

# A Guide to Total Hip Replacement

ORTHOPEDICS PROGRAM



University Medical  
Center of Princeton  
at Plainsboro  
Princeton HealthCare System

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# To Our Patients

Thank you for choosing University Medical Center of Princeton at Plainsboro (UMCPP) for your hip replacement surgery.

We are pleased to provide you with this guide to help address questions you may have about hip replacement surgery. It provides information about the procedure, benefits and risks, pre- and post-surgical care and recovery. We hope you find this information helpful. While this guide is a good general source of information, *it is not intended to replace the advice of a physician*, nor to address your personal condition or healthcare needs. We encourage you to ask your physician any questions you may have about hip replacement and your personal circumstances.

As a patient of UMCPP, you have access to a full continuum of healthcare services, which are available through Princeton HealthCare System, to support you before, during and after your surgery. These services include skilled hospital care, education, testing, inpatient and outpatient rehabilitation, in-home care, home medical equipment and fitness facilities. For more information about our services, call **1.888.PHCS4YOU (1.888.742.7496)** to speak with a service representative.

University Medical Center at Princeton extends our sincere appreciation to Harvey E. Smires, MD, board certified orthopedic surgeon, for writing this guide and allowing us to reprint it for our patients.



# A Guide to Total Hip Replacement

## The Basics of Hip Replacement

Today, more than 285,000 total hip replacements are performed each year in the United States, with most patients experiencing dramatic pain relief, resulting in restored function and quality of life. Since the first hip replacement surgery was performed in 1960, advancements in joint replacement techniques and technology have greatly increased the procedure's effectiveness. The latest advancement — now being performed at UMCP — involves a minimally invasive procedure that greatly reduces the risks and recovery period for hip replacement surgery.

The decision to have hip replacement is a highly personal choice that should be made between you and your physician. Surgery is an alternative for individuals with degenerative joint disease who are facing decreased mobility and independence, with chronic medication. For those who are candidates for surgery, the type of implant and surgical technique performed will vary based on the patient's age, activity level, body weight, dislocation risk and bone quality.

### Degenerative Joint Disease

A joint is where two bones meet and are held together by ligaments within what is called the joint capsule. The joint is lubricated by fluid, and the ends of the bone are covered with a highly specialized form of cartilage. When damaged by trauma, wear and tear, disease or other conditions, cartilage is lost and does not heal, resulting in degenerative joint disease. In addition, a buildup of fluid and debris in the joint can cause painful pressure on the joint capsule.

The four common causes of degenerative joint disease are:

- Osteoarthritis, which usually occurs after age 50 as a result of wear and tear.
- Trauma, such as a femoral neck fracture, results in the need for hip replacement in 25 percent of cases.
- Rheumatoid arthritis, a condition of the immune system where cartilage is attacked, resulting in destruction and inflammation.
- Osteonecrosis, where the blood supply is interrupted, causing a particularly painful and rapid destruction of the joint. Steroid use, Gaucher's disease and alcohol use have all been associated with this condition, but it may also result from an unknown source.

### Recognizing the Symptoms

Degenerative joint disease of the hip usually results in pain when you begin moving and after prolonged walking or standing. There may also be pain at night or at rest, due to motion of the hip while sleeping or relaxing. Pain typically radiates from the front of the groin to the front of the kneecap and may be present in the buttock.

Degenerative joint disease of the hip may also restrict your range of motion, and result in a limp over time, as your body works to compensate for the damaged joint.

### Total Hip Replacement: Is it the Answer?

Total hip replacement has proven so beneficial and reliable that, for most people, it is the preferred surgical treatment. Surgical alternatives, such as hip fusion and realignment, may still be considered for very young patients, but are currently much less common.



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For you to be considered for total hip replacement surgery, attempts must have been made to treat your condition with conservative, non-surgical techniques. If these treatments fail, total hip replacement may be the solution.

