

TOTAL
HIP REPLACEMENT

UT ORTHOPAEDICS
JOINT REPLACEMENT SERVICE

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THE HISTORY OF TOTAL HIP REPLACEMENT

Hip replacements have been performed for more than 50 years. Their popularity has continued to increase since about 1971. Early designs had a smooth surface and were inserted directly into the bone without the use of bone cement. These patients frequently experienced some continued pain following insertion. Sir John Charnley from England is credited with the first successful use of bone cement. This firmly fixed the artificial hip to the bone and improved the degree of pain relief.

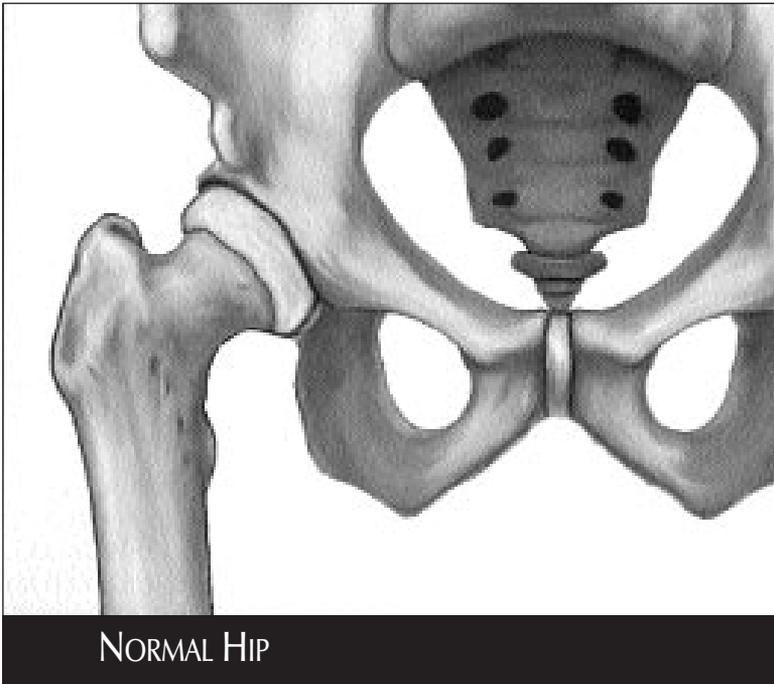
Since Charnley's time, millions of artificial hip replacements have been inserted with a 90 percent success rate, offering excellent pain relief with improved function. In this country, more than 200,000 artificial hips are implanted every year.

Total hip replacements have undergone several advancements since they were first introduced. The artificial hip or "prosthesis" has been modified to provide greater durability and improved function. The initial prostheses were inserted with bone cement and experienced a 10 to 15 percent failure rate within 10 to 15 years following insertion due to gradual deterioration and loosening of the bone cement. When the prosthesis loosened, patients experienced increasing pain and a revision hip replacement became necessary.

Today, prostheses are designed for use with or without bone cement. The metal parts of the prosthesis are coated with special surfaces designed to allow bone to grow directly into the metal, thus anchoring the prosthesis and eliminating the need for cement. This type of prosthesis has been used in the United States for about 20 years and the results have been very encouraging.

