



MIS Mini-Incision Procedure and Understanding Hip Replacement Surgery

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A global leader in the provision of high-quality, hands-on education and training for orthopaedic surgeons.

Individual results may vary. Your results will depend upon your personal circumstances. This information is intended to provide an overview of knee replacement surgery. Review this information with your doctor. Joint replacement surgery is usually a last option after all other treatments have been exhausted.

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Why Does My Hip Hurt?

In a healthy, normal hip, the movement of bending, straightening, or rotating is absorbed by the cartilage, allowing the ball to move freely in the socket without pain. Over time, however, the cartilage can wear away or become damaged, causing the bones to rub and grind together. This causes much of the pain and stiffness patients feel.

Although people frequently associate joint pain with an injury or fracture to the hip, other common causes of a damaged hip include the breakdown of the joint's cartilage (osteoarthritis); inflamed and stiff cartilages (rheumatoid arthritis or gout); and decay of the bone from long-term use of alcohol or steroids (necrosis).

What is Total Hip Replacement?

In a total hip replacement surgery, the painful parts of the damaged hip are replaced with artificial hip parts called a prosthesis, a device that substitutes or supplements a joint. The prosthesis consists of three components: a socket, ball, and stem. The outer shell of the socket is usually made of metal and the inner shell consists of plastic, or the entire socket may be plastic. When the metal ball is joined with the socket, the new hip allows for smooth, nearly frictionless movement.

active, and practicing the required exercises are the quickest ways to full recovery. Within six weeks, you will revisit your surgeon to check the progress of your recovery.

In most cases, successful total hip replacement will relieve your pain and stiffness, and allow you to resume many of your normal daily activities. But even after you have fully recovered from your surgery, you will still have some restrictions. Normal daily activities do not include contact sports or activities that put excessive strain on your hips. Although your artificial hip can be replaced, a second implant may not be as effective, and your activities would likely be even more restricted. Questions about your specific situation are best discussed with your surgeon.

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What Can I Expect After Minimally Invasive Surgery?

When you are back in your hospital bed or room, you will begin a gentle rehabilitation program to help strengthen the muscles around your new hip and regain your range of motion. On the day of surgery you may be asked to sit on the edge of the bed and dangle your feet. You also will learn how to protect your new hip while doing daily activities.

As soon as possible, usually within the next one to 24 hours, your physical therapist will help you start walking. As you heal, you may use walking aids, progressing from walker to crutches and then a cane. If you have a urinary catheter, it will be removed when you are able to walk to the bathroom, usually within a day or two. If you did not meet with an occupational therapist before your surgery to learn how to perform daily tasks at home, you will do so before you are discharged from the hospital.

When your surgeon determines that you have recovered sufficiently, you will be discharged. This can be up to three days for Mini-Incision patients. You may be transferred to a nursing facility for a few more days, as determined by your surgeon. Upon returning to your home, you will need to continue taking your regular medications and continue exercising as directed by your surgeon or physical therapist. Walking, remaining

How Has Hip Replacement Changed?

Total hip replacement surgery requires that the hip joint be exposed so its surfaces can be replaced. The traditional way to expose the hip joint is to make a skin incision that is 25cm to 30cm long. This procedure has been performed successfully for many years and on thousands of patients, and is still performed today.

Minimally invasive total hip replacement is an alternative to traditional surgery. Using specially developed instruments and a less-invasive surgical technique, the Zimmer *Minimally Invasive Solutions*[™] (MIS[™]) Mini-Incision hip replacement procedure is helping to make surgery, recovery, and rehabilitation faster and easier on patients.

The Mini-Incision technique uses the same high-quality and clinically proven hip implants as traditional hip replacement surgery. The difference is that the implants are inserted through an incision that can be as small as 6cm to 9cm in length.



In a healthy hip, cartilage provides a cushion between the hip ball and socket.

In an arthritic hip, the cartilage has thinned and decayed, allowing bone to rub against bone, causing pain.

Is the Mini-Incision Better than Traditional Surgery?

Minimally invasive surgery will not help your new hip joint function better or last longer, but it might help make your surgery, recovery, and rehabilitation faster and easier for you.

