Guidelines for Patients Having a Total Hip Replacement

UPMC Beacon Hospital
This information booklet has been written to give you and your family a basic understanding of what is involved when you require total hip replacement surgery.

A painful hip can severely affect your ability to lead a full active life. When you choose to have a total hip replacement, it will aim to improve your quality of life, giving you independence and healthy pain-free activity.

In this booklet we provide information, including things you should know before and after your operation. It is important for you to understand the advantages but also the possible problems, which may occur after this form of surgery.

Throughout your stay in UPMC Beacon Hospital, you will receive continuous advice and support from all members of the team.
What is a Total Hip Replacement?

A total hip replacement is designed to replace a hip joint which has been damaged by arthritis.

The hip is a ball and socket joint formed by the head of the femur or thigh bone, sitting into the acetabulum or socket in the side of the pelvis. Normally the surfaces are covered by a smooth substance known as articular cartilage or gristle. Due to arthritis, part or all of this cartilage may wear away, exposing the underlying bone thus causing roughening of the joint surfaces, stiffness and painful movement. A limp will usually develop and the leg may become shorter and also thinner due to muscle wasting.

A Total Hip Replacement (THR) replaces the worn head of the femur with a metal ball on a stem, which is inserted into the centre of the femur, and re-lines the socket (acetabulum) with a cup made of special plastic or metal.

A THR is principally designed to relieve pain and restore joint movement. It will also aim to correct the shortening affect of arthritis. It is important to note that it is not always possible to make both legs equal in length.

What can I expect from an artificial hip?

Pain should no longer be a concern – that is the major benefit of surgery. You will usually notice the benefit almost immediately after the operation, although you will of course have pain from the surgery to start with. You should have greater mobility and a better quality of life. But it is important to remember that an artificial hip is not as good as a natural hip. It does have some limitations, which are summarised later in this booklet.

Potential Complications of Hip Replacement Surgery

Incidence: THE MAJORITY OF PATIENTS WHO UNDERGO HIP REPLACEMENT SURGERY HAVE A PLEASANT EXPERIENCE WITHOUT ANY COMPLICATIONS. OF ALL PATIENTS WHO UNDERGO TOTAL HIP REPLACEMENTS MORE THAN 96% HAVE NO COMPLICATIONS. THE FOLLOWING IS A COMPREHENSIVE LIST OF ALL PROBLEMS THAT COULD POTENTIALLY OCCUR. FOR INFORMED CONSENT IT IS IMPORTANT THAT YOU KNOW OF THESE PROBLEMS BUT PLEASE BE REASSURED THAT THE VAST MAJORITY OF PATIENTS SUFFER NO COMPLICATIONS.

Infection: The major potential complication of joint replacement is infection. It may occur just in the area of the wound or deep around the prosthesis. It may occur during the hospital stay or after you go home. Infections in the wound area are generally treated with antibiotics. Deep infection may require further surgery and removal of the prosthesis. Infection is now a rare complication occurring in less that 1% of patients. Strict protocols in the operating theatre, intra-operative antibiotics, special surgical gowns and meticulous attention to surgical detail have helped achieve this low number, but for the unlucky 1% it is a catastrophic outcome.

Dislocation: This complication sometimes occurs after hip replacement, generally soon after the operation. In most cases, the orthopaedic surgeon can relocate the dislocated hip manually. Sometimes another operation is necessary. The patient can help prevent dislocation by strictly adhering to the guidelines governing sitting, bending and sleeping. These are outlined later in this booklet.

Leg Length Discrepancy: With arthritis, your leg may have shortened. If you have bilateral arthritis both legs may be shorter than they once were. The aim of joint replacement surgery is to correct the deformity and restore the normal length. After a total hip replacement the leg will feel longer due to the swelling in the joint (functional lengthening) and it may take up to 3 months for this to resolve. Occasionally it is necessary to lengthen a leg by a few millimetres to achieve stability and prevent dislocation.
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Impaired Nerve Function: Rarely, nerves in the vicinity of the hip joint are stretched or damaged during the operation (a neuropraxia). The nerve most at risk is the sciatic nerve that runs in the buttock just behind the hip joint. If this nerve is damaged during surgery, upon returning to the ward the patient may complain of altered sensation in the foot or, in more severe cases, inability to move their foot (foot drop). Fortunately, the majority of these neuropraxias resolve over a period of time (sometimes months) but in a very small minority the damage may be permanent.

