Hampshire Hospitals NHS
NHS Foundation Trust

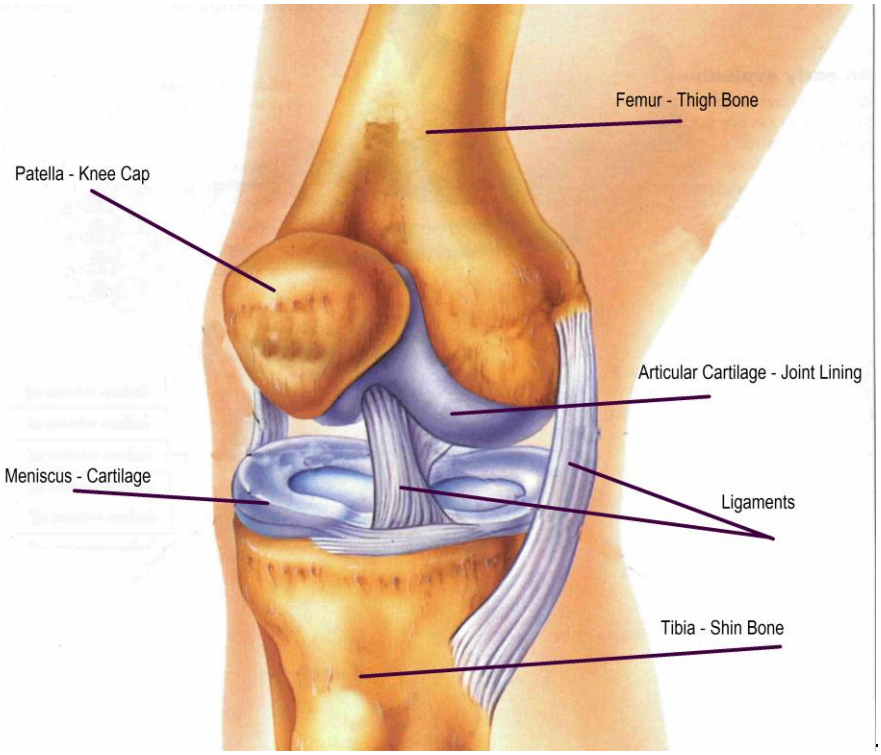
**Department of Trauma & Orthopaedic Surgery**

# KNEE REPLACEMENT

# INTRODUCTION

## About the knee

Your knee has three parts: your thigh bone (the femur), shin bone (the tibia) and knee cap (patella).



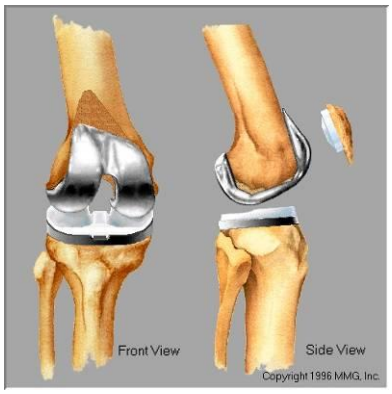

The ends of the bones are covered with an extremely smooth substance called articular cartilage which provides a smooth surface that allows the bones to move freely over one another, a little like two ice cubes moving against each other.

The joint is held together with tough bands of tissue called ligaments, and is lubricated with a special fluid.

Osteoarthritis is a wear and tear process in which the articular cartilage (the joint lining) is destroyed, and usually occurs over many years. It also tends to run in families. Once joint surface cartilage has been damaged or destroyed the knee loses its ability to glide smoothly and pain, catching and stiffness can result. Once this cartilage has been damaged it cannot repair itself. Osteoarthritis can also occur following trauma, injury or following infection in the knee. Rheumatoid arthritis is less common than wear and tear arthritis and is due to inflammation.

## What is a Total Knee Replacement?

Total knee replacement surgery involves removing a small amount of bone from the end of the thigh and top of the shin. That is why we call it a resurfacing procedure. The bone is replaced with a metal “shell” that sits on the end of the thigh bone, a metal “tray” that sits on the shin bone and a plastic insert that sits between the two. They are fixed into place with specialised bone cement. A plastic button may be used to resurface the back of the knee cap if needed.




An artificial knee is not, and will never feel like, a normal knee. It can however:

- Provide you with a significant reduction in pain
- Correct deformity i.e. give you a straight leg
- Reduce symptoms such as giving way and locking
- Improve your mobility - in particular walking and stair climbing
- Improve your quality of life

## How long will my knee replacement last?

A total knee replacement will eventually “wear out”. The rate at which this occurs depends on a number of factors such as activity levels and weight. In a sedentary individual 90-95% of total knee replacements are functioning well at 10 years. The failure rate is then approximately 2% per year. In a young active patient the failure rate is much greater. There is no guarantee that your particular implant will last a specific length of time.

## Why do total knee replacements fail?

The most common reason for failure in a knee replacement is “loosening”. This is most commonly due to wear and tear. In a very small minority of patients the knee replacement fails because of serious infection. If the knee replacement does fail it can invariably be changed and replaced. This

is called a revision knee replacement. However, it is a much bigger operation than the first (primary) replacement and the results are rarely as good.

## Will I have restrictions after surgery?

A knee replacement is designed to reduce pain and improve quality of life. They are not intended for impact activity, which should be avoided to maximise the lifespan of your new knee. Golf and gentle doubles tennis are the sort of activities that would be recommended following this surgical procedure. Any significant impact activity such as jogging should be avoided. Other activities to stay fit and active are encouraged.

## Will I notice anything different about my knee?

Your knee will be swollen following the surgery. The initial swelling settles within a few days, but some swelling will persist for several weeks. Some swelling of the lower leg and ankle is common for up to a year. You will notice some numbness on the outside of your shin; this is in no way debilitating and will become much less noticeable with time. The knee will feel warm for up to twelve months. You may also notice some clicking as you move your knee due to the artificial surfaces moving and coming together.

## When will I be able to return to work?

We recommend that most people will need at least six weeks off from work. Patients with more sedentary jobs may be able to return to work sooner. The timing of your return to work will depend on your progress and commitment.

## When will I be able to drive?

It is likely that you will not be able to drive for 6 weeks from the time of your surgery, especially if you are having a right sided knee replacement.

# ADVICE WHILE YOU ARE WAITING FOR YOUR KNEE REPLACEMENT

While you are waiting for your knee replacement there are a few things you can do that may help speed your recovery.

## Exercise

**General exercise -** Exercise is always of benefit, and continues to be so, whilst you are waiting for your knee replacement. It will also help your recovery following your operation. Gentle exercise (within the limits of your pain) such as cycling, swimming or walking with periods of rest in between, are recommended.

**Specific exercise -** Knee specific exercises include strengthening the muscles around the front of the knee. This will be of benefit after your operation.

## General health

Keep yourself as fit and healthy as possible whilst you are waiting for your operation. This will greatly help with your recovery. If your general health deteriorates it is important to contact your GP, so that problems may be dealt with before your operation. It is particularly beneficial to stop, or at least reduce, smoking.

## Pain relief

If you are experiencing pain in your knee your GP will be able to prescribe appropriate medication to relieve your pain. Usually we recommend a combination of anti-inflammatory and simple pain killers.

## Load reduction

Reducing the pressure taken through the knee may also help with pain. You may find that using a walking stick, held in the hand on the opposite side to the affected knee, will help reduce the pressure and therefore your pain, whilst you are walking. Adequate rest periods and avoidance of unnecessary strain also help to reduce the pressure on your knee joint.

## Foot care

It is important to pay particular attention to foot hygiene as minor wounds, sores or infections may result in cancellation of your operation. If you have any concerns seek advice from your GP.

## Skin care

If you have any cuts, abrasions, rashes or other skin conditions around your knee, leg or foot please see your GP, as this may also result in cancellation of your surgery if left untreated.

