Guidelines for Patients having a Total Hip Replacement
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. The aim of a total hip replacement is to improve your quality of life, giving you independence and healthy, pain-free activity.

In this booklet, we provide you with information on total hip replacements, including things you should know before and after your operation.

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 (THR) is designed to replace a hip joint that 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 THR replaces the worn head of the femur with a metal ball on a stem, which is inserted into the centre of the femur. A THR also 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 effect 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.

Preparing for Admission Checklist

Smoking: It is advisable to give up smoking, or at least to reduce the number of cigarettes you smoke a day, as smoking interferes with wound healing. It also impairs bone growth and repair and will delay or even prevent healing of the joint after surgery.

Clothing: Loose comfortable clothing is advised eg. long shorts, tracksuit bottoms or loose three-quarter length 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.
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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.

**Skin preparation:** The skin around the area to be operated on will have to be prepared for surgery. This will involve washing the area with a disinfectant agent the night before and the morning of surgery, as well as using special anti-microbial wipes on the area. More information on this is given at the pre-operative meeting with the nurse. The pre-operative meeting is a time for you to speak with the orthopaedic nurse and physiotherapist and ask any questions you may have with regards to your surgery and rehabilitation. Patients who are being admitted the day before their surgery will receive information on skin preparation at this time.

**Planning your discharge:** If there is any possibility that you may require convalescence or additional help at home, now is the time to start planning and arranging it. It can be extremely difficult to get a bed in a convalescence centre at short notice. If you require further information regarding this, we have an information pack to help you plan your convalescence. Convalescence is the term we use to describe where you will go to recover after your surgery. This may be your home setting or you may require a short stay in a nursing home.

**Pain Management**

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 required to rate or score your pain regularly after your surgery. You will be asked to give a number between 0 and 10, where 0 represents no pain and 10 represents the worst pain you can imagine. Your score will depend on how intense your pain is.
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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.

<table>
<thead>
<tr>
<th>No pain</th>
<th>Mild pain</th>
<th>Moderate pain</th>
<th>Severe pain</th>
<th>Very severe pain</th>
<th>Worst pain imaginable</th>
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<tbody>
<tr>
<td>0</td>
<td>1</td>
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<td>3</td>
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<td>5</td>
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</tbody>
</table>

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 maintain pain control. You can ask your nurse for extra painkillers if you need them for soreness or before your exercises. People using analgesia to manage pain are extremely unlikely to become addicted.

If you have any medication allergies, please tell your nurse and doctor. If you have had unpleasant experiences taking analgesia in the past or are concerned about taking painkillers, please discuss this with your nurse or doctor. Side effects are very easily treated; they 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 plastic tube 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 2 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 a gradual 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.

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.

Cardinal Rules

In order to avoid dislocating your new hip, you must not stress the joint (for the next three months 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

RIGHT  WRONG

RIGHT  WRONG

RIGHT  WRONG
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**The Exercises**

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 exercises on the following pages 15 times each, three times daily.**

**Bed Exercises**

1. **Ankle Pumps**
   - With your legs straight, bend your ankles up and down, towards and away from your face.
   - Repeat 15 times
   - Continue this exercise until you are fully recovered and all ankle and lower-leg swelling has subsided.

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

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

![Inner Range Quadriceps](image)

### 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 of your operated leg 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.

![Active Hip and Knee Flexion](image)

### 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 15 times.

![Active Abduction](image)

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

![Active Abduction in Standing](image)
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.

**Walking Pattern with Crutches:**

1) Stand in the middle of your crutches.

2) Place crutches in front of you. They should be a comfortable arm’s length away

3) Push down on the hand grips. Step forward to the crutches with your operated (weaker) leg.

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**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 15 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 15 times.
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4) Step past the crutches with your unoperated (stronger) leg.

5) Repeat the same sequence.

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**Using Chairs and Stairs**

**Sitting and getting in and out of chairs**

You must sit in a firm high chair with arms – 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/frame aside or held in one hand.
- 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 unoperated leg to stand up.
- Do not lean too far forward.
- Straighten up and grip your walking aid.