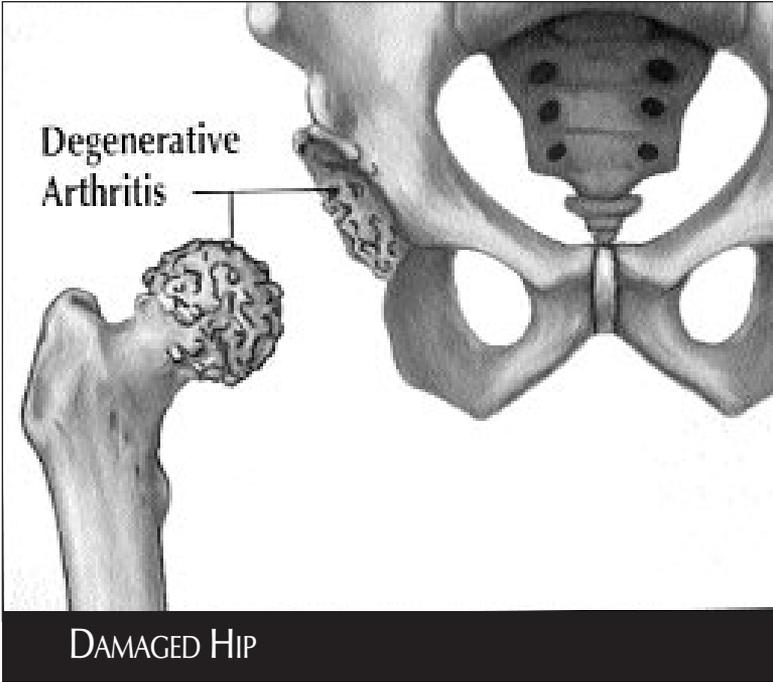
In certain circumstances, a cemented prosthesis is necessary. Bone cement has been improved, and the techniques used to insert it are far better today than in decades past. These improvements in the use of cement have been shown to significantly increase the useful life of the hip replacement. The decision to use cement or not is made by the surgeon and is based on the patient's age, expected activity, quality of the bone, and the individual's weight.

The designs and materials of prostheses have continued to change and improve and will continue to do so. We can safely assume that the average life span of a prosthesis implanted today should be 15 to 20 years or more.



WHEN IS A HIP REPLACEMENT NECESSARY?

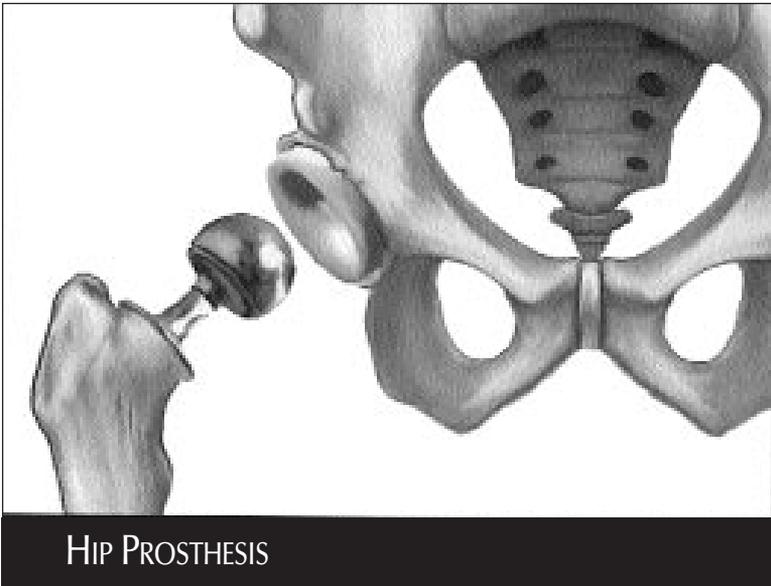
Conditions that cause destruction of the joint with loss of the normal cartilage (the normal smooth lining of the joint) may be treated with total hip replacement. The doctor must determine if there is no useful life left in your hip and that non-surgical treatment would not significantly reduce the pain you may be having. Diseases such as osteoarthritis, rheumatoid arthritis, or an old infection can cause damage resulting in the need for hip replacement.



When the x-ray shows severe destruction of the joint, you must decide if the degree of pain experienced is severe enough that you are prepared to undergo the operation. We feel that if you have significantly altered your lifestyle and are not able to do the things that you enjoy doing or must do on a daily basis, the risks of surgery are acceptable to allow you to return to a more active lifestyle. Your age is not a consideration in this decision.

WHAT IS TOTAL HIP REPLACEMENT?

