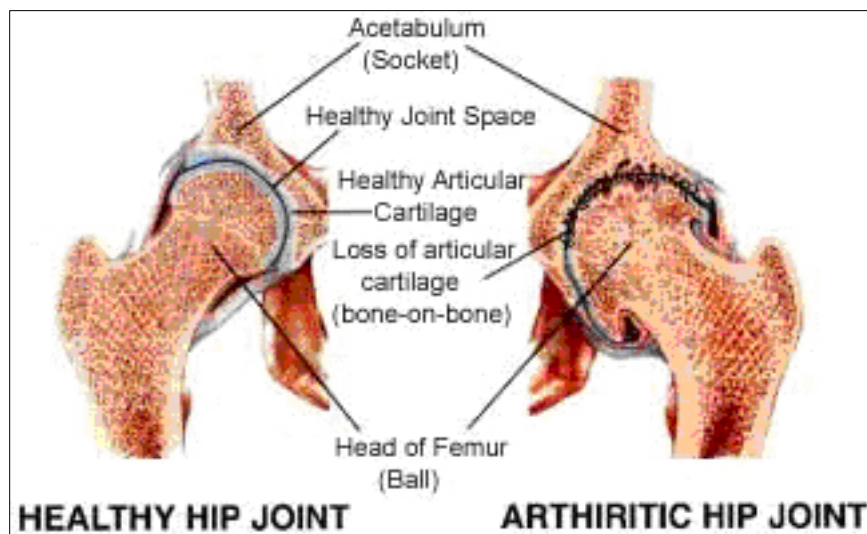


## Introduction

The hip joint is one of the largest weight – bearing joint of the body. Most of *our* activities like walking, jumping, sitting, squatting, dancing, swimming, climbing etc. depends on *our* hip as it provides mobility along with stability. In routine life *our* hip moves millions of times (to do the above activities) without even knowing, but once it gets damaged not only hip becomes stiff, *we* walk with a painful limp and every step needs considerable effort, *thereby restricting our activities significantly*. It is only then that *we* come to realize how much freedom of movement means to *us*.

Replacement of hip joint is a well established and a very successful operation for the last 50 years in which the diseased hip joint is replaced with an artificial hip joint. It not only provides you freedom from pain, and stiffness, but also improves quality of life. This specialized operation is now very successful and has been accepted very well both by the medical fraternity and the society.

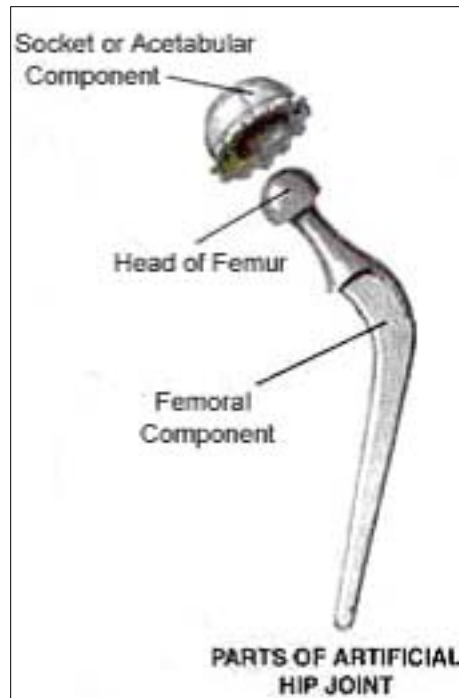
This handbook aims to provide you information about the total hip replacement operation. It discusses in brief the various issues related to the surgery and its after care. It also helps you prepare for the surgery.



## What is a normal hip?

Your normal hip joint consists of a round head (ball) of thighbone joining the acetabulum (socket / cup) at the pelvis in a ball- and – socket arrangement. A healthy joint is a remarkable mechanism due to perfect matching of ball with the socket. A smooth and strong layer of articular cartilage (like velvet) aids it. This lining acts as a padding to absorb stresses and ensure almost frictionless movements of your hip joint. Your hip joint is designed to withstand a lifetime of strenuous activity. However, arthritis

of hip joint causes erosion of this velvet layer (cartilage layer), leading to pain, stiffness and difficulty in walking.



### **What is an artificial hip joint?**

Like our normal hip joint the artificial hip joint also consist of two parts:

- a. Socket (or cup) which is made or special plastic to give smooth surface to the head of femur.
- b. Head (or Ball of femur) which is made of special stainless steel alloy and fits perfectly in to the cup.

These components are fixed to their respective places during surgery after proper cutting and reaming of the damaged joint.