**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 unoperated (good) leg up onto the step above.

**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 unoperated leg onto the same step.

*Hint: The good leg goes up the stairs first and bad leg goes down the stairs first.*

**Rehabilitation Goals**

**Hip Replacement – Goals of Care**

The goals on the following pages have been developed to assist you in understanding your patient journey and also to outline your physiotherapy goals, as a patient in UPMC Beacon Hospital. Your goals are divided into two areas, Nursing and Physiotherapy, and these start right after your surgery so you have some goals that remain the same from day one, with new goals added each day.
## Nursing Goals

### Day of Procedure
- **You will:**
  - receive adequate pain relief
  - be started on intravenous (IV) antibiotics. These will be continued until day one and then stopped unless you are told otherwise.
  - depending on the time of day you return from theatre, you will be given something light to eat and drink
  - may have an x-ray of your new joint completed on this day or day one
  - commence medications to prevent clots from occurring on this day or on day one
  - have the wound dressing checked to ensure it is intact
  - have an abduction pillow placed between your legs at all times when you are resting in bed.

## Your Physiotherapy Goals

### Day One
- **You will:**
  - receive adequate pain relief
  - be started on medications to prevent clots and be given IV antibiotics
  - have bloods taken to check your iron levels after surgery
  - have a wash and get dressed with assistance
  - have ice packs applied to your hip a minimum of three times per day
  - be encouraged to drink plenty of fluids
  - have the wound dressing checked to ensure it is intact
  - have an abduction pillow placed between your legs at all times when you are resting in bed.

- **Complete hip exercises under the supervision of the physiotherapist**
- **Get out of bed with the help of the physiotherapist**
- **Walk a short distance with a frame**
- **Sit out for a short period of time - maximum of 1.5 hours**
- **Understand cardinal rules after hip replacement surgery**
- **Participate in a second physiotherapy treatment session of exercises and walking practice.**

## Nursing Goals

### Day Two
- **You will:**
  - receive adequate pain relief
  - be given medications to prevent clots
  - have your wound dressing checked to ensure it is intact
  - have a wash and get dressed with assistance
  - have ice packs applied to your hip three times per day
  - ensure the abduction pillow present at all times when you are resting on the bed
  - mobilise with an appropriate aid (Zimmer frame or crutches) under the supervision of the nurse or healthcare assistant.

## Your Physiotherapy Goals

### Day Two
- **Walk outside of your patient room with a frame**
- **Complete exercises with physiotherapist**
- **Complete exercise independently throughout the day**
- **Sit out for a longer period of time**
- **Progress to walking with two elbow crutches if able.**

## Nursing Goals

### Day Three
- **You will:**
  - receive adequate pain relief
  - be given medications to prevent clots
  - be checked by your nurse to ensure your bowels have returned to normal function
  - have your wound checked to ensure it is clean and dressing intact
  - have resumed a normal diet
  - have your Discharge Plan reviewed by your nurse
  - ensure the abduction pillow present at all times when you are resting on the bed
  - be encouraged to mobilise with appropriate aid.

## Your Physiotherapy Goals

### Day Three
- **Walk longer distances outside of your patient room with elbow crutches**
- **Learn how to climb stairs with the physiotherapist**
- **Complete exercise independently 3 times throughout the day**
- **Sit out during the day.**

## Nursing Goals

### Day Four
- **You will:**
  - receive adequate pain relief
  - be given medications to prevent clots
  - be checked by your nurse to ensure your bowels have returned to normal function
  - have your wound checked to ensure it is clean and dressing intact
  - have your Discharge Plan reviewed by your nurse and implement any arrangements
  - be encouraged to mobilise.