## Dental care

It is advisable to visit a dentist to ensure your teeth and gums are in good order prior to your operation, as infection from your teeth or gums may spread to your knee joint if left untreated.

# WHAT HAPPENS BEFORE THE OPERATION?

## Knee School

You will be given an appointment to attend Knee School. Here you will be assessed by a Physiotherapist or Specialist Nurse and given a specific exercise plan to help strengthen the muscles that support your knee.

At knee school you will be given a talk about knee replacement surgery. This is to ensure you understand exactly what is going to happen throughout the process of having a knee replacement, and what you can do to make your operation and recovery as quick and successful as possible. You will be shown how to use crutches, and will have the opportunity to ask any questions you may have.

You will be seen by a member of the Occupational Therapy team who will talk to you about your home environment and order any equipment you may require to help you after discharge from hospital.

You should have been given a DVD to watch. Please watch this as it complements this booklet. If you have not been given one please ask. You may copy it if you wish, but please return it to the department at your 6 week post-operative check-up.

## Pre-Assessment Clinic

Before your operation you will be asked to attend the Pre-Assessment Clinic where a thorough physical assessment will be carried out by the nurses to make sure that you are medically fit enough for surgery.

At this clinic routine pre-operative tests, including urine, blood, ECG (heart trace) and X-rays if required, will be carried out.
Skin swabs will be taken to screen for MRSA (Methicillin Resistant Staphylococcus Aureus - a normally harmless bacteria that can, on occasions, cause wound infections). As a result of this pre-operative screening the risk of post-operative infection is significantly reduced.
We will also confirm with you the plans that you have made for your discharge.

This appointment will also provide you with a further opportunity to speak to your Consultant and/or their Registrar and answer any questions that you may have. The medical team will go through the potential risks and complications associated with the surgery and you will also be taken through the consent process and asked to sign a consent form.

**You can be in the clinic for 3 to 4 hours.**

## Prior to your admission

- Ensure that you assess your home for ease of movement with crutches or a walking frame. Remove any loose rugs, which may cause you to trip.
- Put objects that you use regularly in easy reach so that you do not have to bend or stretch.
- Identify people who will help do your shopping, laundry and cleaning.
- All discharge arrangements and plans must be made before you come into hospital. If you feel there may be a problem please tell us and we can help.
- Arrange transport in and out of hospital.
- Please make sure you have a supply of your normal medication for when you go home.

## What to bring with you

In addition to your personal belongings you will need to bring the following:

- Any regular medication you are taking (in its original boxes/containers).
- Appropriate foot wear e.g. trainers or well fitting shoes NOT mules or 'flip flops.'
- Loose comfortable clothing (you will be expected to dress the day following your operation).
- Nightwear.
- Towels and toiletry bag including hand wipes.
- This Booklet.

**Please leave valuables at home.**

# YOUR STAY ON THE ORTHOPAEDIC WARD

## ADMISSION

You will be admitted on the day of your surgery.

### Nursing Assessment

You will be welcomed to the ward. A nurse will check your details and complete the nursing assessment.

Do feel free to ask any questions.

You will be provided with Foot Pumps (Intermittent Pneumatic Compression (IPC) boots). These inflatable boots are to help your circulation, reduce leg swelling and protect you against Deep Vein Thrombosis.

Observations of temperature, pulse, respiration, oxygen saturation and blood pressure will be recorded.

The nursing staff will administer any pre-medication as prescribed by the anaesthetist.

### Physiotherapy

A physiotherapist will instruct you in deep breathing and circulatory exercises and check you are using your crutches correctly.

### Anaesthesia

The anaesthetist will visit and examine you to ensure you are fit for surgery. He/She will discuss the type of anaesthesia that will be used, the methods of pain control available, and prescribe any medication to be taken prior to surgery.

### Surgical Team

Your Consultant, or a member of the surgical team, will mark the operative limb and ask you to confirm your consent form.

### Going to Theatre

You will be assisted into a theatre gown and your bed prepared.

Theatre staff will collect you from the ward and take you to the operating theatre.

## POST SURGERY

Following surgery your wound will be covered with a dressing and a bandage. In some cases there will be a surgical drain, which will be removed the day following surgery. The inflatable foot pump boots will be present, and you may also have an intravenous infusion 'drip' and an oxygen mask.

Nerve blocks inserted by the anaesthetist in the operating theatre may leave your leg temporarily feeling weak and numb when you wake up.

You will remain in the recovery area until your condition is stable and your pain is well controlled.

On return to the ward nursing staff will take regular observations of your temperature, pulse, respiration, oxygen saturation and blood pressure. They will monitor pain control and give you pain relief as appropriate.

You will be encouraged to drink fluids straight away, and will gradually be allowed to recommence diet.

You will be assisted with all your hygiene needs.

## YOUR RECOVERY AFTER SURGERY

You will begin physiotherapy as soon as possible. It is important to start moving your new knee to promote good blood flow, to regain movement and muscle strength, and to help the recovery process.
You should be out of bed and walking with a zimmer frame or crutches within 24 hours of your operation.
A post-operative X-ray of your knee and blood samples will be obtained.

During your stay you will practice how to get in and out of bed safely, and how to get into and out of a seated position. You will walk using a zimmer frame or crutches for support, and will be assessed on climbing and descending stairs.

On average, patients remain in hospital for 3-4 days after a total knee replacement. However, you may go home earlier or later than this depending on when you are ready and when everyone in the team is happy for you to be discharged.

Before discharge the physiotherapist will take you through the exercises you were practising before your surgery. These are specifically designed to help you regain mobility and strength in your new knee. You should perform these exercises regularly in your own home as instructed by the physiotherapist. If needed you may be given an out-patient appointment for physiotherapy. You will also be sent appointments for 2 and 6 weeks following your operation to attend the Orthopaedic Education and Follow up Clinic.

## ON DISCHARGE FROM HOSPITAL

### When leaving the hospital you should:

- Be safely transferring from sitting to standing
- Be walking safely with your walking aid and have practised going up and down stairs
- Understand your home exercise programme (see the pictures and instructions at the end of this booklet)

### On discharge the nursing staff will give you:

- Medication as appropriate
- A copy of your discharge letter
- A sick certificate if required
- Instructions regarding follow up care for your wound and further appointments
- A joint replacement card (which you should carry with you at all times)

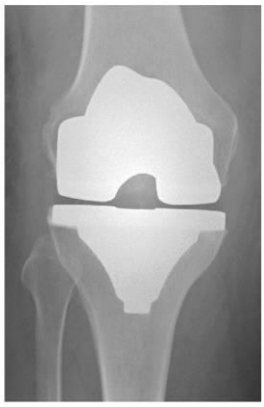
## Do's and Don'ts

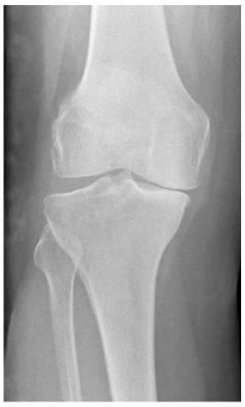
| | |
|---|---|
| **Do** | Continue to take your pain medication. |
| **Do** | Your exercises as instructed by your physiotherapist. |
| **Do** | Apply ice packs regularly. |
| **Do** | Try to take short daily walks increasing the distance as you are able. However, walking does **NOT** replace your exercise programme. |
| **Do** | Keep your wound clean and dry. |
| **Do** | Take a daily rest on your bed for at least an hour. |
| **Do** | Rest on your bed for short periods with your feet above horizontal if you have persistent swelling of your leg. |
| **Do** | Contact your GP if there is increased pain in your calf associated with swelling. |
| **Do** | Sleep in any position you like, but do not put a pillow under your knee so that your knee is bent. |
| **Don't** | Sit for too long, you may become stiff and find it difficult to get up and going again. |
| **Don't** | Drive until you have been seen and assessed at your follow up appointment. |
| **Don't** | Stand still for too long. |
| **Don't** | Put a pillow under your knee so that your knee is bent. |
| **Don't** | **Over do it**! Rest is as important as exercise during the first 6 weeks. |

