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Total Hip Arthroplasty

Introduction



Hip arthritis is a common problem, most often due to osteoarthritis.

In hip arthritis affects a patient, the normal cartilage surface of the joint is worn away.

In hip arthritis patients may have significant pain and treatment is necessary

The Hip Joint-Basic Anatomy

The hip joint is a simple ball and socket joint.

In the hip joint the cup-shaped acetabulum of the pelvis mates with ball-shaped end of the femur

In a normal joint these surface are covered in a well lubricated, low-friction layer of cartilage

Hip Joint Degredation

Osteoarthritis in the hip joint is the wearing of the articular cartilage on the surfaces of the bones that form the hip joint. If this wear is severe enough, hip replacement may be indicated.

In Hip Replacement surgery, the worn ends of the bones are resurfaced with metal, ceramic and or plastic implants.

The socket of the acetabulum is shaped to accept a specifically sized hip prosthesis. The socket is often a plastic or metal that is fitted with a plastic liner.

The end of the femur is resected and the canal of the femoral bone is prepared to accept the femoral stem component of the hip implant. This implant is either cemented in place with a polymer compound or press-fit in place so that bone can grow into the implant. Both types are widely used today.

The end of the femoral implant is fitted with an appropriately sized ball that is mated with the acetabular liner or shell. The ball was typically metal, but recently ceramic balls are being used.

What does OA of the hip joint feel like?

1. Begins as pain while putting weight on the affected hip
2. You may limp
3. Hip feels stiff and tight due to a loss in its range of motion.
4. Finally, as the condition becomes worse, pain may be present all the time and may even keep you awake at night.

Treatment for Arthritis: Therapies are available to ease symptoms

1. Exercise and OA:
2. <http://arthritis.about.com/cs/exercise/a/exercisetreat.htm> and Aqua jog.
Anti-inflammatory drugs: helps for pain [check with your GP]
3. Paracetamol
4. Glucosamine and chondroitin sulfate can also help people with OA
Needs further research
5. A cortisone injection may be prescribed. Multiple injections of cortisone may actually speed up the process of degeneration. This is less commonly used in the hips.

A cane or walker may be needed to ease pressure when walking.

How surgery is done?

Most approaches to the hip are done with the patients lying on their side.

An incision is made along the side of your hip joint and the muscles carefully split and divided to expose the hip joint.

The worn out joint is exposed and the femoral head is resected.

The socket is then cleared of debris and a reamer is inserted to appropriately fashion the socket to accept the artificial acetabular component.

The artificial socket is inserted. There are two types of sockets,

- (a) a cemented socket or
- (b) an uncemented socket.



The newer plastics last a lot longer than the older ones and are appropriately used in older patients. A cemented or an uncemented femoral component used for femur. Once the canal is prepared the femoral stem is inserted with or without cement

At the same time leg lengths and stability are examined.

After Surgery

1. After surgery, your physical therapist will see you
2. Walk using your walker or a pair of crutches.
 3. Exercises are used to improve muscle tone and strength in the hip and thigh muscles and to help prevent the formation of blood clots.
 4. A few additional visits in outpatient physical therapy may be needed for patients who still have problems walking or who need to get back to physically heavy work or activities.
 5. You should use your walker or crutches as instructed. Most patients progress to using a cane in three to four weeks.
 6. Your staples will be removed two weeks after surgery.
 7. Patients are usually able to drive within six weeks and walk without a walking aid by six weeks. Upon the approval of the surgeon, patients are generally able to resume sexual activity by one to two months after surgery.
 8. Heavy sports that require running, jumping, quick stopping and starting, and cutting are discouraged. Patients may need to consider alternate jobs to avoid work activities that require heavy demands of lifting, crawling, and climbing.

The therapist's goal is to help you maximize strength, walk normally, and improve your ability to do your activities.

To help protect your hip for the first 6 weeks after your total hip replacement.

- Do not bend your operated hip more than 90.
- Don't lean forward when sitting, to reach anything!
- Avoid sitting on low chairs, stools or toilets
- You should avoid crossing your legs
- You should avoid lying on the operated side but you may be able to lie on the opposite side with a pillow between your legs.
- Avoid driving X 8 wks
- Avoid lying on the operated side
- Avoid reaching towards your feet to dry them, put on footwear etc

What might go wrong?

As with all major surgical procedures, complications can occur. This document doesn't provide a complete list of the possible complications, but it does highlight some of the most common problems. Some of the most common complications following hip replacement surgery include

Anesthesia Complications

Are rare. A very small number of patients have problems with anesthesia. These problems can be reactions to the drugs used, problems related to other medical complications, and problems due to the anesthesia. Your anaesthesiologist will discuss with you.

Thrombophlebitis (Blood Clots)

More likely to occur following surgery on the hip, pelvis, or knee. DVT occurs when the blood in the large veins of the leg forms blood clots. This may cause the leg to swell and become warm to the touch and painful.

If the blood clots in the veins break apart, they can travel to the lung, where they lodge in the capillaries and cut off the blood supply to a portion of the lung. This is called a *pulmonary embolism*

Most surgeons take preventing DVT very seriously. There are many ways to reduce the risk of DVT. Two other commonly used preventative measures include

Pressure stockings to keep the blood in the legs moving

Medications that thin the blood and prevent blood clots from forming

Infection

Feeling of unwell, Wound edges inflamed, Throbbing pain in the Hip

Incidence: < 1%

How to avoid? Meticulous surgery

IV antibiotics for first 24 hours

Dislocation of the artificial joint:

The joint capsule and ligaments keep the ball joint centered in the hip. When these soft tissues are cut during hip surgery, there is a greater risk for the ball to be forced out of the socket and dislocated after surgery while the soft tissues of the hip heal.

The hip precautions you'll learn are used to keep your hip in safe positions. To do this, you need to avoid certain movements and positions. In this way, the ball will be less likely to push against the

healing tissues and be forced out of the socket. Most surgeons prefer to have you use these precautions for at least six to twelve weeks after surgery until the healing tissues gain strength.

The problem usually starts with a popping or slipping sensation. If the ball dislocates, you will be unable to put weight on the affected limb and will most likely experience discomfort in your hip. You should contact your orthopedic surgeon immediately and probably have someone take you to the emergency room. Putting the hip back in the socket will probably require medication given intravenously to relax the hip muscles and allow your surgeon to put the hip back into place.

Leg length discrepancy

Your surgeon tries to give proper length. However leg may lengthen in order to give proper stability the joint. Most cases the difference between legs will be less than 1.5 cm. If uncomfortable, may need heel raise on the opposite side.

Loosening

The main reason that artificial joints eventually fail continues to be the loosening of the metal or cement from the bone. Great advances have been made in extending how long an artificial joint will last, but most will eventually loosen and require a revision. Hopefully, you can expect 12 to 15 years of service from an artificial hip, but in some cases the hip will loosen earlier than that. A loose hip is a problem because it causes pain. Once the pain becomes unbearable, another operation will probably be required to revise the hip

What sports can you do following total hip replacement?

Tennis (doubles), golf, bowls, cycling, gentle snow skiing and walking.

It is not advisable to be running following a total hip replacement.

General advice after hip replacement surgery:

1. You should have a regular check every two years with an x-ray.
2. If you have had any major bowel, bladder or dental surgery, antibiotic cover should be given prior to the surgery.
3. Metal prostheses can activate security alarms at airports.

6.