## Your Physiotherapy Goals

### Day Four
- **Walk safely and independently**
- **Independent and safe on stairs using elbow crutches**
- **Independent in completion of your exercise programme**
- **Understand the importance of rehabilitation and follow up outpatient physiotherapy**
- **Ensure you have the necessary equipment for your rehabilitation.**

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**Occupational Therapy**

The occupational therapist’s role 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 shower usually has a small step in and care should be taken getting in and out. A shower chair, non-slip matt and grab rail will maximise your safety if you choose to use the shower.

We would advise that no bath transfers are completed as the hip position can be compromised with too much flexion occurring. Sitting while washing at a sink or using a family member’s shower are also useful methods of bathing. If a bath transfer must be completed than assistance of family member/carers, as well as the use of assistive equipment would be required. The website...
www.assistireland.ie is a useful resource for information and local suppliers of assistive equipment for showering/bathing. If you require more specific advice in relation to bathing the Occupational Therapist can assist you.

**Kitchen Activity**

You are likely to require help from your family and friends with shopping, meal preparation 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.

**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. You will have to sleep on your back for at least 6 weeks until reviewed by your consultant.

**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**

On discharge from hospital, you will be prescribed some medications. At least one of the medications 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 your General Practitioner.
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** – found in meat, fish, eggs, milk, cheese, yoghurt, beans and pulses.
- **Vitamin A** – found in liver, fortified milk, carrots, turnips, and leafy green vegetables.
- **Vitamin C** – found in citrus fruits, potatoes and leafy green vegetables.
- **Iron** – found in liver, red meat and leafy green vegetables.
- **Zinc** – 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.

Bowel Care

A high fibre diet is recommended after surgery. You may also be prescribed laxatives (i.e. Lactalose, Senokot) during your hospital stay.

Leg Swelling

Swelling can occur for 6 -12 weeks post surgery or longer, and can also affect the ankle and foot.

Bruising

Bruising can affect the entire operated limb and may be present for a few weeks after the surgery.

Driving

Your consultant will tell you when you are allowed to drive again after your operation. 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 in an empty car park to accustom yourself to your new hip. Please check with your motor insurer prior to your return to driving. There may be additional requirements or restrictions to follow after your surgery.
Car Transfers

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 than 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.

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.

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.

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 3 months.

**Discharge Instructions**

Assuming no complications arise after your operation, and once your physiotherapist considers you independently mobile, you will be discharged from hospital. This is usually about day four or day five of your stay. 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 may be taken. It is important to still bring your old x-rays with you at this time. Subsequent appointments may be at 6 months, 1 year, or 2 years after surgery.

You will be advised to attend outpatient Physiotherapy within two to three weeks of discharge. You can either attend a private physiotherapist in the hospital or a physiotherapist more local to your home. If you would prefer to exercise in a group setting, UPMC Beacon Hospital provides weekly group exercise classes for total hip replacement patients. Your physiotherapist will provide you with the details of these classes. You will need to continue your physiotherapy for 2-3 months after your surgery. Your physiotherapists will advice you after your surgery regarding your requirements.

**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 apply a fresh dressing. Please check with your nurse prior to discharge regarding your consultant’s specific wound care instructions, and instructions regarding removal of clips or stitches.

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 for 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
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- 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.

Make sure you receive a copy of the *Patient Wound Care Discharge Instructions* prior to your discharge.

**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.

**Individual Patient Notes**

- Consultant Name:
- Date of Surgery:
- Weight Bearing Status:
- Walking Device:
- Date for Removal of Sutures (Stitches):
- Other Recommendations:
## Exercise Diary Following Total Hip Replacement Surgery

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<thead>
<tr>
<th>Day Post Operation:</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
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<tbody>
<tr>
<td>Time of Day:</td>
<td>Morning</td>
<td>Afternoon</td>
<td>Evening</td>
<td>Morning</td>
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<td>Target Volume (Repetitions x Sets)</td>
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<td>5. Active Hip &amp; Knee Flexion</td>
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<td>6. Active Abduction</td>
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<td>8. Active Extension in Standing</td>
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<td>9. Active Flexion in Standing</td>
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**Instructions:** The exercise programme will begin the first day after your surgery and the physiotherapist will teach you the exercises the first time you perform them. Following this you should record the number of repetitions of each exercise that you complete in the boxes in the table above. The aim is to perform three exercise sets per day (morning, afternoon and evening).
Appendix

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.

