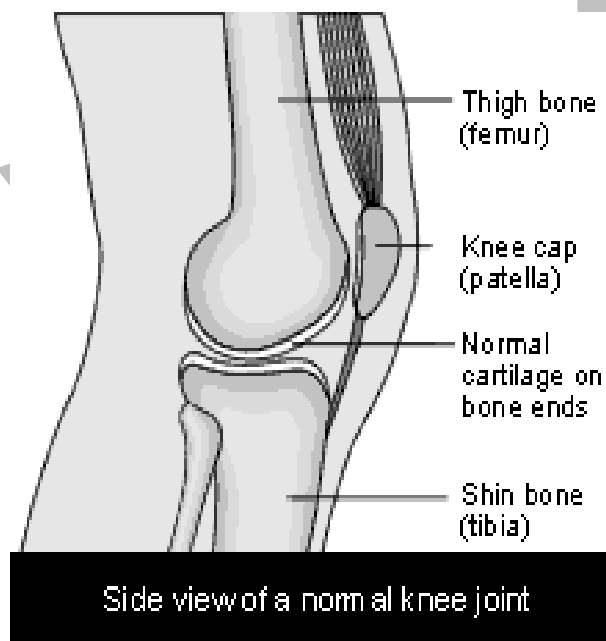


Total Knee Replacement

What is a Total Knee Replacement?

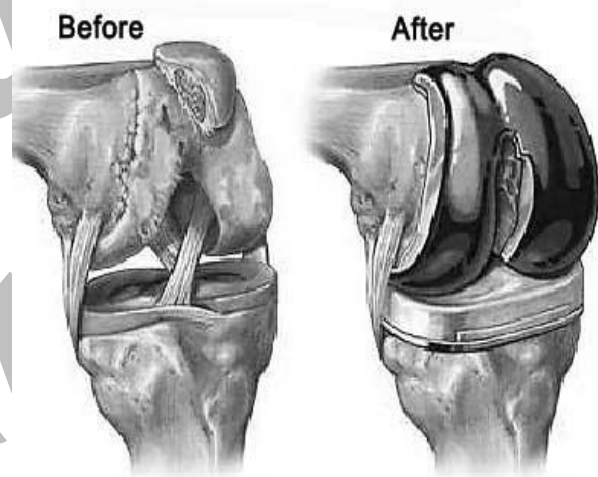
The knee is a joint which may need replacing for a variety of reasons, such as osteoarthritis (wear and tear of the joint), rheumatoid arthritis, injury or deformity.



A total knee replacement is recommended when arthritis and deformity of the knee are causing sleep disturbance, loss of function and dependence on pain killing tablets.

It involves replacing up to three bone surfaces. The lower end of the thigh bone and the top of the shin bone will be replaced and depending upon the degree of damage the back of the knee cap may also be replaced. The part which replaces the end of the thigh bone will be made of metal. It curves around the remaining thigh bone and it has a groove in its centre which allows the knee cap to move freely as you bend and straighten your knee.

The part which replaces the top of the shin bone is made up of a flat metal platform which has a plastic cushion on top of it. The knee cap itself is not removed but the back of the kneecap may be lined with a dome shaped piece of plastic anchored to a flat metal plate.



What are the Benefits of this Surgery?

You may be having moderate to severe pain in the knee and down the front of the shin.

This is as a result of the cartilage in your knee joint being worn away. As the damage increases so does the pain.

Information for Patients

This in turn affects your daily living routine and can affect your general health, lower your level of exercise and you can suffer disturbed sleep due to the pain.

Surgery to remove the affected joint is intended to remove the pain, and maintain or restore your normal exercise level and daily living routine.

The expected length of stay in hospital for a total knee replacement is between 2 and 5 days. Many people go home 2-3 days after surgery.

Risks of Total Knee Replacement Surgery

Having a Total Knee Replacement is major surgery and can be fatal. Risks vary and will depend on your general health – this will be discussed with your surgeon.

Some people suffer blood clots in the deep veins of their legs following surgery. This is known as deep vein thrombosis (D.V.T.) there are ways of reducing the risk of this occurring. These include the use of special elasticised stockings and injections to thin the blood in a controlled way, during your stay in hospital.