Non-surgical treatments include:

- Activity modification, which consists of nonimpact activities to maintain strength, aerobic ability, and range of motion. Princeton Fitness & Wellness Center, an affiliate of University Medical Center of Princeton at Plainsboro, offers aquatic and land-based exercise programs for individuals with degenerative joint disease.
- Medication consisting of non-steroidal anti-inflammatory drugs (NSAIDs), including aspirin, ibuprofen and naproxen, and prescription medications.
- Use of a cane on your good side, put forward in concert with your bad leg.

The main indications that total hip replacement may be necessary are:

- Pain — especially at rest.
- Limited function — inability to do daily activities; walk five to 10 blocks; put on socks and shoes; and stand for prolonged periods, and stiffness and loss of muscle function.
- Deformity — severe limp or leg length discrepancy.
- Failure of conservative treatment.

## Possible Risks

Total hip replacement is a major operation. While significant improvements in the procedure have been achieved over the last 10 years, some risks do remain. These include:

- Infection. Bacterial infection may occur in three out of every 1,000 joint replacements due to contamination at surgery or even 10 or more years after surgery due to spread of bacteria through the bloodstream after dental work, urinary tract infections or other causes. The incidence of infection is higher in those with diabetes, psoriasis and immune system disorders.
- Bleeding during surgery, which may result in the need for transfusion.

- Deep venous thrombosis (DVT), which can result in swelling or pulmonary embolism.
- Leg length discrepancy that may result in a limp.
- Dislocation, loosening or wear of the hip replacement device. Patients with neurological impairments, such as severe Parkinson's disease or stroke, may have higher dislocation rates and are given special consideration. Those with some medical and cardiac conditions may also need special care.
- Nerve injury due to surgical procedures.

## Preparing for Surgery

### Pre-Admission Testing

Once you and your physician have determined that hip replacement is right for you, you will be given an appointment for pre-admission testing at UMCP. This generally includes a blood test, EKG, chest X-ray and urine analysis. You will also meet with the anesthesiologist.

Because a variety of tests will be performed and you will meet with several individuals on the day of preadmission testing, you can expect to spend several hours at the hospital. You are welcome to bring a music player, magazines, work or other materials with you. Please also bring this booklet as it may be referred to by various specialists in their sessions with you.

In addition to testing, during your visit you may meet with a social worker and physical therapist and have the opportunity to tour the facility.

The social worker will discuss your options for discharge to help you plan your transition to another facility, or UMCP's Acute Rehabilitation Unit, in the event you are unable to go home. After an approximate three-night stay in the hospital, it is possible you may need to spend an additional seven to 10 days in an inpatient rehabilitation setting. You may also wish to review with the social worker other resources that can help ease your recovery and transition back to home, including services available through Princeton HealthCare System. These include outpatient rehabilitation through University Medical Center of Princeton at Plainsboro Outpatient Rehabilitation and homecare and private duty nursing services through Princeton HomeCare.

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For more information about Princeton HealthCare System's continuum of health and wellness services, please call 1.888.PHCS4YOU (1.888.742.7496) or visit [www.princetonhcs.org](http://www.princetonhcs.org).

The physical therapist can review total hip replacement precautions and routine exercises with you. Please familiarize yourself with what will be expected after surgery in terms of exercise. Be sure to practice the exercises before surgery. An occupational therapist may instruct you in the use of adaptive equipment to put on socks, the use of grabbers and abduction pillows (a pillow between the knees with Velcro straps) and precautions.

## Medical Clearance

At the time of surgery, it is important that you be free from infections. Any source of infection, such as ingrown toenails, should be treated prior to surgery. Please schedule a visit with the dentist as soon as possible, preferably several weeks before your surgery. A cleaning and exam will point out any sources of potential infection that need to be completely taken care of before surgery. Since your risk of infection due to dental work remains elevated for two years after surgery, you should not undergo total hip replacement with temporary crowns, etc.

