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TOTAL HIP REPLACEMENT

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CMC-Lincoln has earned the Joint Commission's Gold Seal of Approval for Disease-Specific Certification by demonstrating compliance with the Joint Commission's national standards for healthcare quality and safety in hip and knee replacement. The certification recognizes CMC-Lincoln's outstanding performance and commitment to a higher level of care.

Introduction

You have been diagnosed with significant arthritis in the hip which necessitates a total hip replacement. This procedure should reduce or eliminate your pain and restore function. Total hip replacement is usually a successful as well as reliable procedure; pain is often reduced by between 90 and 95 percent for people undergoing the procedure. Assuming they have minimal or no arthritis in other joints, the majority of patients can move more easily and walk without assistance following the procedure. Following rehabilitation, you should be able to resume most physical activities after your hip replacement. Your doctor will discuss limitations specific to your condition, but in general, most competitive sports are not recommended while activities such as golf, swimming, and walking are often permitted. Repetitively pushing, pulling, and lifting objects weighing more than 25 pounds should be avoided.

A combined effort is required by both the orthopedic surgeon and the patient in order to obtain an optimal result from your hip replacement procedure. As is the case with all surgical procedures there are certain risks involved. It is important that before deciding to undergo this procedure, the patient have a full understanding of what the operation entails, have reasonable expectations, and a strong commitment to work toward recovery. This booklet will help you understand the operation and recovery.

The objectives of total hip replacement are:

1. To reduce pain
2. To improve range of motion and joint function
3. To improve quality of life

Anatomy

The hip joint is a "ball and socket" joint. The ball (femoral head) and the socket (acetabulum) are normally covered with a smooth gliding surface known as "articular cartilage." When the hip becomes damaged as the result of trauma or disease such as "wear-and-tear arthritis" (osteoarthritis), inflammatory arthritis (rheumatoid arthritis), or loss of blood supply (avascular necrosis), the joint cartilage degrades. This leaves bare bony surfaces which can be very painful due to bone spurs around the joint and limited range of motion. Common activities such as walking, getting out of a chair, or putting on socks and shoes can become painful and difficult.

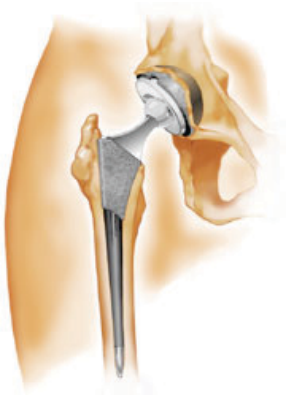
During surgery, the damaged joint and bone spurs are removed while the top of the thigh (femur) bone is replaced with a metal or ceramic ball with a stem placed down into the shaft of the bone. A metal and plastic hemispherical cup is fixed into the pelvis as a replacement socket for the replacement thigh bone.

The surrounding muscles and ligaments are preserved to hold the hip together. The new joint will again be smooth and glide easily and most of your pain should be relieved and functional motion restored over a short period of time. During a total hip replacement, all arthritis is removed from the hip.

Total Hip Replacement Implants

Most of the time, the hip implant used for the replacement has a porous or roughened surface that allows your bone to attach directly to the prosthesis without the need for cement. In some cases, cement will be used to secure the implants to your bone. The advanced implants that will be used for your hip replacement utilize titanium allow, an alloy that is proven to be extremely durable. The "ball," which will

go on top of the femoral component, will either be made of an oxidized zirconium or a cobalt chromium alloy. A plastic liner, or "bushing," made of high-density polyethylene will be placed inside the socket. Examples of these implants are available in your physician's office.



Depending on your anatomy and specific condition, different implants may need to be used to obtain the best result.

Surgical Techniques

Choosing a surgical technique is an individualized process which will be discussed at length with you by your doctor. Many factors, include age, weight, medical history, possibly hip deformities, and history of prior hip surgeries are considered when deciding upon the appropriate surgical technique. Based on these factors, your doctor may elect use a "standard" technique or potentially a less invasive approach.

Posterior Approach

The posterior approach is the most common approach for revision surgery and is also used in complex cases including hip resurfacing. This approach involves an incision made over the side of the hip and curving back towards the buttock. During the procedure, the surgeon will detach some of the small muscles in the back and hip in order to operate on the hip joint.