Deep Venous Thrombosis & Pulmonary Embolism: There is a risk of deep venous thrombosis (DVT) after joint replacement surgery. Patients are treated for 6 weeks after their surgery with medication and mechanical devices in hospital to prevent this. In most cases the measures taken are effective. However, despite all these precautions some patients still develop clots and may require treatment with further medication. Pulmonary embolism (PE) may occur if the clot detaches from the vein and travels to the lung.

Late Infection: Spread of infection from another part of the body to a joint replacement can occur, sometimes years after the operation. To prevent such infections, persons with a joint replacement are generally given antibiotics with extensive dental procedures, urinary tract infections or surgery as well as before other types of surgery. If an infection occurs anywhere in the body it must be treated promptly with antibiotics.

Wear: Although wearing down of the bearing surface may occur, it is usually minimal. Wear may contribute to loosening and may require corrective surgery if it is excessive.

Loosening: Loosening of the prosthesis (total joint replacement) causes pain and if the loosening is significant a second joint replacement may be needed or performed. This operation is significantly more complicated than the original joint replacement.

Periprosthetic Fracture: This complication can occur after a hip replacement if the bone is weak, especially in the first two months after surgery. Sometimes it is caused by a fall or stumble. Periprosthetic femoral fracture causes thigh pain with weight bearing and may cause shortening and rotation of the limb.

Heterotropic Ossification: There is a small risk of developing ossification or calcification in the muscle tissue around the hip after surgery. In the majority of cases, this involves small islands of bone that do not cause any functional restriction and indeed is only noticeable on x-rays. Rarely, in less than 1% of cases there may be more extensive ossification that may cause stiffness and pain. This can be corrected by surgical removal but only after 12 months or more have passed since the surgery.

Stroke or Sudden Death: Although these complications can occur following surgery they are extremely rare following joint replacement.

Preparing for Admission Checklist

Clothing: Loose comfortable clothing is advised e.g. tracksuit bottoms or loose trousers.

Footwear: Slip-on shoes with a low heel and a rear counter (back) are recommended. Elastic shoe laces can turn your laced shoes into slip-on shoes. Loose fitting socks are also recommended. We do not recommend slippers or backless shoes. Do not wear tight fitting shoes as you may experience some temporary swelling in your operated leg after surgery.

Valuables: Please leave all valuables and jewellery at home.

Dentist: It is important that your teeth and gums are healthy before your operation as bad teeth can be a source of infection. Please make sure that you
have had a dental check up in the last six months.

**Manage Your Pain**

Pain is a common occurrence following any surgical procedure. It can be well managed with medications, special pain management devices and ice. The pain will naturally reduce as your wound heals and with regular use of analgesics (painkillers). It is imperative to keep your pain well controlled so you can mobilise comfortably, perform your physiotherapy exercises and resume normal activities after your surgery.

You will be asked to rate or score your pain regularly after your surgery. The score will depend on how your pain feels to you.

0 = No Pain, 10 = worst pain imaginable

Assign the number you feel best describes your pain. The nurses will administer appropriate treatments/medications depending on your pain score. The nurse will reassess your pain score after the treatment to make sure it has worked to reduce your pain.

Analgesics are painkillers and can include tablets, suppositories and injections into your veins or skin. You will receive analgesics at regular intervals throughout your recovery to ensure your pain is better controlled. You can ask your nurse for extra painkillers if you need them for soreness or before your exercises. Do not worry, as you cannot get addicted to any of these medications.

If you have any medication allergies or experience any side effects, please tell your nurse and doctor. Side effects are very easily treated and can include constipation, nausea, vomiting, itchiness, drowsiness and urinary retention.

The special pain management devices can include a Patient Controlled Analgesic (PCA) pump or an Epidural Infusion/Patient Controlled Epidural Analgesia (PCEA) pump.