**Pain**
The hip area will be sore after the operation. If I am in pain, I understand that it is important to tell staff so that medications can be given. Pain will improve with time. Rarely, pain will be a long-term problem but may be due to altered leg length or any other complications listed, or sometimes, for no obvious reason.

**Bleeding**
This is usually small and can be stopped during the operation. However patients with large amounts of blood loss may need a blood transfusion or iron tablets. Sometimes a blood clot may form or a large bruise may be noticed at the wound site, which may become painful and require surgery to remove it.

**Deep Vein Thrombosis (DVT)**
A DVT is a blood clot in the vein. This may present as red, painful and swollen legs (usually). The risks of a DVT are greater after any surgery and especially bone surgery. Although not a problem themselves, a DVT can pass in the blood stream and be deposited in the lungs (a pulmonary embolism/PE). This is a very serious condition, which affects your breathing. Your consultant will prescribe medication to limit the risk of a DVT forming. Starting to walk and mobilising after surgery is one of the best ways to prevent clots from forming.

**Discrepancy in Leg Length**
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. This rarely requires a further operation or shoe implants to correct the difference.

**Dislocation of Hip**
If this occurs the joint can usually be put back into place without the need for surgery; however you may need an anaesthetic or sedation to relax your muscles. Sometimes this is not possible, and an operation is required, followed by the application of a hip brace or, if the hip keeps dislocating, a revision operation may be necessary. The patient can help prevent dislocation by strictly adhering to the guidelines governing sitting, bending and sleeping. These are outlined in this booklet.

**Intra-operative/Post-operative Fracture**
During and post the surgery there is a possibility that bone may fracture. If this occurs the fracture will be treated but may temporarily alter the amount of weight that can be put on the affected leg after surgery. 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.
Guidelines for Patients having a **Total Hip Replacement**

Periprosthetic femoral fracture causes thigh pain with weight bearing and may cause shortening and rotation of the limb.

**Loosening/Wear of the Prosthesis**
Modern operating techniques and new implants mean that most hip replacements last over 15 years. In some cases this can be significantly less. 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. The reason is often unknown. Implants can wear with overuse. There is still a debate as to which material is the strongest. The reason for loosening is also unknown. Sometimes it is secondary to infection. 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.

**Infection**
Antibiotics are given just before and after the operation and the procedure will be performed in an operating theatre with sterile equipment. Despite this, infection may still occur. The wound site may become red, hot and painful. There may also be a discharge of fluid or pus. This is usually treated with antibiotics and an operation to wash out the joint may be necessary. In rare cases, the implants may be removed and replaced at a later date. The infection can sometimes lead to sepsis (blood infection) and strong antibiotics may be required.

**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.

**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 are 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.

**Vascular Injury/Damage**
There are several blood vessels that are located near the hip joint. In rare cases injury to the vessels may occur during surgery and are dealt with during the operation by repairing the vessel. In extremely rare cases, this could result in loss of limb or life.

**Nerve Injury/Damage**
There are several nerves located near the hip joint. In rare cases, these may be injured during surgery due to direct damage from surgical instruments, or indirect damage due to stretching as the hip joint is manipulated (a neuropraxia). Most injuries are temporary and may resolve with no permanent damage. In rare cases, the nerve injury may be permanent. 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). In a very small minority the damage may be permanent, resulting in loss or heightened sensation and decreased...
motor (muscle) function to the leg.

**Blood/Pulmonary Embolism (PE)**
A PE is a consequence of a DVT (Deep Vein Thrombosis). It is a blood clot that breaks away and can travel to the lungs and can make breathing difficult. A PE can be treated but can also be fatal.

**Stroke (CVA)/Sudden Death**
Although these complications can occur during any surgery they are extremely rare following joint replacements.
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