When we say “total hip,” we are referring to the replacement of both the working parts of the hip. This includes the socket side of the hip, which is part of the pelvis. This is called the acetabulum. The other part is the ball, which fits into the socket called the femoral head, and is the uppermost part of the thigh bone. The acetabular component (cup) may be entirely made of polyethylene, metal or ceramic, or may be a combination of these materials. The ball portion of the hip is on the end of the femoral component. After the surgeon removes the patients worn femoral head, he opens up the canal of the femur (thigh bone) and inserts the femoral component into the bone. The ball and socket are then fitted together, just as the original hip had been.



YOUR EVALUATION

Your evaluation will begin with a questionnaire that is quite long but very important. It helps us understand your pain, limitations, and medical history. We must know all your medications and any medical problems such as heart disease, lung disease, or diabetes. It is very important to us to know if you have any infectious problems that could cause infection of your new prosthesis. Some of these are:

- Active Gall Bladder Disease
- Diverticulitis
- Gingivitis (gum disease)
- Urinary Tract Infection
- Prostate Gland Disorders
- Psoriasis

After your history is taken, a physical exam is performed. Your leg lengths are measured, the range of motion of your hips and knees are measured, and their muscle strength evaluated. Your gait (the way you walk) may be observed and the other involved joints examined.

Next, your x-rays are evaluated. It is very helpful if you can obtain x-rays of your hip that may have been taken in the past. A number of additional x-rays may be obtained in our office. These are necessary to thoroughly evaluate your hips and plan the surgery. You will be allowed to see the x-rays and we will explain the findings.

DECIDING ON SURGERY

Frequently after the initial evaluation, we may recommend further non-surgical treatment if we feel that every possible alternative to surgery has not been considered. If we are comfortable that you have tried all non-surgical means of pain relief, or if your x-rays show such severe involvement that further conservative measures cannot be expected to be of benefit, then a total hip replacement is recommended. Again, the final decision must be made by the patient, based on the amount of pain and disability along with a thorough understanding of the benefits and risks associated with total hip replacement.

PROCEEDING TO HIP REPLACEMENT

Once you have decided to have a total hip replacement, a number of things must be done. You may be asked to see an internal medicine doctor for a more thorough medical evaluation. If your own doctor has privileges at our hospital, you should see him, otherwise you will need to see a doctor who can visit you regularly while you are in the hospital. In many cases, we will not consult the internist until you are already in the hospital. In either case, you may return to your regular doctor after you leave the hospital. In some cases, we will ask you to see a rheumatologist before your surgery. A rheumatologist is a specialist in the medical treatment of arthritis.

If you smoke, it is important that you quit two weeks prior to surgery.

If you are taking any of the following medications, discontinue them at least 10 days prior to surgery:

- Ascriptin
- Aspirin products
- Clinoril
- Indocin
- Meclomen
- Motrin/Ibuprophen
- Nalfon
- Naprosyn/Alleve
- Any Nonsteroidal
Anti Inflammatory
- Voltaren
- Anaprox
- Ansaid
- Advil/Nuprin/Mediprin
- Feldene
- Tolectin
- Lodine
- Daypro
- Orudis/Oruval

Estrogens (Premarin) or methotrexate should be discontinued one month prior to surgery.

Vioxx and Celebrex may be taken up to the day of surgery.

If you are taking steroids (prednisone), they should be continued. Ask your doctor if you have questions about medications you are taking.

WHAT ABOUT BLOOD DONATIONS?

It is not unusual to have a blood transfusion after a total hip replacement. Blood transfusions are quite safe at this time. Very sensitive tests are used to screen for HIV, some forms of hepatitis, and other transmittable diseases. However, there is no safer blood reserve than your own! We can now collect your own blood at the blood bank and save it for you should you need it at the time of surgery. This method is called autologous blood transfusion. A two-week period is allowed for the body to rebuild itself up before surgery. During this entire period, iron tablets are taken three times a day to help the body build new red blood cells.

We are very careful to minimize the need for blood transfusion and may use a number of methods to save blood. One method is the use of a “cell saver.” This device is used in the operating room, in some cases, to collect any blood lost and process it so that it may be given back to you. We may use a device after surgery that drains any blood from the wound and saves it so that it too can be given back to you.