Following this surgery, you will have certain restrictions of hip and leg movement to minimize the risk of dislocation (occurring when the ball "pops" out of the socket.) Some of these include restrictions on crossing your legs, bending over too far, and sitting in low chairs. Your doctor and physical therapist will discuss these recommendations in detail with you.

Direct Lateral Approach

This surgical approach is also common in joint replacements and allows the surgeon better access to the hip joint. For this approach, the incision (usually about six inches long) is made directly over the side of the hip. About a third of the muscle groups are temporarily detached by the surgeon for access to the hip joint. With the direct lateral approach, the rehabilitation may be longer in order to allow the repaired muscle to heal. To prevent dislocations and speed up recovery time, your doctor and physician will recommend restrictions on certain movements. Your doctor and physical therapist will discuss these recommendations in detail with you.

Minimally Invasive Surgery

Many patients ask about minimally invasive surgery or "MIS." While this approach to hip replacement was more prevalent in the early 2000s, it was difficult to perform due to limited visibility and access to the hip. Research has shown a higher rate of complications and less-than-optimal results with this technique. In addition, this approach sometimes led to damage to the structures around the hip. As a result, "true" MIS techniques have been widely abandoned for joint replacement procedures. While some surgeons currently promote an MIS approach, they're actually often referring to a small skin incision into the muscles and other structures underneath the skin, which is of no real benefit to the patient. Rehabilitation is much more dependent upon the recovery muscles underneath the skin as opposed to of the length of skin incision.

Potential Complications

All surgeries have potential risks. Complications from revision total hip replacement sometimes occur despite every necessary precaution taken by your surgical team.

The average total risk for an acute complication is less than five percent, meaning that the typical patient has a 95 percent chance of a complication-free procedure. A complete medical checkup should be scheduled prior to surgery to assess your medical risks. Potential risks include the following:

Infection

Infection is one of the most serious complications that can arise with hip replacement surgery, although the risk of developing an infection is less than one percent. You will be administered antibiotics prior to and immediately following your procedure to help reduce the likelihood of infection. It is important to let your doctor know about any antibiotic or drug allergies that you may have. Rare intra-operative complications include bone fracture with possible non-healing of bone as well as injury to nerves or blood vessels around the hip.

Intra-operative Complications

Rare intra-operative complications include bone fracture with possible non-healing of bone, and injury to nerves, or blood vessels around the hip.

Hematoma and Instability

Surgical risks include, but are not limited, to hematoma, loss of range of motion, and instability. Dislocation is usually preventable if you follow the positioning restrictions issued by your physician and/or physical therapist. If dislocation does occur, you will not be able to walk and will need to go to the emergency room where you will be sedated while a physician reinserts the hip.

Other Potential Issues

Another post-operative complication is heterotopic ossification (atypical calcification within the muscle), which is abnormal growth of bone in non-skeletal tissues. Treatment often includes gentle range of motion of the joints as well as physical therapy.

Possible medical complications include blood clots (deep vein thrombosis), blood clots that migrate to the lungs (pulmonary embolism), fat globules migrating to the lungs or brain (fat embolism), allergic conditions, the inability to pass urine (urinary retention), bowel distension (ileus), constipation, acute pain, heart attack or other cardiac or lung problems, and very rarely death.

It's important to note that the average total risk for an acute complication is less than five percent, meaning the typical patient has a 95 percent chance of a complication-free procedure. A complete medical checkup should be scheduled prior to surgery to assess medical risks.

Muscle Balancing

While every attempt will be made to make your leg lengths are equal, it may not be possible or desirable – especially if a great deal of scarring or muscle laxity is present. If the leg is made too long the muscles will be too tight, the hip will be stiff and range of motion will be limited. If the leg is left too short, the muscles will be too loose and the hip can dislocate. In some instances, a shoe lift is prescribed to compensate for length differences.

Potential Long-term Problems

Long-term problems can also develop after a total hip replacement. These include infection traveling to the hip from other sources in the body, reflex sympathetic dystrophy, chronic pain, chronic leg swelling or edema, wear of the plastic component, bone reaction to the wear debris, or loosening of the implant. Most total hip implants can be expected to wear and eventually loosen due to general wear and tear or excessive stress to the joint. Therefore, it is important for the patient to comply with the postoperative activity modifications.

Of course, one alternative to total hip replacement is not to have surgery at all. A course of oral anti-inflammatory drugs, injections, rest, weight reduction, special exercises, and activity restriction to protect the joint may decrease pain and stiffness in some individuals with hip arthritis. However, if none of these measures seem to help and your lifestyle is significantly compromised by pain and stiffness, surgery is most likely the best option.