In addition to a significantly smaller incision, the Mini-Incision hip replacement procedure offers the following advantages over traditional hip replacement:

- Shortened hospital stay – possibly three or fewer days vs. four and a half or more
- Faster rehabilitation

These benefits may allow a quicker return to work and daily activities. They also may vary based on your individual circumstances and factors such as your weight, general health, and the extent and pattern of your arthritis.

Symptoms

Your doctor can help you determine if you are a candidate for hip replacement, which is considered when:

- Joint damage is visible on x-ray
- Episodes of pain, swelling, and stiffness in the hip are prevalent
- Persistent pain and disability interfere with daily life activities
- Mobility is extremely limited
- Nonsurgical interventions, such as physical therapy, medications, and the help of a cane or other walking aid, are unsuccessful

Traditional surgery usually takes two to four hours, although this varies based on the severity of the arthritis in your hip. The Mini-Incision hip replacement surgery may take less time. Your surgeon can advise you on his expectations of your surgical time and how soon you will be able to see visitors. In the operating room, a urinary catheter may be inserted. Compression stockings and pneumatic sleeves are often put on both legs.

The procedure is performed through an incision over the side of the hip. The ball-end of the thighbone (femur) is cut and replaced with the new metal ball and stem component. It may be stabilized with or without cement. The damaged surface of the socket is smoothed and the new socket inserted. The ball and socket are then joined. When the surgeon is satisfied with the fit and function, the incision will be closed and covered with dressings. You may also find small drainage tubes coming out of the hip to drain fluid from the wound. These will be removed before leaving the hospital.

After Surgery

You will be sent to the recovery room and, as the anesthesia wears off, you will slowly regain consciousness. A nurse will be with you, and may encourage you to cough or breathe deeply to help clear your lungs. You also will be given pain medication and will find a foam wedge or pillows placed between your legs to help hold your joint in place. When you are fully conscious, you will be taken back to your hospital bed or room.

What is it Like to Have Minimally Invasive Hip Surgery?

Before Surgery

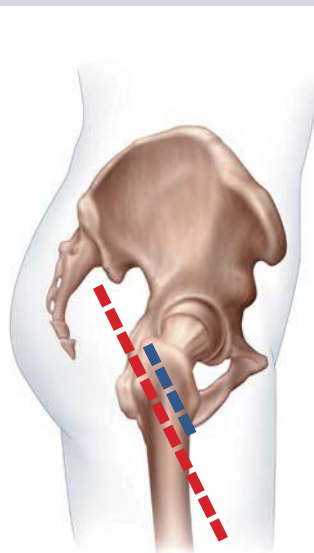
If you and your surgeon decide that total hip replacement is right for you, a date will be scheduled for your surgery. Several things may be necessary to prepare for surgery. For example, your surgeon might ask you to have a physical examination by your primary care physician.

Your surgeon may also ask you to meet with an occupational therapist who will show you how to perform daily tasks at home with your new hip so that you can begin practicing. For example, he or she will instruct you on how to go to the bathroom, how to dress yourself, how to sit or stand, and how to pick up objects.

You should also finish any dental work that may be underway to prevent germs in your mouth from entering the bloodstream and infecting the new joint. If you prefer, or if your surgeon feels it is needed, you may want to donate your own blood ahead of time to reduce the risk of your body reacting to the blood transfusion.

During Surgery

On the day of surgery, an intravenous tube will be inserted into your arm to administer necessary medications and fluids during surgery. You will then be taken to the operating room and given anesthesia.



Incision size and placement may vary.

The Zimmer *MIS* Mini-Incision hip replacement procedure allows implants to be inserted through a **2 1/2- to 3 1/2-inch incision**, as opposed to the 10- to 12-inch incision in traditional hip surgery.

Is the Mini-Incision Right for Me?

The decision to have the *MIS* Mini-Incision procedure is up to you and your orthopaedic surgeon.

Your doctor will consider a number of factors, including:

- Medical history
- Weight
- Health status
- Anatomical structure, including bone structure and extent and pattern of arthritis

Your surgeon may begin a minimally invasive procedure, then discover that the condition of your hip is such that the incision needs to be enlarged. This will be determined during your surgery. Enlarging the incision will not affect the function of your new hip.