**X-ray Pictures of : Cemented**



**Hybrid**



**Uncemented**

### **What are the types of artificial hip joint?**

*Artificial hip joints are broadly divided into three categories:*

- a) Conventional Total Hip in which femoral head is sacrificed and an artificial ball of smaller head size is implanted with thick polyethylene cup. The conventional hip joints are broadly divided on the basis of their fixation with the bone. **Cemented total hip** is the one where the components are fixed in pelvis and thighbone with bone cement. **Un cemented total hip** prosthesis do not require bone cement for fixation, rather it is snugly fitted. This implant has the potential to allow bone to grow into it and therefore preferred in younger patients. In some cases only femur may be fixed with cement and the socket is cementless. This prosthesis is known as **Hybrid total hip**.
- b) **Conservative or Surface Hip Replacement** in which the femoral head is not sacrificed but reshaped thereby allowing an artificial ball of the size same as patients femur head. The advantage is more movements and stability thereby allowing patients to pursue Indians lifestyle such as sitting on the floor. This process is more suitable for young arthritic patients with good bone quality.

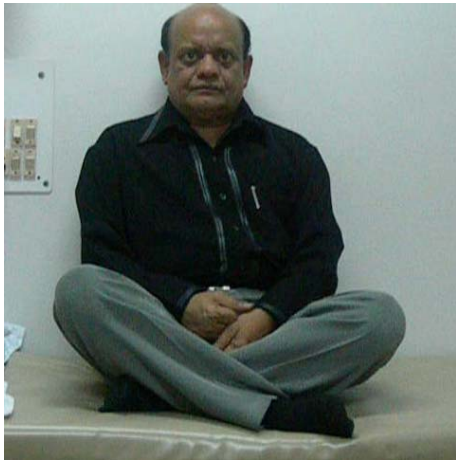


**Surface Hip X-ray**



**Implant**

**C) Large Diameter Metal on Metal Hip Replacement** in which femoral head is sacrificed but the artificial ball of the size same as patients femur head is used. The advantages are same as Surface Hip Replacement.



**LDH X-ray**

**Implant**

*You with your surgeon will discuss which total hip prosthesis suits you the best.*

### **Am I a candidate for total hip replacement surgery?**

Total hip replacement is not an emergency operation but *a planned operation*. This operation is usually done for a damaged or a diseased hip joint for various reasons. It should be considered only when no alternative solutions are available. Some of the indications when you can consider this operation are as follows:-

- a. Severe pain: you must have been taking anti-inflammatory medicines (pain killers), doing physiotherapy or walking with help of waling aids (stick). But if the pain is getting worse or interferes with your sleep, perhaps time has come to consider yourself for this surgery.
- b. Significant stiffness of the hip joint restricting your mobility, including daily routine activities.
- c. Fractures around the hip joint with damage to the cup.
- d. Some diseases where you will require this operation are: Advanced Osteoarthritis; Rheumatoid Arthritis; Ankylosing Spondylitis; Avascular necrosis of hip joint; Failed prior surgery of hip , Tumors around hip etc.

Total hip replacement is not ideal for paralytic / spastic conditions but exceptions do exist.

*You beside your doctor* are the best judge to decide the right time for the surgery. Consider yourself ready for the surgery when your pain becomes chronic and constantly debilitating to the extent of restricting your daily activities severely, and when medication does not help you much.

### **What are the benefits of total hip replacement surgery?**

Total hip replacement is the most successful joint replacement operation. Relief of joint pain is often dramatic. The restorations of activities for sedentary adults are complete.

Most of you will regain your activities and will be able to walk well without any limp, and will not be requiring any walking aid. Improvement in stiffness especially in rheumatoid arthritis is significant. Restoration of limb length of the leg is also an important advantage of this operation. It must be remembered that artificial hip joint is a good hip though not a normal hip. While swimming and brisk walking is considered safe, heavy labour jobs or repeated heavy impact should be avoided e.g jumping , tennis, volley ball, dancing etc. *However after surface hip replacement most of the patients can do moderate impact activities like jumping, volley ball, tennis besides sitting on floor.*

### **What is right age for total hip replacement surgery?**

As such age is no bar for this surgery, but preferably should be done in older age group. In younger age group, it should only be considered when patient is severely crippled due to severe rheumatoid arthritis post traumatic arthritis of hip or avascular necrosis.(AVN)

### **Can I undergo replacement of both the hips at the same time?**

Yes, both the hips can be replaced at the same sitting if you are medically fit. It means one time anaesthesia, one time hospital stay, one time surgery and one time pain medication. It will be cost effective as well. Your doctor can advise you if you can undergo replacement of both hip at the same sitting.

### **What are the risks involved in this operation?**

Total hip replacement is a major operation and runs some risks and potential complications, but only a few are significant enough to affect your surgery.