Please also schedule an appointment for medical clearance with your personal physician or a cardiologist well before surgery. If you have risk factors, or may need special cardiac attention, we may recommend a consultation with a cardiologist. There are several board certified cardiologists on staff at University Medical Center of Princeton at Plainsboro. For assistance with finding a physician, please call 1.888.PHCS4YOU (1.888.742.7496), or visit the online physician directory at [www.princetonhcs.org](http://www.princetonhcs.org).

Please plan ahead. It can take time to arrange preoperative clearance and stress testing, which is sometimes recommended by a physician or cardiologist prior to surgery. If this cannot be arranged, your surgery may need to be cancelled or rescheduled.

## Medications

Your surgeon and the anesthesiologist will advise you about which medications you may take prior to surgery. Generally, you should stop taking aspirin containing drugs three weeks before surgery and certain anti-inflammatory drugs one week before surgery. If you are on Coumadin, Plavix or Pradaxa or any other anti-platelet medication, or were recently on MAO inhibitors, let your surgeon know as soon as possible.

Please bring a list of your medications with dosages and any over-the-counter drugs, vitamins and supplements you are taking to your pre-operative visit with the surgeon and to your pre-admission testing visit at the hospital. Bring any medications, eye drops and inhalers to the hospital on the day of surgery.

## Home Preparation

Setting up your home for your return will help make you more comfortable during your recovery. You will have limited joint movement and stair-climbing ability initially after surgery. In anticipation of your return home, try to do the following:

- Stock up on easily prepared food items, including frozen and microwave foods.
- Find someone to help you with shopping, getting to your two-week visit to the doctor, getting to physical therapy (three times per week) until you are driving, and housecleaning. Keep in mind you may have difficulty driving for up to four weeks after a right hip replacement.





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- Rearrange items for easy access, including cooking items, toiletries, personal items and shoes.
- Remove throw rugs and check that handrails are secure.
- Consider moving onto one floor temporarily to avoid stairs completely.
- Obtain a height adjustable shower seat and rubber mat for the shower.
- Obtain a raised chair or place a buildup in a chair with arms.
- Arrange bedside books, telephone, water and other items so that they are within easy reach.

Personal assistance items such as a long handle reacher, shoe horn and sock donners (a device to help you with putting on socks, stockings or pantyhose) are advisable.

## Packing Your Bag

It is recommended that you include the following items in your bag when packing for your stay:

- Toiletries
- Underwear and socks
- Loose-fitting pajamas or a nightgown
- Robe and slippers
- Rubber soft-soled walking shoes or sneakers
- Lightweight workout outfit
- Hearing aid or dentures (if used)
- Music player, laptop, books, magazines and glasses.

Please do not bring any valuables or jewelry to the hospital with you.

## The Day Before Surgery

You may be given a prescription for a single dose of the anticoagulant Coumadin® the night before surgery. This could help prevent the development of a blood clot. It should be taken at approximately 6 p.m. If you forget to take the anticoagulant, tell your surgeon, as other medications can be adjusted to provide added protection from blood clots.

If you wish to take a cathartic or laxative, please do so two or three days before surgery. If you do, you may not have a bowel movement for a few days.

Do not have anything to eat or drink after midnight. An exception is any medication the anesthesiologist has told you to take with a sip of water. If you have had anything to eat or drink after midnight, your surgery will need to be rescheduled. Due to unexpected delays or cancellations, surgery is occasionally moved up or back. Every effort is made to keep your surgery on schedule. You will be promptly contacted to discuss any changes in your schedule.

## The Day of Surgery

### Preoperative Preparations

You will be called the night before the surgery and notified of your expected time of arrival. This is usually two hours prior to your surgery. Family and friends may accompany you to the Surgical Services unit. Once you enter preanesthesia, your guests will be directed to the Surgical Waiting Room.