**It will take at least 12 weeks for your knee to start to feel "like a knee" and it will go on improving for up to 18 months.**

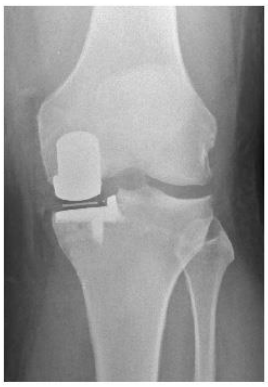
# TYPES OF KNEE REPLACEMENT

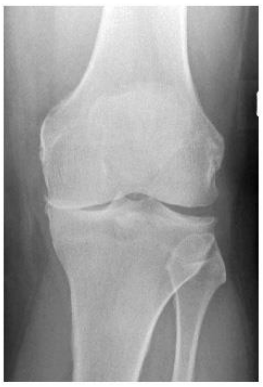
## *Total Knee Replacement*



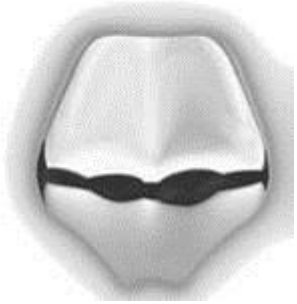


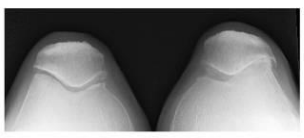
## *Unicompartmental Knee Replacement*

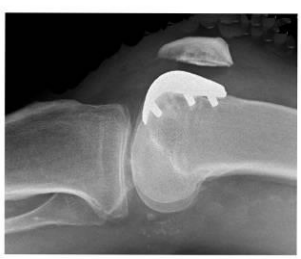


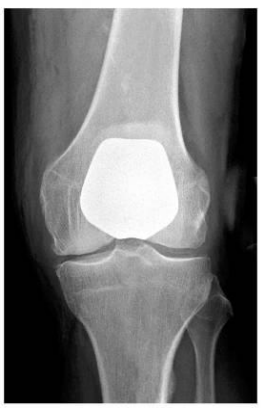


## *Patello Femoral Replacement*









# TYPES OF ANAESTHESIA

All patients are assessed pre-operatively to establish the safest and most appropriate anaesthetic technique for each individual. Your anaesthetist will discuss the clinical benefits of any techniques with you before you go to theatre.

There are two main types of anaesthesia that can be used for a total knee replacement: general anaesthesia and regional anaesthesia.

## (1) General Anaesthesia

**Advantages**:

1. The patient is completely unconscious for the operative period. They will not remember anything between the period in the anaesthetic room and arrival in recovery after the operation is completed.
2. The surgeon is free to operate on a completely still patient.
3. In certain patients, especially those with some types of heart disease, it is safer for the operative period.

**Disadvantages:**

1. All the risks of general anaesthesia.
2. Damage to teeth or crowns.
3. Nausea.
4. Sore throat.
5. Allergy problems.
6. Detrimental effects on the cardiovascular and respiratory systems.
7. Pain in the recovery room on regaining consciousness.

## (2) Regional Anaesthesia - Spinal or Epidural Anaesthesia

**Advantages:**

1. Good pain relief immediately post-operatively.
2. Low blood pressure during the procedure and no surges of blood pressure.
3. Better for patients with lung disease.
4. No sore throat or airway problems.
5. Reduced incidence of blood clots or venous thrombosis.
6. Better for frail, elderly patients with memory problems, as there is less post-operative confusion.

**Disadvantages:**

1. The patient may be aware of the procedure. However, it is possible to combine sedation with a regional anaesthetic.
2. Sometimes it is unsafe in heart disease.
3. The awake patient can be distracting to the surgeon. However, the patient can be sedated.
4. There is a risk of urinary retention.

5. If the patient is muscular or is having revision surgery, muscle relaxants cannot be used, which can make the operation more difficult.
6. Some patients may not be able to lie flat or still for the procedure. These patients may need a general anaesthetic.
7. Patients who have had back surgery may not be suitable for these techniques.

**Find more information about anaesthesia at**

The Royal College of Anaesthetists
http://www.rcoa.ac.uk/

Hampshire Hospitals NHS Foundation Trust
http://www.hampshirehospitals.nhs.uk/

# PAIN

Pain is common immediately after joint replacement surgery and may even be moderate or severe at times. Therefore, good pain relief is an important part of your recovery. We will aim at all times to try to minimise and treat your pain.

However, all strong pain killers have side effects including dizziness, nausea, vomiting, itching, difficulty in passing urine, constipation and hallucinations. By giving you the right combination of pain killers we can reduce side effects to a minimum while controlling your pain. We will also give you medication to try to prevent or treat any side effects.

The following plans are in place to minimise your pain after surgery:

## Before surgery

We may give you a pre-med, which often consists of a very strong slow release pain killer, an anti-sickness medicine and a drug which makes the pain killer work better. This means that you should be comfortable immediately after surgery.

## During surgery

During the operation the anaesthetist will give you additional pain killers, and the surgeon will inject local anaesthetic around the operated area to help reduce pain after surgery.

## After surgery

We will give you pain killers and anti-sickness medicine regularly. It is important that you take these even if you are not in pain or feeling sick, as they will prevent pain and sickness when you are doing your exercises.
You may also be given a very strong pain killer and an anti-sickness medicine to take at night. This will help control your pain and ensure that you are rested for your physiotherapy the next day.
Your physiotherapist will help you to stand and walk as soon as possible after surgery. While this may be painful initially, moving around will speed up healing and aid recovery. It will also improve circulation and reduce swelling.
We will also apply ice packs to your knee each day to help reduce swelling and pain.

If you do not feel your pain is being managed adequately, please speak to one of the doctors or a nurse.

# RISKS ASSOCIATED WITH A KNEE REPLACEMENT

Nothing in life is risk free and the same applies to any surgical procedure. The overall risk of a serious adverse event following a knee replacement is something in the region of 1%. In other words, it is an extremely safe operation. The most important and commonly encountered risks following a knee replacement include:

## Risks related to the anaesthetic

It is extremely rare but the surgery may be complicated by a stroke or heart attack. You will be assessed pre-operatively to ensure that you are as fit as you can be for your surgery, to minimise these potential medical problems. Extra precautions are taken for higher risk patients.

## Deep Vein Thrombosis (DVT) or Pulmonary Embolus (Blood Clots)

Measures are always used to help minimise your risk of sustaining a blood clot. These include the use of mechanical pumps for your feet and mobilising as soon as possible after your operation. Other measures also include blood thinning injections or tablets (these can however lead to an increased bleeding risk). We will tailor the best regime to suit you and discuss this with you. The overall risk of a blood clot is in the region of just less than 1%.

## Infection

An infection can occur after any operation, but it is particularly important that you understand its consequence when undergoing a knee replacement.
Precautions are taken before the operation to prevent an infection. These include testing with skin swabs, and also ensuring there is no damage to your skin such as cuts, wounds or infections. Prophylactic antibiotics (to reduce the risk of infection at the time of the surgery) are routinely used. Again, the overall risk of this is just less than 1%.

### Superficial wound infection

This is an infection of the healing wound where it becomes red and may have a small discharge of fluid. It is usually treated with a course of antibiotics, but occasionally it may require a small operation to help clear it.