A PCA allows you to administer a small amount of analgesic into a tube (cannula) in your arm. You press a special button to activate the pump if you feel pain. This pump can be used for 1-2 days after your surgery.

The epidural infusion/PCEA involves inserting a tiny catheter into your back to administer analgesia and local anaesthetics to numb your joint area so you do not feel pain. This pump can stay in place for up to 3 days after surgery. The medications infuse every hour and you may have a special button (PCEA) to give yourself extra analgesia if you feel pain.

**Physiotherapy**

The aims of physiotherapy are:

- To restore independence by being able to walk by yourself with a walking aid and be able to use stairs.
- To regain movement, strength and control around the hip.
- To encourage return to normal activities such as work and all your usual hobbies.

The physiotherapist will help to get you moving freely and advise you on exercises to strengthen your muscles.
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**Exercises**

Before being allowed to get out of bed for the first time, it is important to do the following exercises. These exercises will aid recovery by promoting muscle healing and by helping to develop strong muscles around the new hip. The benefits of these exercises are as follows:

- Minimise the risk of blood clot formation.
- Strengthen muscles and keep joints mobile.
- Prepared the operated leg for improved walking technique.

**The Exercises**

1. Take 3-4 deep breaths.
2. With your knees straight, move your feet vigorously up and down 20 times.
3. Tighten up your thigh and buttock muscles and hold for a few seconds – repeat 10 times.

You should ensure that you have had adequate pain medication prior to seeing the physiotherapist – please discuss your pain with the nursing staff.

The physiotherapist will teach you hip exercises post-surgery that are to be practised whilst lying and standing to build up the musculature around the hip joint and ensure that the affected joints do not become stiff post surgery.

These exercises should be performed within a comfortable range and should not lead to excessive pain or discomfort.

**Perform the following 15 times each/three times daily:**

**Strengthening Exercises**

1) **Ankle Pumps**
   - With your legs straight, bend your ankles up and down, towards and away from your face.
   - Repeat 20 times.
   - Continue this exercise until you are fully recovered and all ankle and lower-leg swelling has subsided.

2) **Quadriceps Setting**
   - With your leg straight out in front of you, tighten the muscles at the front of your thigh, pushing the back of the knee down into the bed.
   - The result should be the straightening of the knee.
   - Hold the contraction for 5 seconds
   - Repeat 15 times.

3) **Gluteal Setting**
   - Lie on your back with your legs straight and in contact with the bed.
   - Tighten buttocks.
   - Hold the contraction for 5 seconds
   - Repeat 15 times.

4) **Inner Range Quadriceps**
   - Place a towel at the back of the knee of the operated leg.
   - Push the back of the knee into the towel to
straighten the leg and lift the heel up off the bed. Hold the contraction for 5 seconds.
• Slowly return to your starting position.
• Repeat 10-15 times.

Mobilising Exercises

5) Active Hip and Knee Flexion
• Start by lying flat on your back with one pillow under your head, legs straight and toes pointed towards the ceiling.
• Keep the heel in contact with the bed and bend your hip and knee. Ensure it is not beyond 90 degrees hip flexion.
• Return to starting position. Repeat 15 times.

6) Active Abduction
• Place a smooth surface under your legs. Lying on your back, begin with your legs together.
• Slide your operated leg out to the side, then back to the mid position.
• Do not cross the legs. Return to starting position. Repeat 10-15 times.

7) Active Abduction in Standing
• Point toes forward.
• Bring the operated leg away from the body in standing.
• Return to start position slowly. Repeat 10-15 times.

8) Active Extension in Standing
• Step your operated leg backwards slowly.
• Try to keep your back and knee straight — hold for 2 seconds.
• Return your foot to start position.
• Repeat 10 times.

9) Active Flexion in Standing
• Lift your operated leg in front of you slowly.
• Remember not to bring your knee higher than the level of your hip.
• Try to keep your back straight. Return your foot to the floor.
• Repeat 10 times.

It is important to follow your physiotherapist’s instructions carefully and to only perform the movements taught to you.

Walking
In most cases, after an uncomplicated first hip replacement (primary total hip replacement) you will be encouraged, when using crutches for support, to put your full weight through the operated leg.