You will be asked to change into a hospital gown and remove any jewelry, glasses, hearing aids, contact lenses and piercings. Preparations will then begin for your surgery, including cleansing and marking the hip to be replaced.

Just outside the operating room (OR), you will meet and talk to your anesthesiologists, who will interview you and review the anesthesia plan, whether spinal, epidural or general. Please consider what he or she has to say. The anesthesiologist's advice is very beneficial for identifying the best technique for you. For hip surgery, regional anesthesia with heavy or light sedation is preferred to improve breathing and reduce bleeding as well as the risk of a blood clot. It also speeds recovery from sedation and lessens nausea.

Once in the OR, the anesthesiologist will begin administering the anesthesia. Be sure to let him or her know if you have questions, concerns, discomfort or problems during the surgery.

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## Post-surgery Procedures

Surgery usually lasts between 60 and 150 minutes, depending on its complexity. Once your surgery is complete, you will then be transferred to the postanesthesia care unit (PACU) while you recover from the anesthesia. Your stay in the PACU will depend on the type of anesthesia you received and how long it takes to wear off. If your anesthesia is spinal, your stay could last from one to four hours. General anesthesia usually wears off in about 90 minutes.

During this time a foam pad with Velcro straps, called an abduction pillow, is usually placed between your legs. It is used to prevent dislocation until the hip muscles have recovered.

When you are stable, you will be transferred to the orthopedic nursing unit, which is designated for joint replacement patients. Any special accommodations should be discussed when you are admitted. Please discuss any private duty nursing needs with the nursing department.

## Surgical Waiting Room

Your guests are welcome to await word of your progress in the Surgical Waiting Room. The Surgical Waiting Room staff will keep your family and guests updated. Since visitors are generally not allowed in the PACU, the wait can be long. It may be advisable for those waiting for you to bring a cell phone and leave the number on your chart. That way, your guests can wait in the café within the main lobby of the hospital or at home, and the surgeon can notify them by phone of your status.

## Your Hospital Stay

Typically, a total hip replacement requires a three-night hospital stay. During that time, you will be instructed in proper care of your incision, the use of pain medications and hip replacement precautions. You may be out of bed and walking with the help of a walker or crutches on the day of your surgery. During your stay, you will receive both physical and occupational therapy to help strengthen and protect your new hip replacement.

## Incision Care

Following surgery, your incision will be covered with a sterile, dry dressing. It must stay clean and dry. The dressing will be changed by your surgeon or a physician's assistant on the second day after surgery, and will then require daily dressing changes until the incision is sealed and dry. To protect against infection, follow your surgeon's instructions about when you may shower or soak in a tub.

If your incision is secured with Steri-strip tape strips, please do not remove them or trim off the suture ends (which look like clear, monofilament fishing line).

## Pain Control

While in the hospital, you will be provided with patient-controlled pain medication such as Oxycontin, Percocet, morphine or Dilaudid. The amount of medication available to you will depend on your body weight and age. If the dosage seems inadequate for the pain, or if you feel nauseous or suffer from itching while taking this medication, please notify your nurse.

Some anti-inflammatory medications, such as Celebrex or Toradol, may also be used for added pain control. Medications such as Motrin or aspirin are not recommended if you are on an anticoagulant due to platelet inhibition and the risk of stomach bleeding.





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## Diet

You will be able to resume a regular diet while in the hospital, but be aware that spinal anesthesia, general anesthesia and narcotics, depending on dosage, may cause your bowels to temporarily slow down. Because of this, it is wise to wait until your intestines have regained motility, and you are passing gas, to resume a full diet.

What feels like indigestion could be angina, especially in cardiac and diabetic patients. You should notify the nurse of any discomfort.

## Precautions

Total hip replacement precautions are instituted to lower the incidence of hip dislocation after surgery. This risk is statistically 3 percent, with most cases occurring within the early healing period of the first six weeks.

During the first six weeks following surgery, keep the following points in mind:

- Keep a pillow between your knees while sitting or in bed.
- Get out of a chair using armrests, not by rocking forward.
- Be especially careful when putting on socks and bathing.

