

Anterior Approach

to Hip Replacement
Surgery



Introduction

When debilitating pain and stiffness in your hip limits your daily activities, you may need a total hip replacement. The development of total hip replacement began over 40 years ago. In 2006, more than 270,000 people in the United States underwent conventional hip replacement surgery to relieve pain and stiffness and restore mobility.¹ Today, there are many options in hip replacement surgery. This brochure focuses on the similarities and differences between conventional hip replacement and the Anterior Approach to hip replacement.

When Hip Problems Arise

The most frequent cause of debilitating hip pain is arthritis. It is estimated that 40 million people in the United States have some form of arthritis. That's one in every seven people, one in every three families.

Of the more than 100 types of arthritis, the following three are the most common causes of joint damage: osteoarthritis, rheumatoid arthritis and traumatic arthritis.

Osteoarthritis is a disease which involves the wearing away of the normal smooth

joint surfaces. This eventually results in bone-on-bone contact, producing pain and stiffness.

Rheumatoid arthritis is a systemic disease that may attack any or all joints in the body. It affects women more often than men and can strike all ages. Unlike osteoarthritis, rheumatoid arthritis causes destruction of the joint by severe inflammation. The body's immune system attacks and destroys the synovial lining (the protective cartilage and the joint surface) covering the joint capsule, causing pain, swelling, joint damage and loss of mobility.

Traumatic arthritis results from damage to the joint from a previous injury. It is the third most common form of arthritis. It also results in joint damage, pain and loss of mobility.

When conservative methods of treatment (medications, physical therapy, etc.) fail to provide adequate relief, total hip replacement is considered. If your X-rays show destruction of the joint, you and your surgeon will decide if the degree of



Arthritic Hip

pain, deterioration and loss of mobility are severe enough that you should undergo the operation. Total joint replacement is a treatment that has transformed the lives of many people by enabling them to regain activity with reduced or no pain. It helps them to return to an active, enjoyable lifestyle where they can resume their daily activities.

The Hip Joint

The hip joint forms where the head of the femur (thigh bone) meets the acetabulum (the socket of the pelvic bone). The head of



Healthy Hip

the femur is ball-shaped and fits snugly in the socket formed by the acetabulum. The bones of the hip joint are covered by a layer of smooth, shiny cartilage that

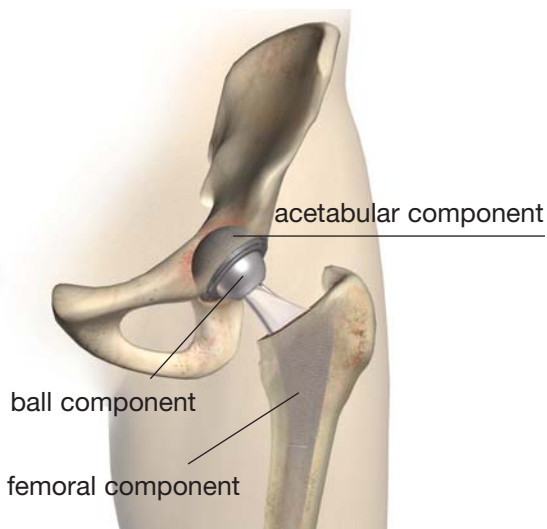
cushions and protects the bones while allowing easy motion. Tough fibers, called ligaments, connect the bones of the joint to hold them in place and add strength and elasticity for movement. Muscles and tendons play an important role in keeping the joint stable.

Treatment Options

Your doctor carefully considers factors such as your condition, weight and activity levels before determining the appropriate treatment method. For less severe hip pain, non-surgical treatment options may be considered. These treatments may include rest, drugs and analgesics. When non-surgical options fail to provide adequate pain relief, hip replacement may be suggested. If you are in pain, you should discuss treatment options with your surgeon. One such option is hip replacement using a surgical technique called the Anterior Approach.

Traditional Total Hip Replacement

Total hip replacement or total hip arthroplasty is the surgical replacement of the ball and socket of the hip joint with artificial parts. There are two main modular components used in total hip replacement. The femoral stem, which is inserted into your thigh bone, is made of metal and replaces the worn out head of the femur. The ball component, which can be made of metal, ceramic or polyethylene, rests on the top of the femoral stem. The



Hip Replacement Components

acetabular component includes a cup and liner, and replaces the socket. These components may be made of metal, ceramic and polyethylene combinations. In traditional hip replacement surgery, a surgeon will make an incision along the side of your leg in order to access your hip joint. The natural ball portion of the head of the femur (thigh bone) is removed during surgery. The remaining preparation of the femur and acetabulum (socket) involves reshaping to allow solid, accurate alignment of the hip components. The femoral component is inserted inside the thigh bone and the acetabular component is inserted inside the socket of the pelvis.