### Deep infection

This is a **very serious complication**. The overall risk is approximately 1-2%. It can occur soon after surgery, or at a later stage.
The vast majority of patients who have a deep infection can be successfully treated with a revision or 2$^{nd}$ knee replacement. If a deep infection occurs it may mean the knee replacement has to be removed so that antibiotics can work more effectively. This can mean a prolonged period in hospital before a new knee replacement can be inserted.
Although it is extremely rare, a further knee replacement may not be possible. Here the options are either to suppress the infection with long term antibiotics or leave

you with a leg that is permanently straight (a fused knee). In very exceptional circumstances an amputation may be the only option.

## Bleeding

There can be bleeding after any surgical procedure. Very occasionally this can lead to a build up of blood, which may necessitate a second trip back to the operating theatre to wash this out.
Much more common, and of no long term significance, is bruising around the knee. This may be extensive and involve the thigh and calf, but will usually resolve over a few weeks. Bruising and bleeding is more likely to happen if you are taking aspirin or an anti-inflammatory medication, (such as Ibuprofen or Voltarol). The risk is reduced by stopping it the day of your operation. Please inform us at your pre-assessment appointment if you are taking this type of medication.

## Stiffness

All knees feel stiff in the first days following a knee replacement. The physiotherapists on the ward will work with you to start bending the knee either on the day of surgery, or more commonly, the day following the procedure. Within just a few days the knee will be moving freely enough for you to get about safely and manage simple activities, such as climbing stairs. You will continue to work hard at home, or if necessary with the out-patient physiotherapists, for several weeks to improve your knee bend. A small number of patients have problems with stiffness following their knee replacement. If the knee was particularly stiff prior to the operation then the range of movement achieved after the surgery may be less than in an individual whose knee moved more freely.
In rare instances where the knee does not fully straighten or bend sufficiently, it may be necessary to manipulate the knee whilst you are asleep. This procedure is called a Manipulation Under Anaesthesia or MUA. As the vast majority of stiff knees settle with rehabilitation and physiotherapy, we do not consider carrying out an MUA until at least 6 weeks from the time of the surgery.

## Failure

The vast majority of total knee replacements function well for up to and including 10 years. The “survivorship” is somewhere in the order of 95%. The failure rate is then around 1-2% per year. In other words, your knee should last at least 10 years and most likely will last 15-20 years. The data is not available yet for knee replacements after 20 years. A small number of individuals will be unlucky and their knee replacements will fail early. This is most commonly because of wear and tear to the replacement and/or a deep infection. Also, the bonding between the knee replacement and the bone can fail. In this situation the loose knee which has failed is removed, and a revision knee replacement is carried out.

### Tender scar

This is not a complication as such, but it is important to know that some people have discomfort around their scar, and that there will be some degree of loss of normal skin sensation around the scar. In addition it is important to know that it may not be possible to kneel after your knee replacement due to discomfort from the scar.

### Leg swelling

Leg swelling is quite common after the operation. It tends to improve each night with rest and elevation. If the swelling becomes painful, particularly in your calf, then you need to seek advice, as one of the possibilities of swelling in the first 6 weeks post-operatively is a deep vein thrombosis (explained earlier). The vast majority of swelling settles over 2-3 months, although some minor residual swelling for up to 12 months following the surgery is common.

### Nerve damage

During the operation nerves in your leg can be damaged, but this is extremely rare. Nerve damage causes numbness and tingling in your leg. In the rare event of a serious nerve injury this may cause weakness in your ankle or foot. Most people make a full recovery.

### Instability

If your knee gives way or buckles, this can interfere with your daily life and can be painful. This is usually due the muscles being weak after the surgery. The knee may feel a little unstable in the first few months, but this will settle as the knee becomes stronger. In the unlikely event that you have significant persisting instability, you should seek advice.

### Persisting pain after a knee replacement

Your knee may carry on hurting despite the operation. Your surgeon will investigate to see if a cause can be found, but sometimes they will not be able to find one. Usually the pain will improve, but this can take several months and a background ache may persist. A Total Knee Replacement is an extremely good operation, with excellent long term results. 70,000 cases are done each year in the UK alone. 85-90% of all patients undergoing a knee replacement are extremely happy with the result and would have the surgery again, or recommend it to a friend. However, a small number of patients are never happy with the result of their operation.

# Total Knee Replacement – Occupational Therapy Advice

How you can help prepare for surgery:

## Bring in the following items:

- A long handled shoehorn.
- Comfortable slip-on shoes and slippers with backs that can be easily put on using a shoehorn.
- A bag which can be worn across you - so that you can carry things while your hands are occupied with walking aids.

## Points to consider at home:

- **Check your furniture heights.** Getting on and off low furniture can be difficult in the first few weeks after surgery. You may need to adapt your chair by adding extra cushions, or use a chair of more suitable height for short-term use. If you are currently having difficulty standing up from a sitting position from your bed, consider using a bed of a more suitable height.

- **Personal care.** It may be useful to have a stool or chair next to the basin so you can sit down to have a strip wash in the short term. **The wound must be kept dry until healed.**

- **Shower cubicle.** Check the height of your shower tray. You will need to use a balancing hand on the wall or hold the side of the shower frame to help you to step into the cubicle. Practice stepping into the shower tray with the unaffected leg and stepping out with the operated leg prior to admission.

- **Over bath shower.**
  Method 1. Position a stool or armless chair alongside the bath (preferably at the same height or higher than your bath). When sitting on the stool you should be able to swing your legs over the side of the bath and by pushing from the bath side or rails stand up in order to shower.
  Method 2. Stand parallel to the side of the bath with the operated leg against the bath. Extend the operated leg behind the body and reach down to take hold of both rims of the bath. Lift the extended leg over the edge of the bath. When placing the foot leave adequate space for both to be positioned side by side. Stand upright to shower. To get out of the bath repeat this technique being sure to lift the operated leg out of the bath first.

- **Bathing.** If you were bathing independently immediately before your operation, you may restart **once your wound is completely healed.**

- **Household tasks.** Think about where you might get help with changing of bed linen, laundry, vacuuming and shopping whilst you are walking with walking aids. Perhaps family, friends or neighbours can help, or some neighbourhoods have voluntary agencies who may assist you. But ask now; don't leave it until you go home after your operation.

- **Caring for your pet.** Feeding bowls will be reached more easily if they are positioned on a box or biscuit tin. Please keep pets away from your knee wound for at least the first 2-3 weeks.

- **Car user as a passenger following surgery.** Ask the driver to move the front passenger seat back as far as possible. Turn with your walking aids until the back of your legs are touching the car, then hand your walking aids to the driver. Lower yourself down onto the car seat, holding onto the doorframe if necessary. Slide your bottom across the passenger seat towards the handbrake then bring in your legs. Doing it this way gives you more room, and avoids forcing your newly operated knee into an uncomfortable bend.

**Points to consider in the kitchen:**

1. Stock up the freezer with basic supplies such as ready-made meals, milk and bread. Stock up cupboards with tinned and packet foods.

2. If you are alone during the day consider where you can eat (perhaps in the kitchen using a chair or stool next to the work surface) as you will be unable to carry plated meals whilst walking with walking aids. Consider buying a flask or insulated beaker for hot drinks or soup, which can be carried in a neck or shoulder bag.

3. Arrange commonly used items in accessible groups to avoid excessive reaching, bending or walking about.
   - Position your kettle close to the sink and fill using a plastic jug. Move tea, coffee, sugar, mugs and cutlery near by.
   - Rearrange your fridge freezer with regularly used items on the top shelf for easy access. Avoid large containers of milk.

4. Use one crutch in the kitchen and take support through the other arm by placing your hand on the worktop. While standing still, move the item forward, then use the crutch and work surface as support to walk towards it.

5. To reach down into low cupboards, or your fridge or freezer, extend your operated leg out behind you and take your weight through your good leg. Place your crutch in the door hinge or onto the bench to prevent it falling. Keep one hand on the work surface for support.