The reported number of deep vein thromboses occurring following a total knee replacement from 2004/05 – 2005/06 within the Heart of England NHS Foundation Trust is 1.6%

A more serious complication is when these clots move and become stuck in the lungs causing a pulmonary embolism (P.E.) this is very serious and can cause sudden breathlessness, collapse or even sudden death. Fortunately this is rare.

Infection is another potential complication following a total knee replacement. The risk of infection is reduced by specially ventilated clean air theatres, and by giving patients antibiotics at the time of the operation.

Unfortunately a deep infection can occur. This is a serious complication and the artificial knee may have to be removed until the infection is cleared. This usually happens over a period of 6 – 12 weeks when a new knee is re-implanted.

Following a survey carried out by the Surgical Site Infection Surveillance Service the reported incidence of infection from January 05 to March 05 was 0.68%.

Following surgery the knee can become stiff and the amount that you can bend your knee can become severely limited. This is usually caused by not carrying out the exercises recommended by your physiotherapist, which will lead to scar tissue forming.

If this occurs it may be necessary for your consultant to carry out another procedure known as a manipulation under anaesthetic (MUA) in which the knee is forcibly bent to try and break the scar tissue. Following this, intensive physiotherapy is required.

The reported incidence of MUA from 2004/05 – 2005/06 within the Heart of England NHS Foundation Trust is 0.4%

The new knee may wear out over a period of time and need replacing, but new materials and types of joint are being developed all the time. The most common cause of failure is when the knee loosens. This can occur at any time but is more common after 15 years. Pain and instability are the first signs.

Alternative Treatments

Treatment such as steroid injections into the joint or physiotherapy may help in some cases and your consultant will recommend surgery only when you have reached the stage of serious disruption to your daily living routine and sleep pattern and you require regular pain killing tablets to keep comfortable.

Dental Therapy

Good oral hygiene and regular dental advice are essential for patients with knee joint replacements. Antibiotics are only advised for the following groups of patients:

- Those with systemic immuno-suppressive diseases such as diabetes, rheumatoid arthritis, haemophilia or malignancy
- Those with overt oral sepsis
- Those patients undergoing invasive, complex dental treatments

If you are at all unsure please contact the Extended Scope Physiotherapist who works closely alongside your Consultant on the following telephone number 0121 424 2000 or ask the hospital switchboard to page bleep 2672.

Pre Assessment Clinic

You will be seen in the pre-assessment clinic prior to your surgery where a nurse will record your medical history, a list of your medication and perform some tests. These will be pulse, blood pressure, routine blood tests, ECG (a test on your heart). X-rays of your knee and your chest may be ordered. This is to ensure you are as fit as possible for your surgery. You may be referred to other specialities at this stage if necessary.

You will also be assessed by the Occupational Therapist who will advise you on the correct height of seating and help you to be independent when you have had your surgery, they will order the appropriate equipment for discharge. The Physiotherapist will also see you and give you advice on the exercises you need to be doing before, during and after your surgery.

What to Bring into Hospital

- ✓ All your usual medication in the original containers
- ✓ Personal toiletries, soap, flannel, towel, razor, moist wipes
- ✓ Paper tissues
- ✓ Nightwear, dressing gown, slippers – these must have backs and non-slip soles
- ✓ Day clothes – you can wear your everyday clothes from day 1.
- ✓ Squash or cordial, no fizzy drinks please
- ✓ Walking aids you may already be using, named
- ✓ Hearing aids, glasses
- ✓ Magazines, books to entertain you
- ✓ Small amount of money for newspapers or telephone

Do not bring in large amounts of money or any valuables

Please remove all nail varnish on fingers and toes.

Please remove all body piercing including earrings and leave at home

Information for Patients

Smoking - if you smoke you are advised to stop smoking 48 hours before your surgery, as you are more likely to develop a chest infection after the anaesthetic. This hospital is a no smoking area.

Coughs and colds - if you develop an infection just before you are due to be admitted for your surgery please advise your Consultant as your surgery may need to be delayed for a short time to avoid unnecessary risks to you.

Day of Surgery

You will be contacted the day before your surgery to confirm your admission.

On admission you will be directed to the Orthopaedic Admission Lounge where you will be admitted by a nurse.

You will be asked not to eat or drink anything from 3 am on the day of surgery. A nurse will give you a gown to wear which fastens up at the back. You will be asked to remove jewellery but tape may be applied to cover rings etc.