The Anterior Approach - A Muscle Preserving Philosophy

The Anterior Approach is an alternative to traditional hip replacement surgery. This technique approaches the hip joint from the front as opposed to the side or back. Unlike traditional hip surgery, a surgeon



***Small Incision in
Upper Thigh***



***Muscle Easily Parted
to Expose Joint***

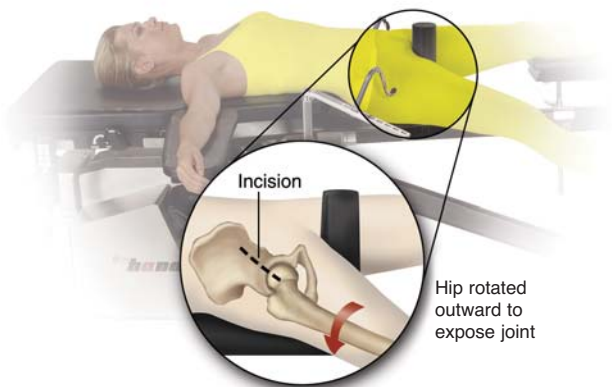
can work between your muscles without detaching them from the hip or thigh-bones. The benefits of the Anterior Approach are:

- These important muscles are left relatively undisturbed and are therefore typically spared a lengthy healing process.

- Patients may bend their hip and bear full weight sooner after this surgery, than with traditional THR, because of this muscle sparing.
- Keeping these muscles intact also helps prevent possible dislocations.
- Additionally, since the incision is on the front side of the leg, you may be spared from the pain of sitting on scar tissue.

Advanced Surgical Table & Instruments

The Anterior Approach is enhanced by the use of a technologically advanced surgical table and special instruments.^{2,3} This table helps your surgeon precisely position your hip for surgery, enabling him or her to accurately position the replacement



Improved Surgical Access

components for proper hip joint mechanics. Special instruments and implant components allow for less tissue disruption which can shorten the healing process.

Your Hip Evaluation

An orthopaedic surgeon specializes in problems affecting bones and joints. The surgeon will ask you many questions about your hip symptoms, as well as your general health, to determine if hip surgery is safe and appropriate for you. The evaluation will include a careful examination and review of your X-rays and other tests. This will help the surgeon understand your pain and physical limitations and the progression of your hip problem.

After your medical history is taken, a physical exam is performed. The range of motion of your hips and knees is measured and your muscle strength is evaluated. The surgeon will observe how you walk, sit, bend and move.

X-rays are taken of your hip joint. Bring any previous hip X-rays with you to help your surgeon plan the surgery and evaluate the fit of your new hip prosthesis.

Before Surgery

You will likely be asked to see your family physician or an internal medicine doctor for a thorough medical evaluation. To prepare yourself for surgery, you may be asked to do a number of things, including weight loss and smoking cessation. If you smoke, it is important for you to stop smoking two weeks prior to surgery.

It is essential that you tell your surgeon about any medications or supplements you are taking. Bring a list of all medications and dosages. If you are taking aspirin or certain arthritis medications, inform your surgeon. You may need to stop taking these before surgery. If you are taking aspirin under the direction of a physician for vascular or cardiac reasons, your doctor may advise you to continue taking it as directed. You may want to ask your doctor about donating your own blood ahead of time for a possible transfusion during surgery.

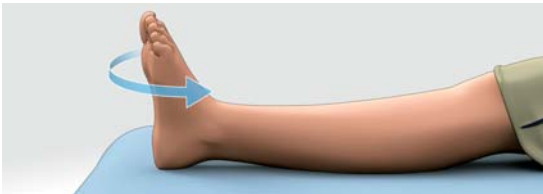
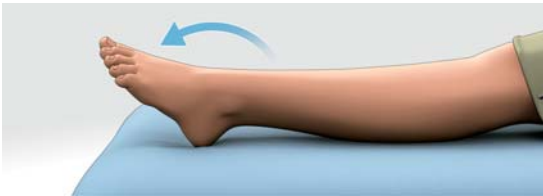
After Surgery

You will awaken after your surgery in the post-anesthesia recovery room. You will remain there until you are breathing well and your blood pressure and pulse are

stable. If you experience pain, medication will be available. Post-operative pain control is started immediately in the recovery room.

What To Expect After Surgery

You may move both legs as soon as you awaken. The nurse will help you find comfortable positions. To protect against blood clots, the nurse may encourage you to do ankle pumping exercises every hour or instruct you to use a continuous passive motion machine.



One Example of an Ankle Pumping Exercise

An IV is seldom used for more than 24 hours. You will quickly begin regular fluid and food intake in the hospital under the direction and advice of your surgeon.

You may have a tube or drain coming through the surgical dressing that is attached to a drainage apparatus. This system provides gentle, continuous suction to remove any blood that may accumulate in the surgical area. The drain will probably be removed soon after surgery. Your dressing will be changed regularly.