Preoperative Preparation and Procedures

You may be able to minimize the length and difficulty of your recovery by doing the following prior to surgery.

- If you are overweight, you should make every effort to lose weight prior to surgery. If you are significantly overweight, it may be advisable to postpone the procedure until you are able to reduce your weight by a significant amount. Being overweight markedly increases the possibility of a wound complication or infection. Infections in joint replacements cannot be successfully treated without several additional surgeries. Losing weight can also minimize the amount of stress placed on your replacement joint. For every pound you lose, your hip will absorb between two and two and a half fewer pounds of pressure as you walk. Avoid 'crash diets' prior to surgery since you may become malnourished, increasing the risks associated with surgery. Talk with your doctor about your diet options.

- Smoking increases the potential for respiratory problems after the surgery and slows the body's healing process. Smoking less, or better yet quitting altogether, can greatly improve the recovery process.

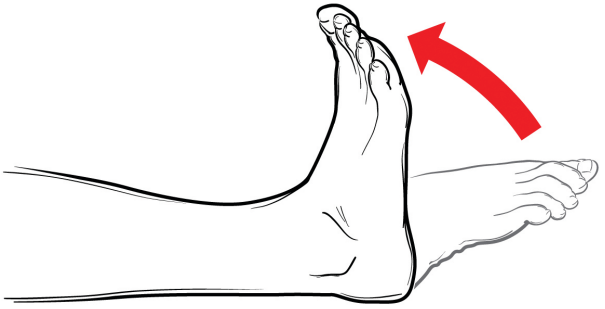
Prior to surgery, you will need to stop taking blood thinning medications such as aspirin, Plavix, Aggrenox, Ticlid, or other anti-inflammatory medications. The timing of this will be discussed with your surgeon and primary doctor/cardiologist. If you currently take Coumadin, your primary doctor or cardiologist may elect for you to take an injectable blood thinner prior to surgery. Many herbal supplements, including vitamin E, ginkgo biloba and garlic also increase the risk of bleeding. These too should be stopped two weeks before surgery. A multivitamin is safe to continue up to surgery.

If you note any signs of a respiratory infection such as a cough, runny nose, urinary tract infection, skin infection, or elevated temperature before surgery, please notify your doctor. It may be necessary to postpone your surgery to minimize the risk of potential infection.

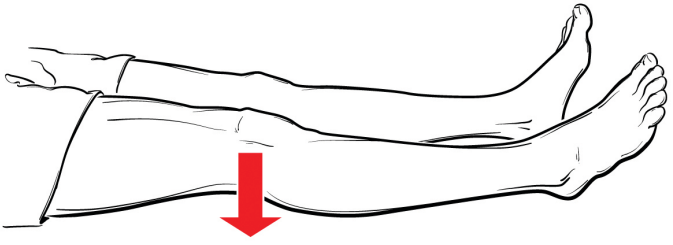
Preoperative Exercises

Prior to your hip surgery, it is very important that you maintain the range of motion in your hip and strengthen the muscles as much as possible. The following exercises should also be performed after surgery. The stronger your muscles are before surgery and the more familiar you are with your exercise program, the easier and shorter your rehabilitation will be. These exercises should be performed within the limits of your motion and pain tolerance. Also, these should be done twice a day, with 20 repetitions of each exercise progressing to 20 repetitions.

Ankle Pumps: Move both ankles up and down like you are pushing the gas pedal in a car.

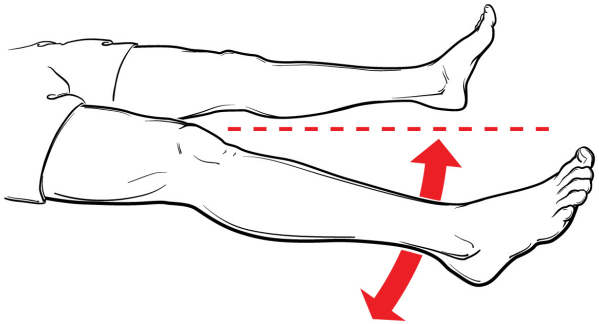


Quadriceps Sets: Tighten the muscle in the front of the thigh (quadriceps) by pushing the back of the knee down into the bed while keeping the knee as straight as possible. Hold for a count of 10.