We will occasionally prescribe injections that will stimulate your bone marrow to produce more red blood cells.

YOUR HOSPITAL STAY

In most cases you will be admitted the day of the surgery. You may have additional blood tests, x-rays, or an E.K.G. You will have an I.V. started in order to receive antibiotics. You should get an antiseptic solution and wash your groin and hip area.

YOUR ANESTHESIOLOGIST

Someone from the anesthesia group will speak to you. You, along with the anesthesiologist, will choose whether to have a general anesthetic that induces sleep, or a spinal type anesthetic in which only your hips and legs are anesthetized. The anesthesiologist may perform a block, which causes the arch around the hip to become numb. We have no preference, and allow you and the anesthesiologist to make this decision.

VASCULAR IMAGING

In some cases, it is wise to study the veins of the legs to make sure that there are no blood clots or other problems that could cause clots to form in the legs. This is a painless procedure that is done with ultrasound waves. We may choose to perform these studies at other times following your surgery.

WHAT IS AN OPERATIVE PERMIT?

You will be asked to sign a permission form to allow us to perform the surgery. It is important that you read and understand it. It is a legal form that must be completed before surgery can be performed. The form will state that you have a condition of the hip, such as arthritis, and that a total hip replacement is to be performed. It may request your permission for photographs. We occasionally photograph the hip at the time of surgery for teaching purposes.

Some surgery risks are listed here that you should be aware of:

- Whenever anesthesia is given, there is always risk; however, today with extensive monitoring and improved drugs and techniques, problems associated with anesthetics are greatly reduced.

- Infection is a risk associated with any surgery and in the case of hip replacement, it occurs in about 1 in 100 cases. We take every possible precaution to prevent infection including the use of antibiotics before, during, and after surgery. We use a number of special devices including “space suits” worn by the surgical team to prevent our own germs from entering the wound. If an infection occurs, it can be successfully treated in the majority of cases by cleaning the wound and giving appropriate antibiotics. On very rare occasions, it may be necessary to remove the prosthesis.
- Nerve or blood vessel damage may occur during surgery. These structures are very near the hip, and although damage is rare, there is the slight possibility that this may occur. We take every precaution to protect these structures.
- Mechanical failure may occur including dislocation of the ball from the socket, breakage of one of the artificial parts, or loosening of a component from bone or cement.
- Occasionally blood clots may form in the legs. Rarely, if they are severe, blood clots may move to the lungs (pulmonary embolism). We use oral and injectable medications, special stockings, and rapid mobilization of the patient to minimize this risk. Blood clots can be a complication of any surgical procedure.
- Occasionally, fat may escape from the bone and go to the lungs

THE DAY OF YOUR SURGERY

Enjoy your dinner the night before your surgery and remember that you should not eat or drink anything after 12:00 midnight. Following admission on the day of surgery, you will be taken to the operating room. Your surgeon will see you before the operation. Do not be alarmed if you are asked several times which hip is to be operated upon. This is one of the many safety checks made to assure your good results. Your family should either wait in the waiting area or your room so that we can tell them when you are out of surgery. Your actual surgery will take approximately two to three hours if you have had no prior surgery on the hip; however, you should tell your family that there might be a delay from the time you leave your room until surgery begins. Once out of surgery, you will be taken to the recovery room and watched closely while the affects of anesthesia wear away. The usual time for this process is one-and-one-half to two hours. If there is any question about your medical condition, or if you arrive in the recovery room late in the day, you may be taken to the surgical intensive care unit (SICU). This is another safety precaution and should not cause alarm. If your condition allows, you will go back to your regular room the next morning.

When you awaken, you will have an abduction pillow between your legs to prevent dislocation of the hip, and be wearing a special stocking on your leg, called a TED stocking, to prevent the formation of blood clots. You may also have pumps on your feet or legs to help prevent blood clots.

A small tube may be coming from your hip and attached to a bottle at the side of your bed. This is a drain used to remove blood from the hip.