- a. **Anaesthesia related complications:** they are same as in any other major surgery.
- b. **Any major surgery related complications:** they are blood clots in the leg ( deep vein thrombosis), or in the lung (pulmonary embolism) etc.
- c. **Total hip surgery related complications:** they are less common. Some of these cases may even require a revision surgery. Some of these complications are:
  - Dislocation of the artificial hip joint: Incidence of this complication is low and most of them normally require closed reduction and splinting. But if the artificial joint dislocates repeatedly, then a revision surgery may be required.
  - Infection : it is the most significant complication in the artificial hip joint. However, the incidence of serious hip joint infection is very low ( less than 1%) . Most of these infections ( superficial or deep) respond favorably to antibiotics, but if the discharge continues, then one may require removal of artificial hip joint for the control of infection.
  - Minor leg length difference
  - Stiffness
- d. The major long- term problem is loosening of the hip joint prosthesis. The other long- term complication is wearing of the plastic cup.
- e. *Fracture neck of femur in Surface Hip Replacements, especially in 1<sup>st</sup> 6 months after surgery.*

## **WHAT IS MINIMALLY INVASIVE TOTAL HIP REPLACEMENT (MIS)?**

*In this the entire operation of hip implantation is done with skin incision size of 10 cm or less. The hip joint is approached through inter muscular intervals. The advantage is early recovery and less pain. This approach is done in selected patients. Though the skin incision is small but inside operation is exactly the same as in any other approach.*

## **How long does an artificial hip joint last?**

Artificial hip joint is a good hip joint but not a normal one. The successful outcome of this surgery with newer long lasting durable material and standardized techniques is excellent. Over the years remarkable advances have been made in joint replacement technology to improve their durability. 90-95% hip replacements are successful for 15 years. By 10 years approximately 25% of all artificial hips will look loose on X-rays, but only few of these will be the symptomatic enough to require revision.

Obesity, heavy labour jobs and very strenuous activity can affect the longevity of the artificial hip joints.

## **What is the cost of surgery and how long is the hospital stay?**

The total cost can be divided into cost of the prosthesis and the cost of the surgery.

**The cost of artificial hip joint:** *Depends on the type of hip joint used. The Cemented hip joint prosthesis costs approx. Rs. 40,000/-\* Hybrid hip joint costs approx. Rs. 65,000/-\* while the Uncemented hip joint costs approx. Rs.75, 000/-\*. The revision total hip joint prosthesis costs even more. The Surface Total Hip implant costs approx. Rs.1,25,000/, Large Diametr Metal on Metal Rs 1,45,000/-\*.*

**The cost of surgery** in our hospital is approx. Rs.1,25, 000/-\* in the Single Room category and approx. Rs. 1 lac \* in the Double Room category. These charges include surgeon fees, room rent, anaesthesia, operation theatre charges, disposables used in operations etc. Cost of medicine taken during the hospital stay is not included (however they are not much), If some of you require a longer stay, because of diabetes, heart problem etc. then the total charges may increase.

**Total stay in the hospital** routinely varies from 5-7 days, but in case you have medical complications, it may be more.

\* Subject to Change. Please check with your Surgeon regarding the prevailing rates.

## How do I prepare for Total Hip Joint Surgery?

Before surgery your surgeon will like to ensure that your condition is well enough to undergo this operation. He will also like to exclude certain conditions likely to affect this surgery.

Being overweight, smoking and consuming alcohol in large quantities will affect the outcome of your surgery, lose excess weight and control other factors such as Diabetes

Inform your doctor about any focus of infection e.g. dental, throat, boil/furuncle (skin infection), urinary tract infection etc. They must be treated before you can be taken for this surgery.

Blood requirement will be determined as per your haemoglobin level before operation. Blood transfusion is not usually required for Primary Total Hip Replacement. However upto 3-4 units of blood may be required for revision surgery.

Inform your doctor about anti-rheumatoid medicines, painkillers etc. before the operation as some of them may need to be stopped or changed.

Commit to the success of this surgery. Accept its limitations.

## What happens before and after operation during the hospital stay?

**Medical and Lab evaluation:** You would be admitted a day prior to the surgery. You will be reviewed by your surgeon and a team of anesthetist, physician and physiotherapist on the day of admission. All your investigations including blood, urine, X-ray Chest & ECG will be taken and a fresh X-ray of the affected hip will also be taken. You will be advised some basic exercises of hip, knee and chest.

**Operation preparation:** You will be required to scrub the surgical area with soap and water the night before and on the morning of surgery, you will be helped by a nursing aid, after which she will cover your hip and thigh with a sterile towel. You will not be allowed to eat or drink after midnight before the day of surgery.

**On the operation day:** For surgery we prefer to anaesthetize your legs only by spinal - epidural anaesthesia or alternatively you may be given General Anaesthesia. The duration of surgery routinely is 1<sup>1/2</sup> to 2 hours. Your doctors will talk to your family after the surgery to report your progress. Some of you may have to stay in the ICU for the monitoring of vital parameters for a day.