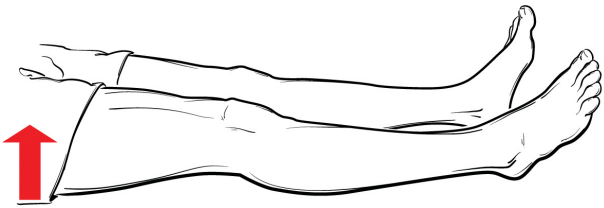


Straight Leg Raise: While lying on your back with your foot pointed straight up and your knee straight, lift your foot about 12 inches off the bed. Hold for 10 seconds. Add weight as tolerated.

Hip Abduction/Adduction: While lying on your back, place your feet slightly apart. Keep your foot and knee pointing towards the ceiling, then slowly slide your foot out to the side. Slide it back towards your body without crossing the midline.



Gluteal Sets: Squeeze your buttocks tightly together so your hips rise slightly off the bed. Hold for a count of 10 and then release. Repeat for a set of 10.



Medical Clearance

To assure that you are healthy enough to undergo your total hip replacement surgery, it is necessary to schedule a medical evaluation and medical clearance by your primary care physician or cardiologist. Medical clearance appointments should ideally be scheduled about a month before surgery. This provides time for additional testing if it is required. Your doctor may choose to do some of the blood tests, X-rays, and/or electrocardiogram in order to clear you for surgery. Otherwise, these procedures may need to be done in the hospital.

Preparing Your Home

Prior to your surgery, you may want to make some preparations in your home to ease the recovery process. Start by reducing household hazards, removing any throw rugs and objects from the floor and hiding any electrical cords to prevent falls. You may also want to stock up on food items at home to limit the need to go to the store. Arrange for friends and family members to assist you in preparing meals, doing laundry and completing other household chores.

In addition, place objects that you will routinely use within easy reach. Do not place objects on the floor or in high cabinets. Also, arrange so that you can minimize your need to climb the stairs until you are further along in your rehabilitation. You may also want to plan on setting up a bedroom for yourself on the main floor.

Patients are not permitted to drive until cleared by their physician, so please also plan to have a friend or family member drive you to your doctor's appointments and other locations.

Packing for your Hospital Stay

When packing for your hospital stay, you should include a pair of shoes with non-skid soles such as sneakers or tennis shoes, toiletries, and materials for a leisure hobby such as a book or crossword puzzles. Some people also like to bring pajamas or a robe.

Do not bring your medications from home with you. Medications will be given to you from the hospital pharmacy. Also, do not bring any valuables, including jewelry. Lastly, be sure to bring your glasses or contact lenses.

The Surgical Procedure and Hospital Stay

You will be admitted to the hospital the morning of the surgery. The hospital will advise you on when to arrive. Time of surgery will vary depending on the procedure and the amount of damage in the hip. Due to anesthesia, total procedure time will be roughly three hours, depending on complications.

Following the procedure, you will be in the recovery room for an hour to several hours, depending on your recovery. An intravenous line will be inserted into your arm for fluids while a small tube will be inserted into the hip for drainage. Patients often feel tired or groggy for several hours after awakening from general anesthesia. If a spinal anesthetic was used, the sensation in your legs will recover over several hours.

You will be administered a combination of pain management medications designed to minimize your discomfort. There will be scheduled IV injections and oral medications, while additional medication will be available on an "as-needed" basis from your nurse. Prior to discharge, you will be administered only oral medications, and a prescription will be given to you prior to going home for these same medications.

The IV line will be kept in to provide antibiotics, fluids, and medications. A urinary catheter will be inserted while you are in the operating room and removed the first morning after surgery. The dressing as well as tube for drainage is usually removed in the morning of the second day following surgery.

You will have a blood sample drawn daily to monitor your blood count and other values, while a blood thinner pill or injection will be used to help prevent blood clots. Support stockings will be used on both legs. Also, mechanical calf pumps may be used to stimulate blood flow. All of these measures in addition to aggressive physical therapy,are designed to reduce the rate of blood clots.

An internal medicine physician or family physician will accompany you during your stay to assist with you non-surgical medical care.

Physical Therapy

Your physical therapy program begins almost immediately after surgery. You will typically start therapy by performing the same exercises assigned to you prior to your surgery. On the day of surgery or the first day after surgery, you will start to work with a physical therapist. This will also be your first attempt at bearing weight on your new hip. Most hips will be permitted to be weight bearing as tolerated immediately. The therapists will instruct you on the proper way to walk, how to get in and out of bed, getting in and out of a chair, how to climb steps with minimal pain, and other aspects of daily living. They will also evaluate your range of motion, assist you in certain exercises, and instruct you on dislocation precautions.