You will be given a pair of elastic stockings to wear to help prevent blood clots (deep vein thrombosis) forming. You will be asked to wear these for six weeks following your surgery. Please remember not to cross your legs while sitting or lying down and to regularly move your feet and ankles to keep the circulation going. Whilst in hospital you will be given daily injections to thin the blood to help prevent blood clots.

The Anaesthetist will see you before you go to theatre. They will discuss with you the type of anaesthetic you may have. They are responsible for taking you through your anaesthetic and surgery as safely and as comfortable as possible. You will also see your surgeon. Please feel free to ask any questions you may have about the surgery.

Dentures, glasses and hearing aids may be worn right up to the point of having a general anaesthetic, and throughout surgery in some circumstances. You may be given a pre-med before you go to theatre, your anaesthetist will have discussed this with you.

After having had lots of checks to make sure all the details are correct on all the documents, and that you have the correct side for surgery marked on your knee, one of the theatre staff will take you to theatre on your bed. You will be taken into the anaesthetic room to be prepared for the surgery.

Anaesthetics

The types of anaesthetic that could be used are:

- A general anaesthetic
- A spinal injection anaesthetic
- An epidural

The anaesthetists will discuss the advantages and disadvantages of each and it will depend on your general health, your preferences and the anaesthetist looking after you to which one you may have. Nothing will happen until you understand and agree what is planned for you.

Risks Associated with Anaesthetics

The risks involved with modern anaesthetics are low. Most people are able to have a general anaesthetic, but there are some risks and complications. The majority of these are relatively minor and include:

- Soreness and swelling around the site of the injection
- Sore throat, due to the gas and/ or tubes used to give the gas
- Feeling and being sick (nausea and vomiting)
- Feeling run down for a few days afterwards

You may feel thirsty, shiver or have short-term memory loss until you are fully awake. More serious complications are uncommon and are usually related to other medical conditions and poor health. Please discuss any concerns you may have with your anaesthetist. For further information please refer to the anaesthetic information leaflet.

Pain Management

During your stay in hospital you may be visited by the Pain Management Nurses after your surgery. They will talk to you about your pain relief following your operation. Your pain is important to us. Please let a nurse or doctor know if you feel your pain is not under control at any time, so that we can help. Please refer to your pain management booklet given to you in pre-operative assessment.

Recovery

When you wake up you will be in the recovery room, this is part of the theatre suite. You may be aware of a few tubes that are attached to you. You will have a drip (intravenous infusion) and you may or may not have a blood transfusion. You will be given oxygen via a mask. You may have a tube draining excess fluid away from the operation site and you may have another tube attached to a plastic needle in your hand for your pain relief drug.

Your arthritic pain will have gone as soon as you wake up. Don't be alarmed if your legs feel numb, this is as a result of the spinal or epidural injection you may have had as part of the anaesthetic and will wear off in a few hours.

As the normal sensation returns you will be aware of soreness from the surgery. Most patients are given Patient Controlled Analgesia (PCA) to help to manage this.

A plastic tube will be put into a vein and connected to a pump containing a syringe of morphine. Whenever you feel pain you press a button on a handset to receive a small dose of the painkiller.

Use the pain killer as often as you need it to keep comfortable. You will not be able to take an overdose as it has a safety feature on it which switches off for five minutes after you have pressed it.

As soon as you are well enough you will be taken back to your ward. The Nurses will check your wound, temperature, pulse, blood pressure and pain control regularly to ensure your comfort and safety.

The physiotherapists or nursing staff will help you get out of bed from 4 hours after your

Information for Patients

operation. This is to help reduce the risks of being in bed such as DVT, muscle weakness and respiratory complications. It also means you can eat or drink sitting in a chair and use a commode instead of a bed pan.

The Physiotherapist will have given you some exercises to do as soon as you wake up. These will help a speedy recovery and are vital for a good outcome. When you wake from the anaesthetic we recommend you complete the following exercises to improve circulation and prevent chest complications that may arise due to the anaesthetic and a prolonged period lying flat.

It is highly recommended to start doing the exercises in the weeks before your operation. The stronger you can get yourself before the operation the better your recovery will be and the quicker you will get home.