You should also keep the following precautions in mind when moving your hip:

- Do not flex your hip more than 90 degrees.
- Do not adduct your hip across the midline.
- Do not internally rotate your femur or thigh bone.

Most hips will tolerate these individual motions after the initial healing period, but combining all three is dangerous. The safest position to put on socks, care for your feet, tie shoes and reach down is the frog-leg or ballet plie position. (Use of personal items such as a long handle reacher, shoe horn or sock donner is useful to avoid dangerous positions.)

## Occupational & Physical Therapy During Your Hospital Stay

During your hospital stay, occupational therapists will educate you about necessary equipment to assist you in various daily activities while you recover from your surgery. They will also instruct you about precautions. Physical therapists will work with you to help restore physical

function using your new hip replacement. Your therapy will include stretching, various strengthening exercises and walking and stair training.

## Leaving the Hospital

You will be able to travel home by car if you adhere to total hip replacement precautions when getting in and out of the vehicle. To make your trip more comfortable, a larger car is recommended.

If you are being transferred to another facility, the social worker will facilitate your transportation.

## Once You're Home

Following three to four days in the hospital, and possibly an additional seven to 10 days in UMCP's Acute Rehabilitation Unit or another inpatient rehabilitation setting, you will go home. The following are some things to keep in mind while you are recuperating at home.

## Anticoagulants

Take your Lovenox® or Coumadin as directed by your surgeon every night around 6 p.m. Continue taking the medication until you are seen by your surgeon at your six-week visit.

The home care agency, such as Princeton HomeCare, will arrange for blood tests to monitor your Lovenox® or Coumadin. This is usually done on Mondays so the results are available early in the week in the event your dosage requires adjustment. It is important to have your blood tested weekly and to have the results forwarded to your surgeon. The importance of regulating Lovenox® or Coumadin cannot be emphasized enough. Excessive Lovenox® or Coumadin can result in bleeding, so if you are going out of town, be sure to provide your surgeon with a phone number where you can be reached for blood test results and modification of your dosage, or contact your surgeon to verify your blood test results and dosage.

Since certain foods and multivitamins containing vitamin K can affect Lovenox® or Coumadin levels, try not to vary your diet widely from week to week. Contact your doctor immediately if you notice any bleeding — bloody nose, dark/tarry stools, easy bruising — or calf pain, swelling or breathing difficulties.

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## Services to Help You Continue Your Recovery

*Home Care* – Princeton HomeCare can provide you with physical therapy in your home one to three times per week until you are strong enough to attend an outpatient program. Remember your ultimate success depends on your cooperation and commitment to therapy. Princeton HomeCare can also provide visiting nurse services and home health assistance for the first two weeks or so after surgery, depending on your insurance coverage. Homemaker assistance is also available. Please call 609.497.4900 or visit [www.princetonhcs.org](http://www.princetonhcs.org) for more information.

*Outpatient Therapy* – Some patients can go right to outpatient therapy without the need for home care. Therapy in the outpatient program will be provided three times a week, for a total of approximately 6-12 weeks. You will also be given a set of daily exercises to complete. Outpatient Rehabilitation services are available at University Medical Center of Princeton at Plainsboro and several convenient service sites.

## Precautions

Strictly follow total hip replacement precautions for the first six weeks, as reviewed in the hospital, using a pillow between your knees in bed and when seated, and an elevated seat.

## Medical Follow-ups

You should schedule an appointment with your physician 10 to 14 days after surgery for suture removal, X-rays and review of your medication and physical therapy. (This is usually about the same time when patients are discharged from a rehabilitation facility.) Please call to schedule an appointment with your physician as soon as you know when you will be available.

Follow-up visits are usually required at six weeks, 10 to 12 weeks, six months, one year, and every one to two years thereafter, unless problems are noted that require more frequent visits.