Dancing Again After the Mini-Incision Hip Replacement Procedure

“I was walking down a hallway and the pain became so intense that I had a hard time walking the 12 m from the lift to my office,” said Elaine Mirsky. The experience started her on a journey to change her life.

Elaine once had a busy life traveling with a job at American Express in New Jersey and spending time with her children. But arthritis had ravaged both of her hips and, eventually, the pain became so overwhelming that walking and even sitting were agonizing.



“The pain became so intense that I had a hard time walking the 12 m from the lift to my office.”

surgical procedure and should usually only be considered when all other treatment methods don't work to relieve the pain anymore. There may be more conservative alternatives which you and your surgeon may want to consider. These might include medications or injections for pain and inflammation, physical therapy, or other types of surgery.

The final decision about whether or not to have total hip surgery will be yours, so you will want to understand the risks involved, as well as the potential benefits. There are potential complications both during and after surgery. Generally, these include infection, blood clots, pneumonia, dislocation, fracture, prosthesis loosening, nerve damage, and reactions to the anesthesia. Your surgeon can answer your specific questions about these risks.

Although widely practiced, total hip replacement is a major surgical procedure and should usually only be considered when all other treatment methods don't work to relieve the pain anymore.

How Will I Know if I Should Have Hip Replacement?

Your orthopaedic surgeon will take your medical history and perform a very thorough examination of your hip involving physical tests and x-rays.

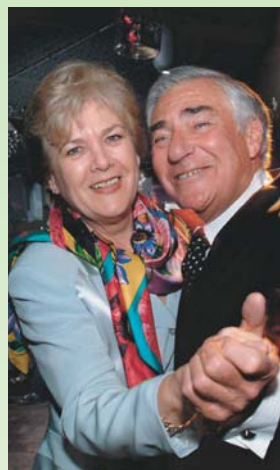
Your surgeon will ask you to describe your pain and ask questions to determine other joint problems and how past injuries might have affected your current hip.

You also will be asked to tell how you've treated your pain in the past, whether it be through physical therapy or by taking medications.

Your joints will be tested for strength and range of motion. At this time, your surgeon will observe how you walk and bend, and watch for any problems in the way you move.

X-rays will provide your surgeon with images of your hip joint to show changes in size or shape, or unusual circumstances to determine if surgery would be the best option. If so, the x-rays also will help in the sizing and fitting of your new hip.

Based on this examination, your surgeon will determine whether you are a candidate for total hip replacement, and whether a minimally invasive procedure is right for you. Although widely practiced, total hip replacement is a major



Within weeks, Elaine was dancing, playing cards with friends, and walking everywhere.

After hearing about the potential benefits of the Zimmer Mini-Incision hip replacement procedure, Elaine asked her physician to refer her to a local surgeon. When Elaine learned that she was a candidate for the new, minimally invasive technique, she quickly decided to have both hips replaced, a year apart.

“Only three weeks after my first surgery, I enjoyed Thanksgiving dinner with my family, without pain,” Elaine said.

Within weeks, Elaine was dancing, playing cards with friends, and walking everywhere. When asked what she would tell others who suffer from devastating hip pain, Elaine doesn't hesitate: “Go for it,” she said.

***Doubles Tennis, Anyone?
A Patient's Win Over Hip Arthritis***

“The Mini-Incision hip replacement procedure changed my life,” said Gerald Pinsker, a sales representative from Staten Island, N.Y.

Gerald had been suffering from the pain of osteoarthritis in both of his hips for years. Once an avid tennis player, eventually Gerald's symptoms became so advanced that he could hardly sit, stand, or walk.



“The Mini-Incision hip replacement procedure changed my life.”



Gerald plays doubles tennis with his wife and is thankful for the renewed freedom to enjoy an active life.

Gerald saw a TV news report about Mini-Incision hip replacement and called immediately to make an appointment with a local surgeon.

The day after each hip replacement surgery – performed a year and a half apart – Gerald walked with the help of a walker and a physical therapist. Two weeks later, he was walking on his own.

Within weeks, Gerald was traveling to his sales and client meetings with ease. He plays doubles tennis with his wife and is thankful for the renewed freedom to enjoy an active life.