1. Ankle Exercises:

Move feet back, forwards and in circles briskly.
Repeat 20 times

2. Deep Breathing:

Take a slow deep breath in through your nose. Hold for three seconds and slowly breathe out. Repeat 5 times



These exercises should be completed hourly

Day 1

The tubes you have in when you first come back from theatre are usually removed over the first one to two days of your recovery. After the morphine has been discontinued any pain you may be feeling can be controlled with tablets. The first day following surgery you may feel pain and sickness.

The Physiotherapists will show you how to get out of bed and walk using a frame or your crutches and sit in your chair on the first day. They will also instruct you on the following exercises.

You will need to do the following exercises at least 4 to 5 times per day whilst you are in hospital and when you go home. They are very important to help your recovery.

Exercises for Total Knee Replacement

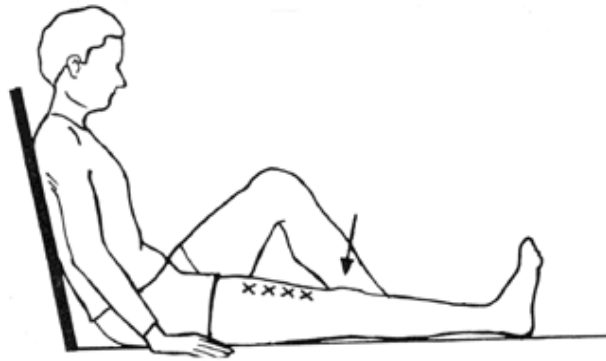
- Exercising the knee and leg muscles following surgery is **extremely** important to the success of the total knee replacement.
- Exercise regularly, it is recommended for 10 minutes 4 to 5 times a day.
- Start the following exercises as soon as you are able. You can begin these in the recovery room shortly after surgery.
- Exercises aim to quickly regain movement in the knee following surgery, prevent muscle loss, rebuild the muscle strength and prevent stiffness of the new knee joint.
- You may feel uncomfortable at first, but these exercises will speed your recovery and actually reduce your post-operative pain.

Complete each exercise 10 times, 4 to 5 times a day. Increase the repetitions by 5 weekly i.e. week 2 do 15 repetitions and week 3 do 20 repetitions etc.

Information for Patients

Exercise 1. Static Quads

- Tighten the muscles at the front of your thigh while pushing the back of the knee downward into the bed.
- Hold this muscle contraction for 4 to 5 seconds.
- Repeat 10 times.

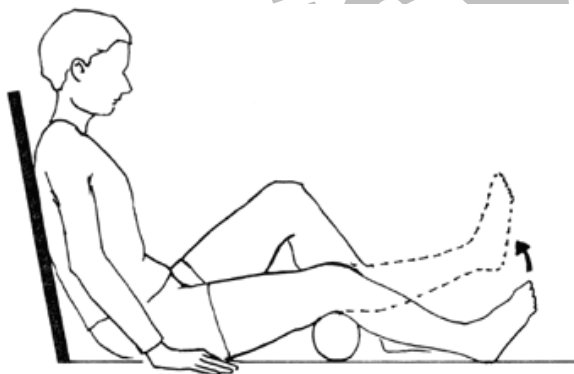


Exercise 2. Ankle pumps and circles

- Bend both your ankles up, pulling your toes towards you, and then bend both your ankles down, pointing your toes away from you.
- In addition, rotate your foot clockwise and counter clockwise, keeping your toes pointed toward the ceiling.
- Repeat 10 times.

Exercise 3. Inner range quads

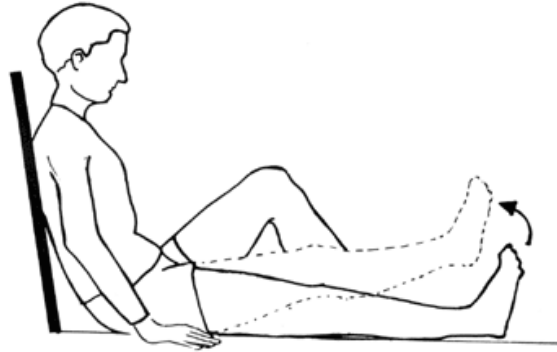
- Tighten the muscle on the front of your thigh and straighten the knee by lifting the heel off the bed.
- Hold this muscle contraction for 5-10 seconds, then to slowly lower the heel to the bed.
- Repeat 10 times.