## Reasons to Call Your Surgeon

- Incision drainage
- Calf pain
- Ankle swelling
- Chest pain (including on inhalation)
- Unexplained indigestion
- Trouble breathing, shortness of breath
- Persistent fever, chills or sweats
- Bleeding or easy bruising
- Dark or tarry stools
- Going out of town while on Coumadin

## Driving

Most people may resume driving in two weeks following a left hip replacement and in four to six weeks following a right hip replacement. This varies greatly by the individual. With approval from your surgeon, you can drive if you are agile enough to apply the brake with your right foot in the event you experience a driving emergency. Whether you are the driver or a passenger, always keep your total hip replacement precautions in mind when getting in and out of a car.



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## Physical Activities

Your surgeon will be able to tell you how stable your hip is following surgery, which will help you gauge your future physical capabilities. Activities you engaged in before surgery or the onset of degenerative joint disease are generally safe, provided they do not involve excessive running or contact sports. You should check with your surgeon before engaging in any activities. In addition, total hip replacement precautions should be kept in mind while participating in these activities. Many patients enjoy hiking, cycling, tennis, golf, swimming and even skiing. It is important to keep well within your abilities. Sexual activity can also be resumed as soon as it is comfortable and does not violate total hip replacement precautions.

## Life With Your Hip Replacement

### Body Weight

It is beneficial to use your new ability to exercise to maintain a healthy body weight. Thirty minutes of aerobics per day, along with a healthy diet mixing fats, carbohydrates and protein in a balanced fashion, will help you maintain good health. Low impact activity and decreased body weight will increase the longevity of your total hip replacement.

University Medical Center of Princeton at Plainsboro has a skilled team of dietitians on staff who can provide individual nutrition counseling to help you achieve and maintain good health and lose or manage weight.

Princeton Fitness & Wellness Center, an affiliate of University Medical Center of Princeton at Plainsboro, is a medically based fitness center offering a wide range of exercise classes and training equipment to suit all interests and levels of physical fitness. Services include onsite outpatient rehabilitation services offered by University Medical Center of Princeton at Plainsboro's highly skilled physical therapists, exercise physiologists, nurses and certified fitness instructors – all of whom are dedicated to assisting those with special health needs and conditions. For more information, call 609.683.7888 or visit [www.princetonhcs.org](http://www.princetonhcs.org).

## Wear of Your Hip Replacement

Usually, X-rays are taken at one- to two-year intervals after surgery to evaluate the wear of your total hip replacement and prevent future problems. For younger, heavier or active patients, X-rays should be taken more frequently, while for older, more sedentary or lighter patients, less frequent evaluations may be acceptable.

When it comes to total hip replacement, there is a low but persistent incidence of dislocation even years after surgery. Please try to remember your precautions, and keep in mind that future revision surgery may be necessary at some point due to infection, wear or loosening.

## Antibiotic Precautions

You should take antibiotics for any infection and prior to certain medical procedures to prevent the spread of bacteria to your hip replacement through the blood stream. The antibiotic will vary according to the circumstance and whether or not you have allergies.

The most common procedures requiring antibiotics are dental and urological. You should inform your dentist of your total hip replacement and be given antibiotic prescriptions for dental procedures, including cleanings. If you should undergo cystoscopy or a prostate operation, inform your urologist as well. He or she can administer effective IV antibiotics to protect you.

## Metal Detectors and MRI Images

You may also get an MRI of any part of the body following total hip replacement. Getting image data directly from the area surrounding the hip, may be difficult, but no harm will come to you or the new hip. Your new hip replacement will probably set off the metal detector at the airport. We will give you a card for your wallet with information and our office phone, but in these days of strict security standards, it is likely you will be searched.

## When in Doubt, Don't Hesitate to Call

When it comes to total hip replacement, each patient's needs and concerns are unique. Should you have any additional questions, please feel free to contact your surgeon's office for advice.





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