IF YOU EXPERIENCE PAIN

You will experience some pain the evening after your surgery, but this will gradually subside over the next couple of days. Pain medicine is given either into an epidural catheter or into your I.V. The I.V. system is called patient controlled anesthesia (PCA), allowing you to give yourself a predetermined dose of medication directly into the I.V.

YOUR PHYSICAL THERAPY

A physical therapist works with you throughout your hospital stay. If possible, the therapist will see you prior to surgery to familiarize you with the exercise program. You should begin as soon as possible to tighten the muscles of your thigh (quadriceps) and your calf muscles (gastrocs). The therapist will see you the day after surgery to help you with these exercises and to help you sit up on the side of the bed.

Your therapy program begins immediately following your surgery. The therapy program is designed to improve your hip strength and stability. Many patients find that gym clothes or shorts are more comfortable for their exercise sessions.

The occupational therapist helps determine what special devices you may need at home to help you in your daily activities. This may include an elevated commode seat or shower bench.

You will be given the following exercises to do in bed:

- Deep breathe and cough
- Ankle pumps
- Tighten knees
- Tighten buttocks

Do each of these 10 times per hour.

You will be taught the do's and don'ts of hip replacement. You should follow these do's and don'ts for the next four weeks or until advised by your physician.

DON'T...

- To prevent dislocation, DO NOT cross your legs, pivot or excessively roll your leg inward or outward until instructed by your therapist.
- DO NOT flex your hip beyond 70 degrees. This means no bending, stooping, or sitting in overstuffed or low chairs. Your knees should be no higher than your hips. DO NOT lean forward while sitting in a chair.
- DO NOT take prolonged rides in cars. DO stop periodically and stretch. DO NOT sit for long periods of time or become overly tired.
- DO NOT take chances: be careful on uneven ground, ice, and snow; avoid sports that put stress on you hip or knees such as golf, swimming, or brisk walks until approved by your physician.
- DO NOT drive a vehicle unless it has been discussed with your physician.
- WOMEN – FOR SIX MONTHS, DO NOT shave your legs from a standing position. If sitting, DO NOT roll your leg inward with the hip flexed to shave the back of the leg.

DO...

- The TED stocking should be worn during the day for four weeks after leaving the hospital. If any calf swelling occurs, notify your physician or your therapist.
- Gardening may be done with a stool and long-handled equipment, if directed by your physician.
- Limit yourself to light housework with no bending or heavy lifting until directed by your physician.
- Take multivitamins with iron daily, eat a balanced diet, and get adequate rest. Take frequent short walks. Use an elevated toilet seat if instructed by your therapist.
- Continue with the exercises as instructed by your therapist.
- FROM NOW ON, caution your dentist or urologist about any manipulation of teeth or the urinary tract. You should have antibiotics 24 hours before and 72 hours after any tooth extraction or dilation of the urethra.
- Before traveling, notify your airline that you have had a total hip replacement, as you may set off the metal detection device in the airport security check points. We can provide you with a medical card describing your condition.
- Ask questions if anything is unclear in your mind. Call your therapist or doctor.
- Keep pillows between the legs while lying on your side.

GOING HOME AFTER HIP REPLACEMENT

The usual hospital stay for total hip replacement is four to seven days. You may stay longer if necessary. If so, you will go to the rehabilitation floor of the hospital. By the time of discharge, you should be able to move from bed to a chair and back, and move independently with a walker or crutches. You should also be progressing well, regaining your hip motion and leg strength.

You will be expected to continue a number of your exercises at home without supervision. It is very important that you do this to fully rehabilitate the hip as quickly as possible. We do everything medically possible to ensure excellent results, and we encourage patients to work very hard to achieve this goal.

It is not unusual to experience an increase in swelling or to note slight warmth or reddening of the hip as you become more active and vigorous in your exercise. Usually this will go away if you elevate your leg and apply ice, if necessary. If it does not, you may have overdone it, and you should rest your leg for a day. You can then resume your exercises less vigorously the next day. If the swelling, warmth, or reddening is severe, persistent, or associated with a fever above 100 degrees Fahrenheit, then you should notify our office.