Exercise 4. Straight leg raise

Information for Patients

- Sit or lie with the leg out straight.
- Tighten the thigh muscles, straighten the knee and lift the whole leg six inches (15cm) up off the bed or floor.
- It's important to keep the knee completely straight during this procedure.
- Hold for 5 seconds then lower slowly.
- Repeat 10 times.



Exercise 5. Knee bends in the chair

- Sit in a chair with your foot on the ground.
- Slide the foot firmly towards you and then release.
- Hold for 5 seconds each time in the fully bent position.
- Do not allow your hips to move, just the foot.
- Repeat 10 times.
- To give increase the stretch (as in picture 2) push your body forwards on the chair, hold for 10 seconds. Repeat 10 times.



Exercise 6. Sitting Kicks

- Sit in a chair with your foot on the ground.
- Straighten your knee as much as possible.
- Hold for 5 seconds. Slowly lower your leg down and relax.
- Repeat 10 times.



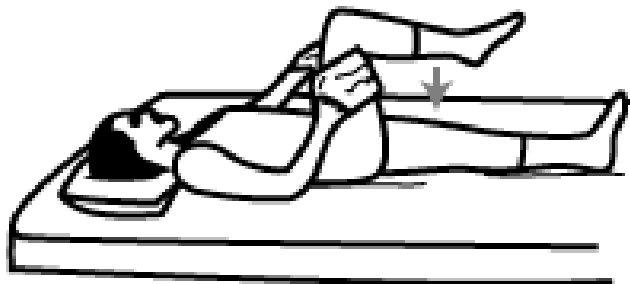
Exercise 7. Knee dangling

- Sit on the edge of a bed so your feet don't touch the floor.
- Allow your knee to bend.
- Swing your involved leg back and forth so that you feel a gentle rebounding sensation.
- Do this for 2 to 3 minutes.



Exercise 8. Towel Stretch

- Lie on your back and bend your knee.
- Use a towel behind your knee and pull the towel with both hands to increase the stretch in your knee.
- Hold for 5 to 10 seconds.
- Return to the starting position.
- Repeat 10 times.



Days 2 onwards

Depending on your general health, a gradual improvement as time goes on can be expected.

Information for Patients

The majority of patients are using their crutches by day 2 and do the stairs on day 2 or 3. The Physiotherapist will help you improve your walking.

Once you are walking safely, either with crutches or the frame we encourage you to take yourself to the toilet /shower and for short walks around the ward.

The Occupational Therapist will make sure you are able to complete tasks of daily living independently and have the appropriate level of support before you are discharged home. They will ensure you have received all the equipment you will need at home to keep you safe and will give advice on how to care for your new joint.

You will be monitored regularly for signs of infection, as this can be a serious complication of this type of surgery and you are advised to seek medical help if you contract any infection after you have been discharged home

Stairs

Upstairs: Go up one step at a time, good leg first, then the operated leg and then your crutches.

Downstairs: Place crutches on the step below you first, then the operated leg and then the good leg.



Remember: Good leg to heaven, bad leg to hell

**The Outreach Team provide a service to help you to go home after 2 days
Here's how.....**

The Surgical and Orthopaedic Outreach Team provides a hospital at home service for patient who have had a hip or knee replacement. It enables you to go home a few days earlier than normal and we will visit you for your physiotherapy and nursing treatment.

What are the benefits?

- Decreased risk of infection
- Research shows that patients recover faster at home
- Undisturbed sleep in your own bed
- Back to normal routine faster
- Return to your normal diet/eating pattern

Information for Patients

- Return to your home comforts
- 1 to 1 treatment sessions

Can you go home early? Yes – if you:

- Have someone at home with you
- Live within 10 miles of the hospital (either Solihull or Heartlands /Good Hope)

What if you live on your own?

If you want to go home early now is the best time to arrange for someone to stay with you or you could stay with a relative/friend when you come home after your operation. If this is not possible we will assess your needs individually on the ward.

What happens next?

A member of our Outreach Team will discuss going home early with you when you come into hospital.

What patients who have used this service say:

"This is an excellent service. The nurses/physio's are excellent, pleasant, helpful and extremely professional"

"I would like to say that home visits are a very good idea, leaving hospital in 3 days was brilliant".