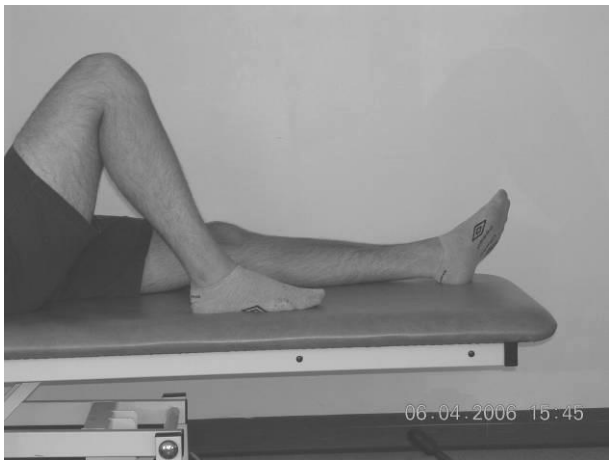
6. When reaching into high cupboards, take support from the surface in front of you. Ensure your feet are apart to provide a stable posture and stand in front of the object you are lifting down (do not lean over to the side).

7. Sit down where possible e.g. to do ironing or prepare vegetables.

The Occupational Therapy team will be available on the ward to discuss any particular concerns relating to everyday activities. If necessary you can also practice particular activities in our assessment flat.

# PRE-OPERATIVE EXERCISES

1. Heel Slide

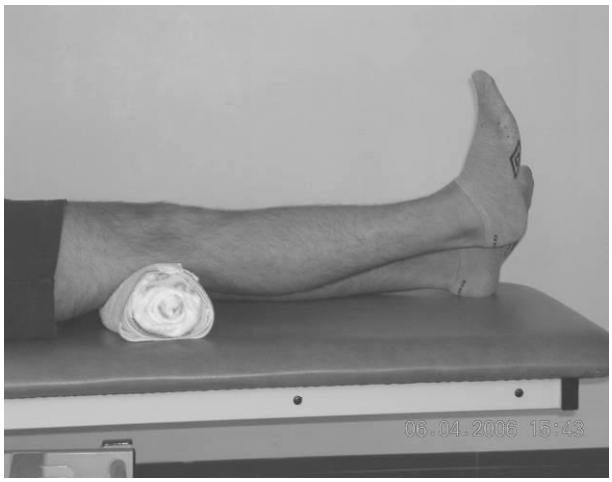



Lying on your back, start with your leg resting flat on the bed.

1. Slowly bend your knee, sliding your foot towards your bottom. Expect to feel a stretch over the front of the knee.
2. Hold for a count of 3.
3. Gently slide your heel back down, ensuring your knee returns to the fully straightened position after each repetition.

## Repeat 10 times, 2 times a day

2. Knee Prop

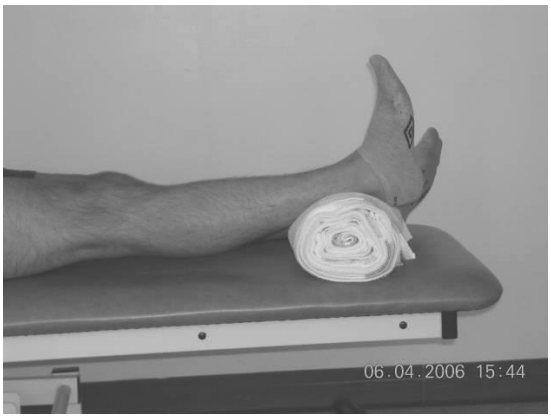



Place a rolled up towel underneath your knee.

1. Keeping the back of your knee resting on the towel, pull your toes up towards you.
2. Then slowly lift your foot up until your knee is as straight as possible.
3. Hold for a count of 3.
4. Slowly lower your foot back down to the bed.

## Repeat 10 times, 2 times a day

3. Heel Prop

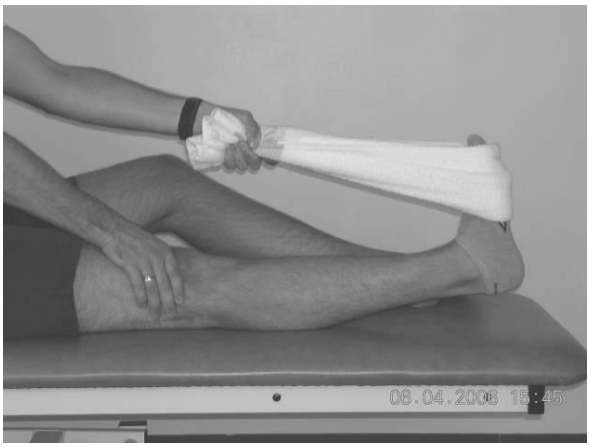



Rest your heel on a rolled up towel, making sure that your calf is raised off the bed. Then lie down and relax.
Your knee will hang under its own weight, stretching the muscles on the back of your knee.

1. This may be uncomfortable at first, so start off with 2-3 minutes and aim to gradually increase to 10 minutes.
2. To stretch further, every few minutes, gently contract the muscles on the front of your knee, pushing the back of your knee towards the bed.

## Start with 2-3 minutes aiming to build to 10 minutes, 2 times a day

4. Towel Stretch

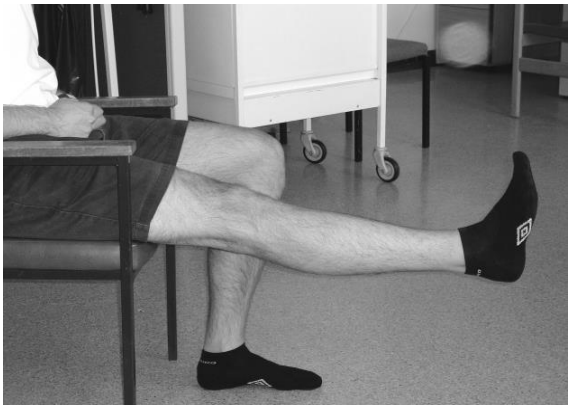


Sit upright with your legs outstretched.

1. Wrap a rolled towel around the foot of your operated leg and hold the ends with your hands.
2. Slowly pull the towel so that your heel lifts up and off the bed, whilst keeping the back of your knee flat on the bed.
3. Then contract the muscles above your knee, attempting to keep your foot in the air without the towel helping.
4. Let the towel loosen and attempt to keep your foot in the air for a count of 3, then slowly relax your muscles dropping your foot back onto the bed.

## Repeat 10 times, 2 times a day

5. Knee Extension

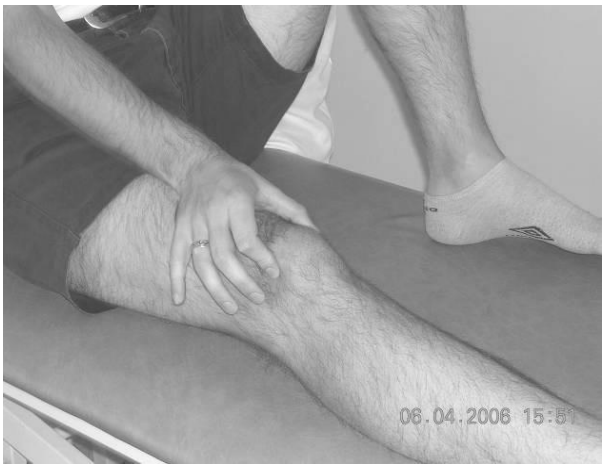


Sit upright on the edge of a bed or chair.

1. Slowly lift the foot of your operated leg, until your knee is fully straightened.
2. Slowly drop the foot back down allowing your knee to bend, and if possible try and bend your knee so the foot goes slightly under the chair or bed.