Your goals with physical therapy prior to hospital discharge:

1. Independent walking on a flat surface with a walker
2. Independent and safe bed, chair, and automobile transfers
3. Stair climbing if necessary
4. Proper performance of exercises
5. Understanding of dislocation precautions

Hospital Discharge and Follow-up

Most patients will be deemed ready for discharge after a stay of one to three days. If you live alone or feel that you will be unable to care for yourself at home, arrangements will be made for you to be transferred to a rehabilitation or nursing facility. These arrangements will be made by members of social services at the hospital including discharge planners, case managers, and social workers. If you are discharged home, arrangements will be made for either a physical therapist to come to your home or for outpatient physical therapy to continue your rehabilitation. (see guide included in this booklet.)

You will be discharged from the hospital when you:

1. Have mastered the above therapy goals
2. Have no fever
3. Report minimal pain
4. Are medically stable
5. Have a benign-appearing incision

As part of your discharge, you will be given instructions and prescriptions for your pain medication and administered a blood thinner to prevent blood clots.

Typically, your incision will be closed with a suture underneath the skin, similar to a plastic surgery closure. However, on occasion it may be necessary to use skin staples or other measures to close the wound. Until your sutures are removed, you should avoid getting your incision wet. While inconvenient, keeping the wound dry allows it to heal as quickly as possible.

Approximately two to three weeks after surgery, you will have a follow-up appointment with your doctor. During the visit, you will have your sutures removed, X-rays taken and therapy progress evaluated. Once your sutures are removed, you will be able to take a shower. Patients should not submerge the wound in a bath or pool until at least a month following the surgery. The elastic compression stockings will need to be worn for a month from surgery on both legs.

Here is some additional information regarding your post-operative course:

- It is recommended that you avoid driving until you are cleared by your doctor.
- Please report any changes in the appearance of your incision including drainage, redness, or increased swelling.
- If you experience an increase in pain, an inability to bear weight on the hip, the inability to move the hip or a fever of more than 101 degrees, please contact your doctor.
- Wear elastic compression stockings for a month from surgery. Stockings may be removed at night.
- Please refrain from getting your incision wet in the shower until directed to do so by your doctor, which is typically after your sutures are removed.
- Refills on pain medication prescriptions will not be handled after office hours, at night, or on the weekends. Please plan ahead and be sure to have your prescription refilled prior to running out of medication.

Living With Your New Hip

The metal in your replacement may trigger metal detectors at security checkpoints. You will receive an identification card to carry with you to help communicate with the security personnel that you have had a joint replacement. It should be noted that showing this card to authorities will not necessarily preclude you from further precautionary security measures, so it is recommended that you allow for extra time when you travel.

Total hip implants can become infected by bacteria in the bloodstream at any time, even many years after your hip surgery. This can occur if you develop an infection elsewhere in the body. Any dental work, including routine cleanings, can put you at risk. We recommend that patients take a dose of antibiotics prior to any dental procedures to minimize this risk. Some dentists will gladly give you a prescription, but if not, we will be more than willing to give you one. While some dental professionals feel it is unnecessary to administer these antibiotics, it is the position of the American Association of Orthopaedic Surgeons that these antibiotics are taken prior to any invasive procedures to minimize the risk of infection. This is not limited to dental work, but also applies to urinary procedures (including catheterizations) and surgical procedures. If there is any question, please contact your doctor.

The antibiotics typically used are:

- Amoxicillin 500mg, four tablets one hour prior to the procedure
- Clindamycin 300mg, two tablets one hour prior to the procedure (for those with penicillin allergies)

For urologic procedures:

- Ciprofloxacin 500mg one tablet one hour prior to procedure

Routine follow-up visits for joint replacement patients will be:

- Two weeks after surgery
- Six weeks after surgery
- Three months after surgery
- One year after surgery
- Then every one to three years for routine follow-up visits

The purpose of these yearly visits is to identify potential problems that may be asymptomatic, including the early wear or loosening of your implant. These problems are easier to treat when identified early. Your doctor will discuss this with you should any problems be identified.

If you have any questions, please feel free to contact our office or you may address them with your doctor at your next appointment.

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