To prevent problems in your lungs, you may receive a device called an incentive spirometer after surgery to encourage you to cough and breathe deeply. This is used every hour while you are awake.

It is normal to feel discomfort after surgery, and with modern pain management techniques, there is no reason to suffer. Inform the nurse of your pain, and medication should be administered.

Improved Patient Recovery

The Anterior Approach is a *tissue sparing* procedure. It seeks to help patients freely bend their hip and bear full weight soon after surgery. This may result in a faster recovery. Traditional hip replacement surgery, in contrast, typically requires strict precautions for six to eight weeks. You need to discuss your specific

situation with your surgeon because not all patients are good candidates for the Anterior Approach.

Physical Therapy

Isometric exercises (tightening muscles without moving the joint) will begin while you are still in bed. You will be instructed to do these exercises a number of times per day while awake. You will be encouraged by the physical therapist to move your ankle and other joints so that you will remain strong.

You will be taught about joint replacement recovery and will soon begin walking and doing exercises.

The physical therapist will check your progress daily and keep your surgeon informed. Pain medication often may be taken prior to your physical therapy if you request it.

Progress

The usual hospital stay for hip joint replacement is one to three days following surgery.

The therapist will teach you how to dress

and get out of bed without help. You will continue to strengthen yourself in preparation for your return home.

It is important for you to follow both your doctor's directions and proper positioning techniques throughout your rehabilitation. By the time you leave the hospital, you should be progressing well in regaining mobility and stability. If your sutures or clips require removal, you will be advised about who will remove them, and where and when this will be done. It is not uncommon to still experience some pain. Remember that full recovery can take up to six months for typical hip replacement surgery and up to two to three months for the Anterior Approach.

Preparing To Go Home

Just prior to your discharge, you will receive instructions for your in-home recovery. Until you see the surgeon for your follow-up visit, you must take certain precautions.

Look for any changes around your incision. Contact your surgeon if you develop any of the following:

1. Drainage and/or foul odor coming from the incision.

2. Fever (temperature about 101 degrees F or 38 degrees C) for two days.
3. Increased swelling, tenderness, redness and/or pain.

Take time to adjust to your home environment. It is okay to take it easy.

Returning to Regular Activities

Your recovery is based, in part, on your condition prior to surgery. Rehabilitation is hard work and recovery takes time. By sparing your major muscles from being cut during surgery, you may experience a faster recovery. Many patients undergoing the Anterior Approach to hip replacement surgery are back to normal activities within a few weeks.

You usually may begin driving once you are able to bear full weight on your hip, usually within 5 to 7 days. Be sure you are comfortable with your strength, and practice driving in a safe area. You may resume driving when you are comfortable with your mobility and as recommended by your surgeon.

Sexual intercourse may be resumed at any time as long as it is comfortable.

During recovery, you should continue to be active in order to control your weight

and muscle tone. It is generally two to three weeks before you can resume low-impact aerobic activities such as bicycling and swimming. You may be able to resume certain higher-impact activities after two to three months, but only upon the advice of your doctor. Remember, your new hip is artificial, and although made of extremely durable materials, it is subject to wear and tear.

After one to two months, many patients report having little or no pain at all. In the end, it is your responsibility to discuss and follow a plan set forward with your surgeon.

Medication/Pain Control

It is normal for you to have some discomfort during recovery. You will probably receive a prescription for pain medication before you go home. If a refill is needed, plan ahead and call for a refill a few days before you run out of pills.

Contact your surgeon if your discomfort or pain increases.

Special Instructions

The Anterior Approach seeks to remove serious restrictions from your recovery period. In order to check up on your

progress, you will likely be seen six weeks after your surgery, then again at six months and/or one year after your surgery. You should see your surgeon at least every other year after the first year.

Any infection must be promptly treated with proper antibiotics, since infection can spread from one area to another through the blood stream. Every effort must be made to prevent infection in your artificial joint. You should always tell your dentist or physician that you have an artificial joint before undergoing any treatment.

Notes:

Anterior Approach as described by Joel Matta, MD.

This brochure was written in consultation with Joel Matta, MD & David Dodgin, MD.

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*Source: Patients who have received DePuy implants.

REFERENCES:

1. *Millennium Research Group*, 2006.
2. Matta, J.M., et al. "Single Incision Anterior Approach for THA on an Orthopedic Table." *Clinical Orthopaedics and Related Research* 441: 115-124.
3. Data on file at DePuy Orthopaedics, Inc.

RELATED CLINICAL ARTICLES:

- Yerasimides, J.G. and J.M. Matta. "Primary THA with a Minimally Invasive Anterior Approach." *Seminars in Arthroplasty* 16(3), September 2005: 186-190.
- Matta, J.M. and T.A. Ferguson. "THR After Acetabular Fracture." *Orthopedics* 28, 2005: 959.

For more information about joint replacement, visit our web site at www.hipreplacement.com.



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