Your consultant will advise you when you can reduce your support to one crutch or progress to a stick in the opposite hand.

If you have had a complicated primary total hip replacement or a revision total hip replacement, you will be instructed to reduce the amount of weight bearing.
on your leg. In such a case you will be given specific instructions on how to proceed.

**Your Rehabilitation Goals:**

- Independent getting in and out of bed.
- Independent walking with crutches or walker on a level surface.
- Independent walking up and down stairs.
- Achieve targeted joint range of motion.
- Achieve required muscle power and be independent with exercise programme.

**Day of Procedure**

You will be asked to do deep breathing exercises and ankle exercises hourly while awake. A triangular pillow called an abduction pillow will be placed between your legs to protect your new joint. It is important to use this abduction pillow each time you lie down on your bed.

**Day One**

On this day, you may have an X-ray to check the position of your new hip. The physiotherapist will assess your hip and start your bed exercises with you. If you are feeling well enough, the physiotherapist will also help you get out of bed and take your first few steps.

**Day Two**

Today you will walk for a longer distance and you may also sit out for a longer period of time. The physiotherapist will progress your exercises and you will be expected to exercise regularly throughout the day.

**Day Three until Discharge**

Walking is part of your exercise programme and you should be increasing your walking distance on the ward daily. The physiotherapist will escort you to a flight of stairs and you will be taught how to climb the stairs in a safe and efficient manner. By the time of discharge, you will be mobilising independently and you will be safe and independent on the stairs.

**Cardinal Rules**

In order to avoid dislocating your new hip, you must not stress the joint (for the next six weeks post surgery or until your surgeon says otherwise) in the extremes of its motions. This can be done if you keep in mind the following precautions:

- Avoid bending past 90 degrees
- Avoid twisting your leg in or out
- Avoid crossing your legs
Using Chairs and Stairs

Sitting and getting in and out of chairs
You must sit in a firm high chair with arms and you will be taught to do so safely by your physiotherapist.

Sitting down
- The back of your legs must touch the chair before sitting.
- Leave the crutches aside.
- Reach both hands back to feel the arm of the chair.
- As you sit down, in the early post-operative days slide your operated leg forward straight out in front of you and sit into the chair. As time progresses, you will not be required to slide your leg out in front to sit down.
- To move back in the chair, slide your bottom back.

Getting out of a chair
- In the early post-operative days ensure your operated leg is straight out in front of you. As time progresses, you may stand up as normal.
- Move out to the edge of the seat.
- Position your walking aid correctly.
- Push down on the arms of the chair with your hands and lean on your un-operated leg to stand up.
- Do not lean forward.
- Straighten up and grip your walking aids.

Chair: Choose an upright chair with a firm seat and armrest. Ensure the seat allows your hips to stay higher than your knees. Sit up straight or lean backwards.

Toilets: As most toilets may be too low, you will require a raised toilet seat. There will be a raised toilet seat in your hospital room. Please do not use a commode during your hospital stay as the seat is too low for your new hip. Avoid twisting or bending on the toilet. Keep toilet paper within easy reach or take some before you sit down. Turn your whole body around to flush the toilet.

Stairs Technique

Going upstairs
- Maintain crutches/walking stick on the step below.
- Lead with the un-operated leg up onto the step above.
- Take your weight onto the un-operated leg by pushing on crutches/walking stick and banister.
- Follow with the crutch/walking stick onto the same step.

Chair: Choose an upright chair with a firm seat and armrest. Ensure the seat allows your hips to stay higher than your knees. Sit up straight or lean backwards.
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**Going downstairs**
- Put crutch/walking stick down onto the step below.
- Follow with the operated leg.
- Take weight onto the operated leg using the crutches and banister for support.
- Follow with the un-operated leg onto the same step.

**Occupational Therapy**

The occupational therapist’s role on the ward is to assess a patient’s home circumstances, looking at the physical environment and assisting patients in maintaining independence with everyday activities. If necessary, adaptive equipment can be prescribed as well as advice on alternative methods of performing everyday tasks while adhering to your hip precautions, ensuring safety with your new hip joint.