## Repeat 10 times, 2 times a day

6. Patella Mobilisation



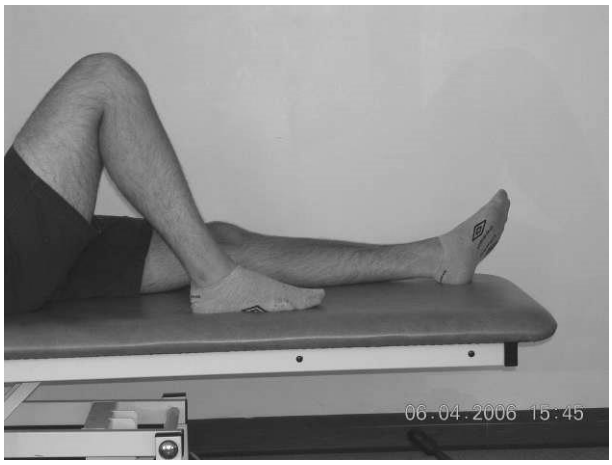

Sit upright with your legs straight out in front of you.

1. Grip your knee cap (patella) between your thumb and fore finger and gently move it from side to side.
2. It may feel odd to begin with and initially there may not be much movement.

## Repeat 10 times, 2 times a day

## POST-OPERATIVE EXERCISES - Weeks 1 to 2

1. Heel Slide

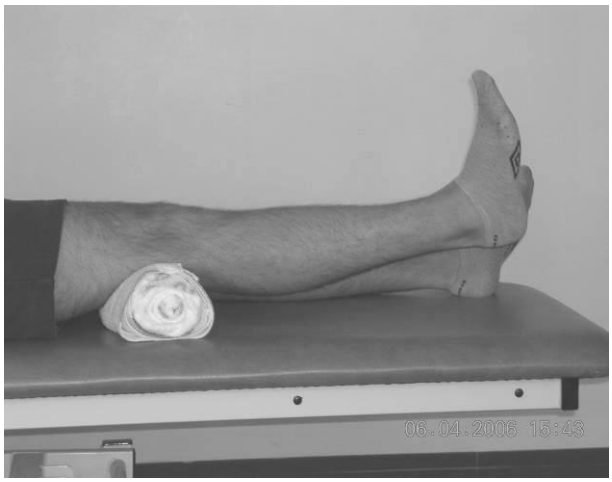



Lying on your back, start with your leg resting flat on the bed.

1. Slowly bend your knee, sliding your foot towards your bottom. Expect to feel a stretch over the front of the knee.
2. Hold for a count of 3.
3. Gently slide your heel back down, ensuring your knee returns to the fully straightened position after each repetition.

### Repeat 5-10 times, 3 times a day

2. Knee Prop

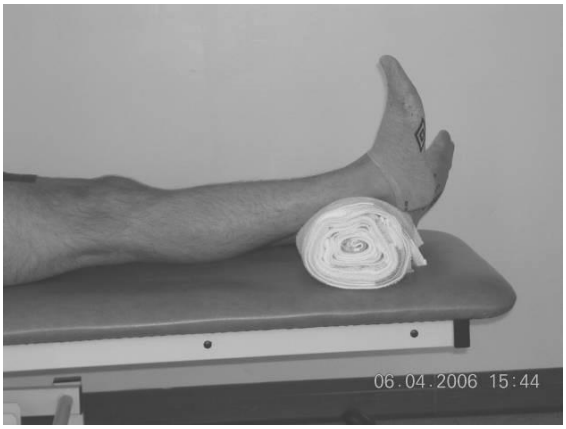



Place a rolled up towel underneath your knee.

1. Keeping the back of your knee resting on the towel, pull your toes up towards you.
2. Then slowly lift your foot up until your knee is as straight as possible.
3. Hold for a count of 3.
4. Slowly lower your foot back down to the bed.

### Repeat 5-10 times, 3 times a day

3. Heel Prop

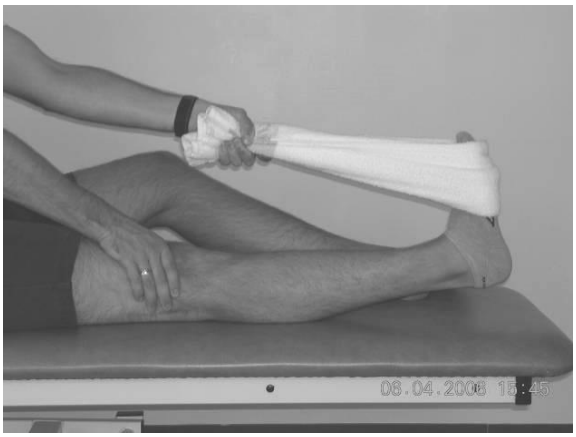



Rest your heel on a rolled up towel, making sure that your calf is raised off the bed. Then lie down and relax.
Your knee will hang under its own weight, stretching the muscles on the back of your knee.

1. This may be uncomfortable at first, so start off with 2-3 minutes and aim to gradually increase to 10 minutes.
2. To stretch further, every few minutes, gently contract the muscles on the front of your knee, pushing the back of your knee towards the bed.

## Start with 2-3 minutes aiming to build to 10 minutes, 3 times a day

4. Towel Stretch

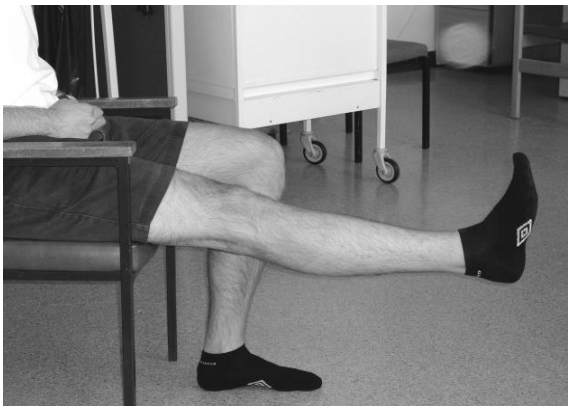



Sit upright with your legs outstretched.

1. Wrap a rolled towel around the foot of your operated leg and hold the ends with your hands.
2. Slowly pull the towel so that your heel lifts up and off the bed, whilst keeping the back of your knee flat on the bed.
3. Then contract the muscles above your knee, attempting to keep your foot in the air without the towel helping.
4. Let the towel loosen and attempt to keep your foot in the air for a count of 3, then slowly relax your muscles dropping your foot back onto the bed.

## Repeat 5-10 times, 3 times a day

5. Knee Extension

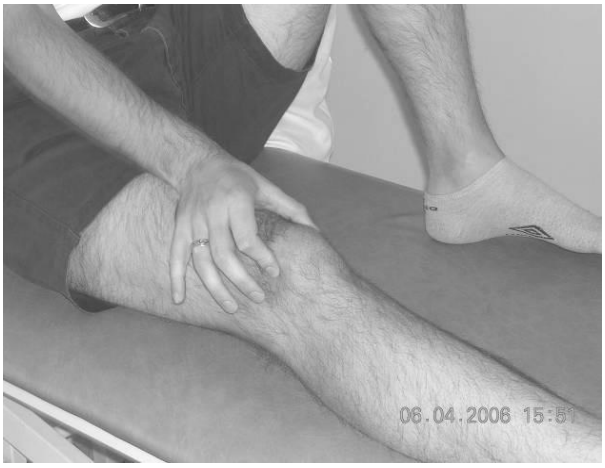


Sit upright on the edge of a bed or chair.

1. Slowly lift the foot of your operated leg, until your knee is fully straightened.
2. Slowly drop the foot back down allowing your knee to bend, and if possible try and bend your knee so the foot goes slightly under the chair or bed.