The TED stocking given to you at the hospital should be worn for four weeks after discharge. If pain, swelling, or redness occurs in the calf, please notify your physician.

You should eat a balanced, nutritious diet and take a daily multivitamin with iron. It is very important to maintain normal body weight following total hip replacement. Because the body needs plenty of calories and nutrients in order to heal, eat sensibly and avoid dieting at this time.

FOLLOW UP DOCTOR APPOINTMENT

Follow-up visits are extremely important after hip replacement surgery so that the condition of your new implant can be monitored at scheduled intervals. Visits are scheduled for six weeks, three months, six months, and annually after surgery. The same x-ray techniques are used at each visit so that the x-rays can be properly compared to earlier x-rays and subtle changes identified.

If your sutures are in when you leave the hospital, you should make an appointment to return to your doctor's office within one week of discharge to have them removed. If these were removed before you left the hospital, your doctor will need to see you in about six weeks.

The wound does not need to be covered, but if you like, you can cover it with a light gauze dressing. If there is drainage from the wound, it should be cleaned several times per day with peroxide and a fresh dressing applied.

Once you have had a total hip replacement, it is necessary for you to see your doctor every year for life. This is extremely important as it allows us to detect any problems that may occur at the earliest possible date. If you live out of state, or if you move, please let us know. We want to maintain contact with you, and we can refer you to a physician in your area with experience in total joint replacement.

You should always tell your dentist or physician that you have an artificial joint. Please take this booklet with you when you see your doctor or dentist in case he has questions about antibiotics.

INFECTION PRECAUTIONS

Any infection in the body can spread from one area to another through the blood stream. This is a difficult problem if infection spreads to your artificial joint. This can occur many years after surgery, and you should seek prompt attention if you develop an infection.

Antibiotic Prophylaxis

- For patients not allergic to Penicillin: Cephalexin, Cephradine or Amoxicillin 2gm orally 1 hour prior to dental procedure.
- For patients who are not allergic to Penicillin but unable to take oral medications: Cefazolin 1gm or Ampicillin 2gm intramuscularly or intravenously 1 hour prior to dental procedure.
- For patients allergic to Penicillin: Clindamycin 600mg orally 1 hour prior to the procedure.
- For patients allergic to Penicillin and unable to take oral medications: Clindamycin 600mg intramuscularly or intravenously 1 hour prior to the procedure.

No second doses are recommended for any of these dosing

RESUMING NORMAL ACTIVITIES

- **Work:** Depending on the physical demands of the job, work may be resumed any time you feel comfortable. It takes four to six weeks to be able to return to a relatively sedentary job and longer if your job has physical requirements.
- **Driving:** Driving may be resumed four to six weeks following surgery when you feel you have the strength to meet the demands of controlling the vehicle. We would recommend that you drive the car up and down the driveway and practice moving your feet from accelerator to brake. Make sure you are able to do this quickly and safely.
- **Marital Relations:** Sexual intercourse may be resumed at any time, but hip precautions must be followed.
- **Sports Activities:** Remember that your new hip is artificial and, though made of extremely durable materials, is subject to wear and tear. We encourage you to be active in order to control your weight and maintain your muscle tone. This will help prolong the life of the prosthesis. You should not begin any exercises other than those prescribed for several months, and then you should limit them to low-impact exercises such as walking, swimming, or bicycling. Jogging, high-impact aerobics, and sports that may result in a hip injury should be avoided. Golf may be gradually resumed. Although tennis is discouraged, a number of patients have successfully returned to doubles play.

IN SUMMARY

We believe that total hip replacement is a safe and successful procedure when performed on properly selected patients by surgeons with expertise in this technique. It is expected to provide many years of improved and excellent function.

We wish you the best of luck and remind you once more that we are always available. This booklet is provided to help you understand the procedure. We encourage your questions.



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