**Dressing**
Comfortable, loose clothing is best. Do not bend from the hips to pick up objects from the floor. A ‘helping-hand’ (long handled reacher) will be issued to you from the ward to assist with this.

Gather whatever items you need and keep them within close reach. Sit on the edge of the bed or a high chair.

Dress your operated leg first using the ‘helping-hand’ and shoe horn to assist with getting shoes/slippers on and off. Be careful not to bend forward or lift your knees above your hip. To put on a dress or skirt, slip this over your head.

A sock aid can assist with getting your socks on and off while avoiding bending at the hip.

When undressing, remove your trousers or underwear from your non-operated side first.

**Washing**
The safest method of washing after your hip replacement is sitting at the wash basin on a suitable high chair or perching stool. Or you can sit on the edge of your bed and have someone bring you a basin of water to be placed directly in front of you. Use the long handled aids to wash and dry your feet or ask for assistance.

**Showering/Bathing**
A walk-in shower usually has a small step to access and therefore should be negotiated with great care. A shower chair, non-slip matt and grab rail will maximise your safety if you choose to use the shower. If you have a shower over your bath please discuss bathing aid options with the occupational therapist.
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Kitchen Activity
You are likely to require help from your family and friends with shopping, meal prep and cleaning tasks. You made need to reorganise your kitchen so that all items/objects are placed at waist level and within easy reach. A perching stool can be used in the kitchen for basic snack and drink prep at the work top.

General Safety Advice for Home
Please be aware of the hazards in your home as this will make your recovery easier and safer.

- Move electrical cords, phone lines and ensure clear pathways.
- Store items within easy reach, specifically in the kitchen and bathroom areas. You will not be able to bend down to lower cupboards.
- Remove rugs including bath mats and entrance mats.
- Be careful with pets and children.
- Be aware of water spills, slippery floors and always think before you move.
- Pace yourself and take your time.

Car Transfers
Your consultant will tell you when you are allowed to drive again after your operation. When travelling in the car, you should sit in the front passenger seat. It can be difficult getting in and out of a low car seat so please ensure you are following your hip precautions. It is important that you avoid long journeys if possible.

Your family or carer should bring a cushion or pillow to place on the passenger seat, raising the height and ensuring your hips are kept above your knees, keeping the seat reclined back as far as possible.

When getting into the car, lead with your bottom. Stand with your back to the car; lower yourself keeping your operated leg straight in front of you. Slide back on to seat and let your driver assist with your legs, keeping both legs together and your knees lower then your hips. Please ensure you are not twisting.

When getting out of the car, lift your legs out of the car first with assistance from your driver. Slide towards the edge of the seat and stand up keeping your operated leg stretched out in front of you.

General Recommendations

Sleeping
While in hospital some patients find it harder to sleep for various reasons, e.g. different bed and environment. If you find that you are having this problem please let the nursing staff know as you may require something to help you sleep.

Nausea
Some of the medications you may be prescribed can cause nausea. Please inform the nursing staff if you feel sick or are getting sick. Your medications may need to be changed/adjusted and the nursing staff can also get a medication prescribed to help relieve this nausea.

Pain Medication
In most cases you will not require additional pain medication when you leave hospital. If necessary, you will be given a prescription for a potent analgesic. After this you should only require Panadol for pain relief.

In order to be safe driving a motor vehicle, you must be in control of the pedals effectively. It is recommended that you not drive a motor vehicle until you have complete control over your leg. This does not normally occur until at least 6
weeks after your surgery. When you do become capable of handling a motor vehicle, it is recommended to complete a trial period to accustom yourself to your new hip, in an empty car park.

Stockings
Your consultant may wish for you to go home with elasticated stockings. These can be an important part of preventing the development of deep vein thrombosis (blood clots in the legs). It is recommended to wear these for 6 weeks after surgery.

Antibiotics
Following hip replacement surgery there can be a greater risk of developing an infection in the hip with some procedures. Antibiotics to prevent the development of an infection in the hip should be taken when having a bladder catheter inserted, urinary surgery (e.g. prostatectomy) or when having infected teeth removed. Always tell your dentist that you have had a total hip replacement.