## Repeat 5-10 times, 3 times a day

6. Patella Mobilisation



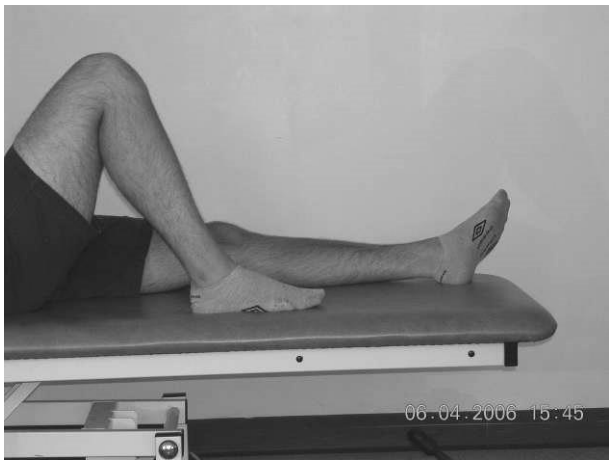

Sit upright with your legs straight out in front of you.

1. Grip your knee cap (patella) between your thumb and fore finger and gently move it from side to side.
2. It may feel odd to begin with and initially there may not be much movement.

## Repeat 5-10 times, 3 times a day

## POST-OPERATIVE EXERCISES - Weeks 2 to 6

1. Heel Slide

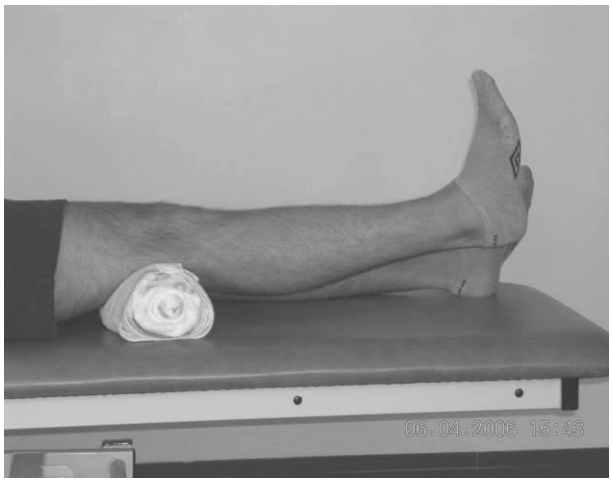



Lying on your back, start with your leg resting flat on the bed.

1. Slowly bend your knee, sliding your foot towards your bottom. Expect to feel a stretch over the front of the knee.
2. Hold for a count of 3.
3. Gently slide your heel back down, ensuring your knee returns to the fully straightened position after each repetition.

### Repeat 10 times, 3 times a day

2. Knee Prop

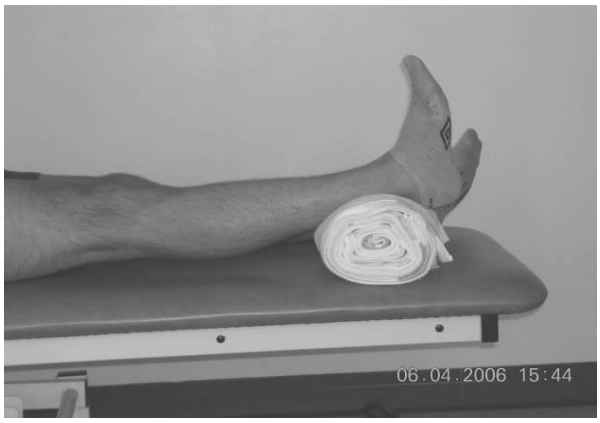



Place a rolled up towel underneath your knee.

1. Keeping the back of your knee resting on the towel, pull your toes up towards you.
2. Then slowly lift your foot up until your knee is as straight as possible.
3. Hold for a count of 3.
4. Slowly lower your foot back down to the bed.

### Repeat 10+ times, 3 times a day

3. Heel Prop

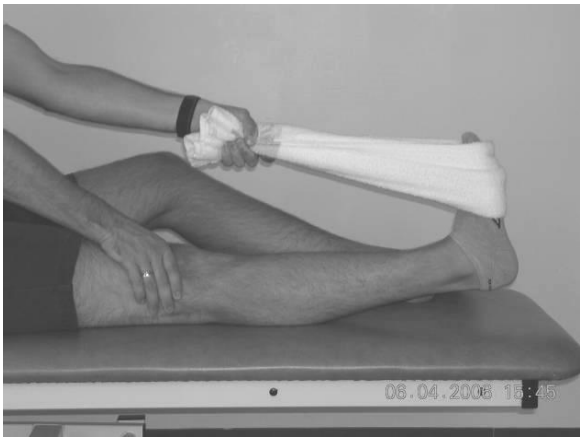



Rest your heel on a rolled up towel, making sure that your calf is raised off the bed. Then lie down and relax.
Your knee will hang under its own weight, stretching the muscles on the back of your knee.

1. This may be uncomfortable at first, so start off with 2-3 minutes and aim to gradually increase to 10 minutes.
2. To stretch further, every few minutes, gently contract the muscles on the front of your knee, pushing the back of your knee towards the bed.

## Start with 2-3 minutes aiming to build to 10 minutes, 3 times a day

4. Towel Stretch

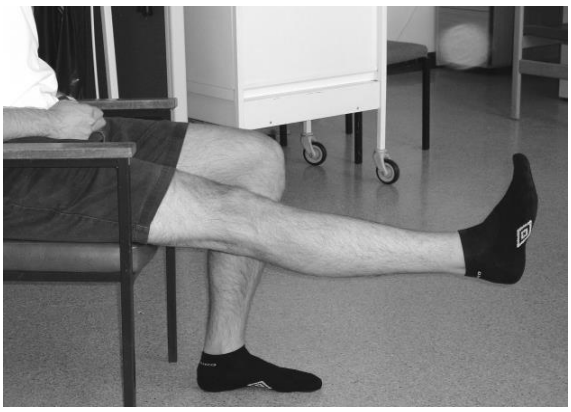


Sit upright with your legs outstretched.

1. Wrap a rolled towel around the foot of your operated leg and hold the ends with your hands.
2. Slowly pull the towel so that your heel lifts up and off the bed, whilst keeping the back of your knee flat on the bed.
3. Then contract the muscles above your knee, attempting to keep your foot in the air without the towel helping.
4. Let the towel loosen and attempt to keep your foot in the air for a count of 3, then slowly relax your muscles dropping your foot back onto the bed.

## Repeat 10 times, 3 times a day

5. Knee Extension

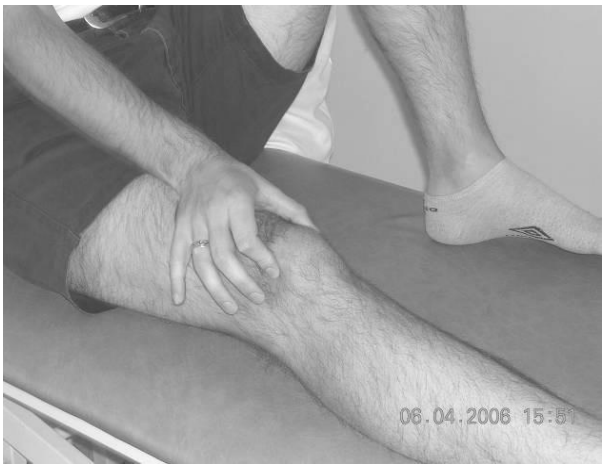


Sit upright on the edge of a bed or chair.

1. Slowly lift the foot of your operated leg, until your knee is fully straightened.
2. Slowly drop the foot back down allowing your knee to bend, and if possible try and bend your knee so the foot goes slightly under the chair or bed.

## Repeat 10+ times, 3 times a day

6. Patella Mobilisation




Sit upright with your legs straight out in front of you.

1. Grip your knee cap (patella) between your thumb and fore finger and gently move it from side to side.
2. It may feel odd to begin with and initially there may not be much movement.