"The Outreach Team gives an excellent service. I cannot speak too highly of them. They are, by far, the nicest, most efficient and helpful team I have encountered".

Discharge

A Physiotherapist will arrange an outpatient appointment for you at Solihull, Heartlands or Good Hope Hospital to continue with your exercises. It is important that you continue with the exercises you were shown whilst in hospital until reviewed by the Physiotherapist.

If you do not receive this appointment within 4 weeks please contact Solihull Physiotherapy Department by telephoning 0121 424 5446.

Long Term Outlook

Your physiotherapist will help you to progress from walking with your crutches to a walking stick and usually to walking unaided. Once formal physiotherapy has ceased it is still important to continue with your exercises for up to three months.

It is important to continue with general exercise indefinitely. This may be walking, bowls, swimming or riding a bike. This regular exercise will help you maintain the strength in your new joint as well as promote good health for your cardiovascular system.

Regular exercise will also help to control your arthritis. An Extended Scope Physiotherapist who works closely alongside your Consultant will review you at about six weeks. It is at this point that you should discuss returning to driving, returning to work and get advice on flying.

Occupational Therapy Guidance following a Total Knee Replacement

Information for Patients

Following your knee replacement your new knee joint needs to be used carefully for approximately three months. This will allow the surrounding muscles and tissue to heal properly and regain strength to support your new joint.

At all times

- ✗ **Do not** twist when standing or walking and avoid uneven ground.
- ✗ **Do not** sit or stand for long periods
- ✗ **Do not** force the knee to bend.

Sitting

Do sit on a firm high chair with armrests.

Do not sit in a low chair or settee.

Do not drop down; if necessary slide your operated leg forward as you lower yourself.



Sleeping

You must sleep on your back for three months. Keep your legs apart in bed – use a firm pillow rolled up in a towel between your legs.

Toileting

Do use equipment provided by the Occupational Therapist. Ask your therapist if you feel a commode or urinal may be needed on your return home.

Bathing

Do use a shower cubicle in preference to a bath if you have one.

Do not climb into the bath or sit in the bottom of the bath. Your Occupational Therapist will discuss use of bathing equipment if suitable; alternatively a strip wash is recommended.

Dressing

Dress from a sitting position, dress the operated leg first, undress it last. You may need help with the elastic stockings that you wear.

Wear supportive footwear with a flat heel, slip-on shoes or slippers are preferable. **Do not** force the knee to bend when trying to reach your feet.

Information for Patients

Kitchen Activities

Do ensure crutches are close at hand. Avoid standing for long periods, use a high stool if possible or sit at a table on a dining chair. Keep everyday items close to hand.

Convenience/ prepared meals may be useful. Carrying food and drinks into your dining area will be difficult whilst you are using walking aids, and if you have no one to help you.

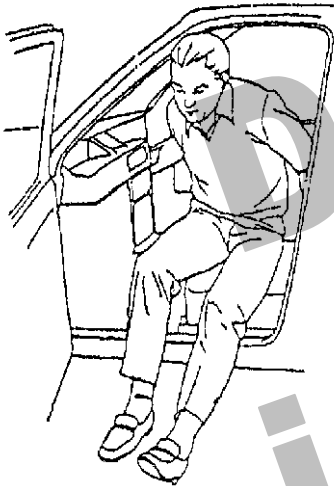
Put hot drinks in a flask, snacks in a plastic box, carry them with an empty cup or beaker in a carrier bag while using walking aids. You may need to eat in the kitchen if necessary.

Household Tasks

Do spread chores throughout the week, take plenty of rests – conserve your energy. Avoid heavy tasks – vacuuming, cleaning, changing beds, laundry and gardening while you are using two crutches/ sticks.

You will need help from family/ friends with shopping initially. If this is not possible, discuss it with your therapist/ nurse. Do stock up your freezer and cupboards well before admission.

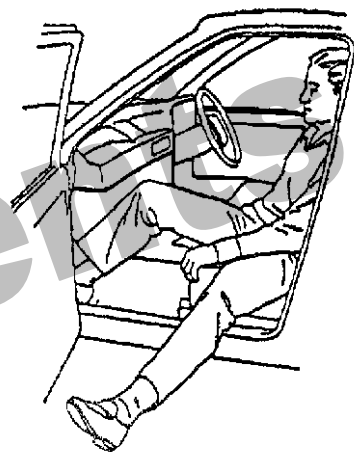
Getting in and out of the car



Do have the passenger seat positioned as far back as possible. It may help if it is also reclined. Get in from the road or driveway, not the pavement as you will have to bend more at the hip when sitting down.