**After the surgery:** Immediately after the operation for few days a triangular pillow is used in between the legs. It is must, though it may be little uncomfortable. The drainage tubes are removed on the 2<sup>nd</sup> post operation day and the dressing is changed

on 3<sup>rd</sup> post operation day. You will be allowed to sit up in the bed from 2<sup>nd</sup> day onwards. A physiotherapist will help you do hip and knee exercises and chest physiotherapy.

### **Initial Rehabilitation and Exercises:**

The initial rehabilitation generally takes 5-7 days during the hospital stay. It will gradually begin on 3<sup>rd</sup> day with standing, followed by taking a few steps with the aid of a walker or crutches. You will be allowed to take weight as tolerated on the operated limb beginning 2 -3 day after the surgery. Most patients with a stable hip and good muscles will be able to walk with the stick and will also be able to climb stairs before discharge from the hospital.

The other part of initial rehabilitation includes learning to sit and getting up from the chair, commode shifting and physical therapy to further strengthen your muscle and improve your motion. You will also be told some don'ts e.g. not to bend forward more than 90 degrees, always using a thick pillow between your legs and using a high chair including high toilet seat (if your chair is low, using a cushion is mandatory).

### **RESTRICTIONS AFTER TOTAL HIP REPLACEMENT SURGERY**

**After the Conventional Total Hip operation few precautions need to be followed strictly:**

- Do not cross your leg.
- Do not bend the operated hip excessively.
- Do not twist the operated leg in or out.
- Do not roll or lie on unoperated side without pillow in between the legs.
- Do not squat or sit cross leg.
- Do not use Indian type commode.

*Most of them do not hold true in case of Surface Hip Replacement or Large Diameter Metal on Metal Hip Replacement.*



**After Surface Hip Replacement**

## **WILL I BE ABLE TO SIT ON FLOOR AFTER TOTAL HIP REPLACEMENT**

**After Surface Total Hip Replacement & Large Diameter Metal on Metal above mentioned precautions are observed for only six months after the surgery.**

You will be allowed to sit cross leg and squat on the floor after surface total hip replacement.

Low impact sports like tennis, volleyball, dancing, horse riding etc. are not restricted after surface total hip replacement.

### **Guidelines for home after the discharge:**

**Medicines:** you must follow them as mentioned in your discharge summary.

**Activity / Therapy:** At home you will be required to follow the same protocol as has been explained during the hospital stay. If you do not feel confident you may call a physical therapist at home to help you become independent in walking, going up and down stairs, getting in and out of bed, and doing exercises to improve the range of motion and strengthen your hip joint.

**Care of wound:** do not try to interfere with your dressing or wet your hip area till stitches are out. They are usually removed two weeks after the operation.

### **Do call your Surgeon if you notice any of the following symptoms:**

- Increased hip pain
- Pain or swelling in calf or leg
- Unusual redness, heat or drainage at the incision site
- Trouble in breathing; shortness of breath
- Fever over 100<sup>0</sup> F

**Follow up with your doctor:** your 1st appointment will be 2 weeks after the day of operation for removal of stitches. You will be called again after 4 weeks for hip X-ray and examination. Subsequent follow up will be at 3 months, 6 months and at 1 year. This is then followed by yearly check ups.

**Return to work:** You can usually return to work approx. after 2- 3 months or as advised by your surgeon. Car driving etc. is possible after 2-3 months.

### **How do I take care of my hip?**

Avoid putting extra weight.

Avoid heavy labour jobs.

Avoid too strenuous activities like dancing, jogging, playing sports etc.

Do regular exercises of your hip and Knee muscles.

Be diligent in preventing infection in any part of the body.

Keep your diabetes under good control.

If you are suffering with collagen disorders like rheumatoid arthritis, then take proper disease modifying drugs to keep the disease under control.

### **Should I consider myself for total hip replacement surgery?**

Total hip replacement is an elective operation. All your doubts must be cleared and all your questions must be answered before you take the decision for this surgery. Before deciding in favor of surgery you must consider your disability, risk of surgery and the benefits you are likely to gain. In the end the decision for surgery should be yours rather than of your Surgeon alone.

### **For appointments and Queries**

If you still have any queries, please do not hesitate to contact Orthopaedic Surgeon at Delhi Institute of Trauma & Orthopaedics, Sant Parmanand Hospital, 18 Sham Nath Marg, Civil Lines, Delhi 110 054.

Ph: 23981260 (5 lines), 23994401-10 / Ext. 408 & 411.

You can also visit our web site : [www.sphdelhi.org](http://www.sphdelhi.org)

**WE WISH YOU ALL SUCCESS FOR YOUR SURGERY WE ARE COMMITTED TO WORK WITH YOU.**

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