## Repeat 10 times, 3 times a day

## Start these next exercises once you have been directed to do so:

7. Single Leg Balance

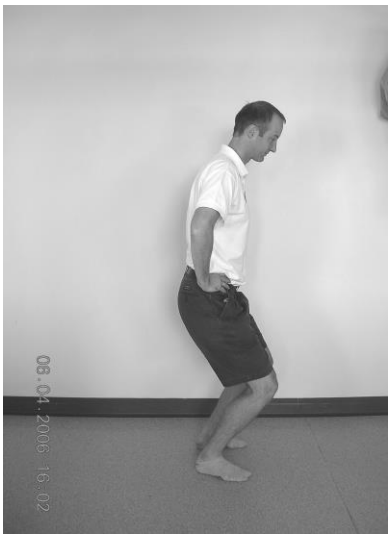
Start in a standing position; support yourself by holding onto a chair.

1. Slowly lift your non operated leg off the floor, so you are balancing on your operated leg.
2. If you feel well balanced let go of the chair you are holding onto.
3. Balance for as long as you can manage.
4. If you feel you are losing your balance place your hand back on the chair.

**Repeat 5 times, 3 times a day**

8. Quarter Squat

Start in a standing position with your feet shoulder-width apart.




1. Bend both knees, squatting, as if to sit down.
2. Hold this position briefly before slowly returning to an upright standing position.
3. Make sure that your knees bend straight over your toes, rather than turning in or out.

**Repeat 5-10 times, 3 times a day**

9. Single Leg Squat

You will need a small step e.g. the bottom step of your stairs at home.

1. Holding onto a nearby support, stand on the bottom step with your operated leg and straighten your knee.
2. Bend your knee, gently squatting, so that your other leg just touches the floor with your toes.
3. Then straighten your knee, lifting that foot back off the floor.

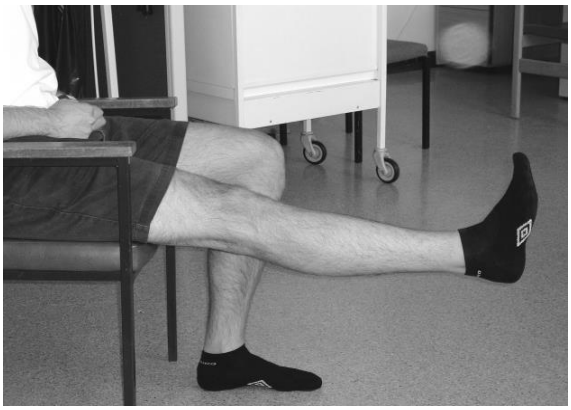
**Repeat 5-10 times, 3 times a day**

## POST-OPERATIVE EXERCISES - 6 Weeks to 6 months

## AND MAINTENANCE EXERCISES

Daily exercises should be done for 6 months but you will ideally need to do the following maintenance exercises 2-3 times a week for the life of your knee replacement.

1. Knee Extension



Sit upright on the edge of a bed or chair.

1. Slowly lift the foot of your operated leg, until your knee is fully straightened.
2. Slowly drop the foot back down allowing your knee to bend, and if possible try and bend your knee so the foot goes slightly under the chair or bed.

### Repeat 10+ times, 3 times a day

2. Single Leg Balance

Start in a standing position; support yourself by holding onto a chair.

1. Slowly lift your non operated leg off the floor, so you are balancing on your operated leg.
2. If you feel well balanced let go of the chair you are holding onto.
3. Balance for as long as you can manage.
4. If you feel you are losing your balance place your hand back on the chair.

### Repeat 5 times, 3 times a day

3. Quarter Squat

Start in a standing position with your feet shoulder-width apart.

1. Bend both knees, squatting, as if to sit down.
2. Hold this position briefly before slowly returning to an upright standing position.
3. Make sure that your knees bend straight over your toes, rather than turning in or out.

**Repeat 10+ times, 3 times a day**

4. Single Leg Squat

You will need a small step e.g. the bottom step of your stairs at home.

1. Holding onto a nearby support, stand on the bottom step with your operated leg and straighten your knee.
2. Bend your knee, gently squatting, so that your other leg just touches the floor with your toes.
3. Then straighten your knee, lifting that foot back off the floor.

**Repeat 5-10 times, 3 times a day**

# Total Knee Replacement
# Advice Sheet after six weeks

## Mobility:

Progress to Fully Weight Bearing (FWB) when you feel comfortable to do so.

## Exercise:

Continue with the exercises as instructed by your physiotherapist or specialist nurse. This will increase your strength.
Progress your walking distance, as you feel comfortable
Daily exercises should be done for 6 months but you will ideally need to do your maintenance exercises 2-3 times a week for the life of your knee replacement.

## Stairs:

Progress as you feel comfortable and as weight bearing allows.

## Housework:

Increase the amount of housework that you do over the next few months. Be careful when bending or twisting. You may kneel on your knee replacement if it is comfortable to do so, but always kneel on something soft.

## Wound:

If your wound is tender to touch you may massage it firmly using a moisturising cream to desensitise the skin and underlying tissues.

## Driving:

Begin driving when you are comfortable to do so; this is usually 6 weeks after your operation.
You must be able to safely perform an emergency stop and change gear comfortably.
You should inform your insurance company.

## Sleeping:

You may lie on either side as long as it is comfortable.
You may wish to put a pillow between your knees, but do not place a pillow under your knee so that your knee is bent.

## Restrictions:

Between 6 weeks and 3 months after your surgery all of the functional restrictions should be lifted.

## Sport / Leisure:

Most sporting activities can be resumed after 3-6 months, depending on comfort and level of competition.

- Low impact sports are no problem i.e. swimming (breaststroke after 3 months), cycling, doubles tennis, gym work (after instruction) and golf.
- High impact sports are not recommended and therefore are participated in at your own risk i.e. jogging, singles tennis, squash, jumping activities or football.
- Skiing should only be participated in if you are an experienced skier.
- Gardening should be done with care. If possible use a kneeling stool and long-handled tools.
- Manual occupations are likely to wear the prosthesis out quicker than more sedentary occupations.

## Travelling abroad:

Your total knee replacement will probably be detected at airport Xray machines. We do not advise travelling abroad or flying for at least the first 6 weeks after your surgery, although 3 months is recommended if you are flying long-haul.

We are happy to give advice or answer questions regarding your hip replacement.
Please contact us if required.

## Further Information

Exclusive video content and in-depth information relating to major hip and knee orthopaedic procedures, as carried out by the Orthopaedic Team at Hampshire Hospitals NHS Foundation Trust, can be found at
http://www.hipandknee.tv/

National Joint Registry (NJR) Website
http://www.njrcentre.org.uk/

National Institute for Health and Clinical Excellence (NICE) Website
http://guidance.nice.org.uk/

NHS Website
http://nhs.uk/

British Orthopaedic Association Website
http://www.boa.ac.uk/

Arthritis Research UK Website
http://www.arthritisresearchuk.org/

More information about anaesthesia at
http://www.rcoa.ac.uk/

If you have any questions, problems or need advice once you are at home, then phone the Orthopaedic Ward, Orthopaedic Education and Follow Up Clinic or the Occupational Therapy department and they will do their best to help.
**Orthopaedic Education and Follow Up Clinic - 01256 313580**
**Orthopaedic Ward D1 - 01256 313681**
**Occupational Therapy and Physiotherapy - 01256 313205**

If you are treated for a DVT (blood clot) or are prescribed antibiotics for problems with your wound, please contact: **Orthopaedic Joint Review Clinic - 01256 313459**

Hampshire Hospitals NHS Foundation Trust
Basingstoke and North Hampshire Hospital
Aldermaston Road
Basingstoke
Hampshire
RG24 9NA
01256 473202
http://www.hampshirehospitals.nhs.uk/ OCT 2013