Turn your back to the car, reach back for the seat and lower your bottom down onto the seat. Slide backwards as far as possible then gently swing your legs in – you may need help, moving your operated leg in.

Do not lean on the car door unless someone is holding it steady for you, sit for long journeys or sit on a very low car seat. You can be a passenger in a car as soon as you are ready to be discharged from hospital. Therefore, you will go home from hospital in your own transport.



Driving

X Do not drive until advised by your extended scope physiotherapist – usually at the first outpatient clinic.

Information for Patients

- Do check with your insurance company that you will be covered by the terms of your policy.

Equipment

Any equipment you may need for discharge will be assessed and ordered by the Occupational Therapist. Walking aids will be assessed and ordered by the physiotherapist.

When the precautionary period is over (after 3 months) or when you no longer need these aids, please return them to the equipment loan stores, or telephone the appropriate stores to arrange collection (unless you have been told otherwise). If your operation is cancelled, please return the equipment or contact the Occupational Therapy Department on 0121 424 5123 for guidance.

Birmingham
Equipment Loan Service Units
12 & 15 Mainstream 47
Devon Street
Nechells
Birmingham
B7 5SL
Enquiries: 0121 456 1750

Solihull
Solihull Joint Stores
Chichester Grove
Chelmsley Wood
Solihull
B37 5RZ

Enquiries: 0121 770 0900

Please return your elbow crutches to the Physiotherapy Department at the time of your outpatient appointment. Please do not return any other equipment to the hospital.

Contact Us

If you are going to have an operation you may be asked to attend the hospital for a pre-operative assessment. Please ask our staff any questions you may have about your treatment. Alternatively, you can phone the main hospital switchboard on 0121 424 2000 and ask to speak to your Consultant's secretary.

Further information

You may wish to discuss the information contained in this leaflet with a member of staff. Please ask your Consultant, any of the nurses looking after you in the pre-assessment clinic or on the ward, your Anaesthetist, Physiotherapist or Occupational Therapist.

Further leaflets are available from the hospital on pain management, anaesthetics, blood transfusion and arthritis. If you would like further information about knee replacements please contact NHS Direct either by telephoning 0845 4647 or visit their website at www.nhsdirect.nhs.uk.

This booklet was compiled by:

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Therapist**

Our commitment to confidentiality

We keep personal and clinical information about you to ensure you receive appropriate care and treatment. Everyone working in the NHS has a legal duty to keep information about you confidential.

Information for Patients

We will share information with other parts of the NHS to support your healthcare needs, and we will inform your GP of your progress unless you ask us not to. If we need to share information that identifies you with other organisations we will ask for your consent. You can help us by pointing out any information in your records which is wrong or needs updating.

Additional Sources of Information:

Go online and view NHS Choices website for more information about a wide range of health topics <http://www.nhs.uk/Pages/HomePage.aspx>

You may want to visit one of our Health Information Centres located in:

- Main Entrance at Birmingham Heartlands Hospital Tel: 0121 424 2280
- Treatment Centre at Good Hope Hospital Tel: 0121 424 9946
- Clinic Entrance Solihull Hospital Tel: 0121 424 5616
or contact us by email: healthinfo.centre@heartofengland.nhs.uk.

Dear Patient

We welcome your views on what you thought of this patient information leaflet, also any suggestions on how you feel we can improve through our feedback link below:

- Patient Information Feedback email:
patientinformationleafletfeedback@heartofengland.nhs.uk

If you wish to make any other comments this can be done through the links listed below:

- Patient Opinion: www.patientopinion.org.uk
- I want great care: www.iwantgreatcare.org (Here you can leave feedback about your doctor)

Be helpful and respectful: think about what people might want to know about our patient information and this hospital and how your experiences might benefit others. Remember your words must be polite and respectful, and you cannot name individuals on the sites.

If you have any questions you may want to ask about your condition or your treatment or if there is anything you do not understand and you wish to know more about please write them down and your doctor will be more than happy to try and answer them for you.