Travel
Prolonged periods of sitting on airlines may predispose to leg swelling and deep venous thrombosis, and it is recommended to avoid this until 6 weeks after your surgery. If you must travel, wear your stockings and keep your leg elevated as much as possible.

Activities
During the first 6 weeks after your surgery, it is recommended limiting your activities to walking with the support.

Sexual activity may be resumed at 4-6 weeks when you are physically and mentally ready and when you have a clear understanding of the precautions to be followed to protect the new joint.

We recommend that you refrain from more strenuous activities such as golf and social tennis for a period of three months.

Discharge Instructions
You will be discharged from hospital 5-7 days after your operation. Some people go straight home, others require some time in a convalescent home. When you leave the hospital you will be given an appointment to see your consultant, usually around 6 weeks after the operation. This is for a routine check-up which will make sure you are progressing satisfactorily and x-rays will be taken. It is important to still bring your old x-rays with you at this time. Subsequent appointments may be at 6 months, one year, or two years after surgery.

You will also be offered outpatient physiotherapy in the hospital and encouraged to attend this 2-3 weeks post discharge to improve your recovery. It is advisable to attend physiotherapy in this hospital as the physiotherapists will have access to all of your medical notes. The physiotherapy team also are in direct contact with your surgeon should a problem arise.

On discharge from hospital, your consultant will prescribe you some medications. One of the medications prescribed will be for pain. Plan to take your pain medication 30 minutes before your exercises. Preventing pain is easier than chasing pain. If pain control continues to be a problem, contact the orthopaedic centre or your general practitioner.

Wound Care
You will leave the hospital with a simple surgical wound. Before leaving the hospital your dressing will be changed and the wound site checked. Keep the wound dressing clean and dry for 72 hours. You may then remove the dressing after showering and leave exposed.

Infection may occur despite your very best efforts. If any of the symptoms below
occur then you will need to see your GP or liaise with the centre for orthopaedics re advice and possibly antibiotics.

**Signs of Infection**

If you develop any of the following signs of infection, it is important to report them to your doctor. The signs of infection include:

- Redness around the wound site
- Increased pain in the wound
- Swelling around the wound
- Heat at the wound site
- Discharge of fluid – may be green or yellow
- Odour or smell from the wound
- Feeling of being generally unwell
- Fever or temperature

Most people will have sutures (stitches) that will need to be removed approximately 10-14 days after surgery. This may be done by the GP, Dressing Clinic, consultant or in the convalescence centre

**Nutrition**

Aim to follow a well balanced diet which includes protein, fats and carbohydrates. It is important to be well nourished to promote wound healing, so eat well and do not attempt to lose weight at this time.

The following nutrients are particularly important to promote wound healing:

- Protein
- Vitamin A
- Vitamin C
- Iron
- Zinc

- Protein can be found in meat, fish, eggs, milk, cheese, yoghurt, beans and pulses.
- Vitamin A can be found in liver, fortified milk, carrots, turnips, and leafy green vegetables.
- Vitamin C can be found in citrus fruits, potatoes and leafy green vegetables.
- Iron can be found in liver, red meat and leafy green vegetables.
- Zinc can be found in fortified breakfast cereals, red meat and leafy green vegetables.

If you are on a special diet or have any queries, please discuss with your doctor, nurse or dietician.

**Conclusion**

We hope that you have found this booklet useful and that it has helped to relieve some of your fears and anxieties regarding your surgery.

During your hospital stay, your medical team will be available to discuss anything mentioned in this booklet or to answer any other queries you may have.

We look forward to meeting you soon.
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**Individual Patient Notes**

- Consultant Name:
- Date of Surgery:
- Surgery Note:
- Weight Bearing Status:
- Walking Device:
- Date for Removal of Sutures (Stitches):
- Other Recommendations:

**Exercise Checklist**

**Strengthening Exercises**
- □ Ankle Pumps
- □ Quadriceps Setting
- □ Gluteal Setting
- □ Inner Range Quadriceps

**Mobilising Exercises**
- □ Active Hip and Knee Flexion
- □ Active Abduction
- □ Active Abduction in Standing
- □ Active Extension in Standing
- □ Active Flexion in Standing

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