashing ball into the floor • While sitting, place the ball under your TKR foot. • Try and squash the ball into the floor. • Hold for a slow count of 10. • Repeat 10 times.	
Inner thigh strengthening • Sitting in the chair, place the ball between your knees. • Squeeze your knees together, to squash the ball as hard as you can. • Hold for 5-10 seconds, then relax. • Repeat 10 times.	
Rolling ball while standing • Stand on your good leg holding onto something solid. • With your TKR leg roll the ball sideways and back, and round in circles, both clockwise and anti-clockwise. • Do 10 in each direction.	

If the wound has healed fully you can now start swimming if you wish. It is best to use front crawl or backstroke kick as breaststroke kick is likely to be too uncomfortable. Breaststroke kick can be attempted after 6 weeks or when the inflammatory pain has settled completely.

Continue with the exercises you find most beneficial. It is important to continue some form of exercise to get the most out your new knee. This can be swimming, walking, or cycling. You may also return to the gym, but it is important to get a personalised programme developed by someone who understands the limitations of your new knee.

You should also feel confident and have enough stamina to go around the shops or supermarket, although when standing still for any length of time, the knee may still feel stiff and uncomfortable.

You should be able to return to most daily activities such as cooking and cleaning and if you have a sedentary job, you may be able to return to work

1-3 months

By now most of the pain is usually gone, although some stiffness and joint line pain may remain. It is important to continue with the exercises until the stiffness has gone and the knee moves freely.

If you wish to progress the exercises, this can be done by increasing the number you do of each exercise or by placing a small weight, e.g. 1kg around the ankle or by using a resistance band.

3-6 months

If you have continued with the balance exercises, you should now be able to do them without holding on.

You should be able to do all activities of daily living without restrictions, including climbing stairs normally.

You can continue with the exercises that you find most beneficial but with less intensity.

Hopefully, you are now able to return to sports such as golf, gentle tennis or badminton. Avoid high impact sports that include running and jumping and contact sports.

If you enjoy activities such as bowls, gardening and dancing, you will hopefully find that you are now pain free and strong enough to start these again. Please note that some people will still have some joint line pain.

6 months to 1 year

You should now be well enough to continue with your life normally. Please note that joint line pain can persist for up to two years after surgery.

Contacting us

Royal Berkshire NHS Foundation Trust **Physiotherapy Department** Royal Berkshire Hospital, London Road, Reading RG1 5AN Telephone Number: **0118 322 7812**	**Occupational Therapy Department** Royal Berkshire Hospital, London Road, Reading RG1 5AN **Telephone No: 0118 322 7560**

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

RBFT Orthopaedic Physiotherapy Department, November 2026. Next review due: November 2028.