Patient Awareness Program for Joints Replacement

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KNEE AUR HIP KI HEALTH ZAROORI HAI.

TREATMENT ZAROORI HAI.



**#TreatmentZarooriHai** 

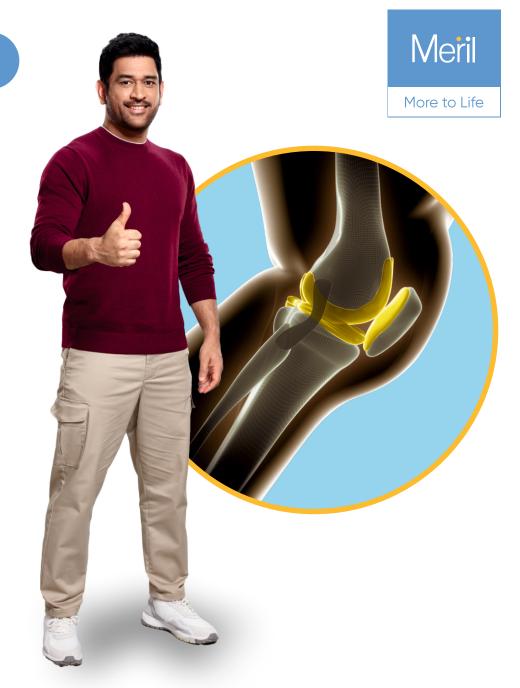
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Large Joint (Hip & Knee) Disease

Large Joint Disease refers to the condition of the joints (Hip & Knee), their surrounding structure including muscles, bones, the cartilage, and the lubricant cushioning these joints and how they function.

Joint (Hip & Knee) pain is a discomfort caused in the joints and their surrounding structure which hampers one's mobility.



## Causes of (Hip & Knee) Joint Disease



#### Knee Osteoarthritis

- Knee Osteoarthritis is an age-related 'wear and tear' type of condition affecting the bones. It generally affects persons aged 50 years or more, but may also affect younger individuals.
- In this type of arthritis, the cartilage that cushions the bones of the knee softens and wears away.
- The edges of the bones then rub against one another, causing knee pain and stiffness.

#### Rheumatic Arthritis

• Rheumatic arthritis is caused due to the inflammation of the synovial membrane surrounding the joint which gradually damages the cartilage.

#### Post-traumatic Arthritis

• Post-Traumatic arthritis is caused due to any serious knee injury. The bone fracture or tearing of the ligaments due to any such injury damages the cartilage causing pain and difficulty in mobility.

# TAKE CARE OF YOUR KNEE LOOK OUT FOR THESE SYMPTOMS







SWOLLEN KNEE



DEFORMED KNEE



DIFFICULTY IN SITTING ON FLOOR



DIFFICULTY IN LIVING AN ACTIVE LIFE



DIFFICULTY IN CLIMBING STAIRS



MIGHT BE ARTHRITIS

## Total Knee Replacement (TKR)

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- Total knee replacement surgery is also called as arthroplasty and this procedure involves removing parts of the damaged knee and replacing them with artificial knee prosthesis.
- Your orthopedic joint replacement surgeon will remove the damaged and diseased portions at the end of the femur (thigh bone) and top of tibia (shin bone) and replace them with artificial implants made of metal or plastic. Each bone is shaped to exactly fit the prosthesis.
- Components are then attached to the thigh bone, shin and knee cap, most commonly using surgical cement.



## Why are knees replaced with artificial implants?



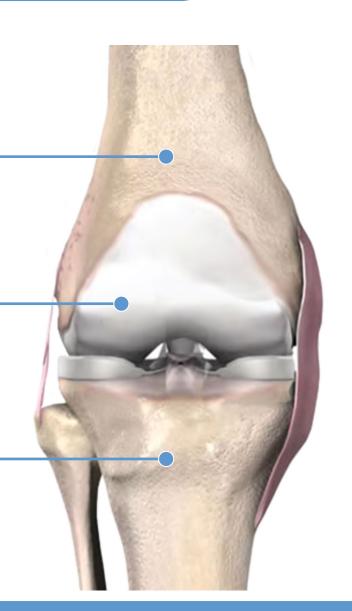
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## **A Normal Knee**

Femur (thigh bone)

Healthy Cartilage

Tibia (shin bone)



## Why are knees replaced with artificial implants?



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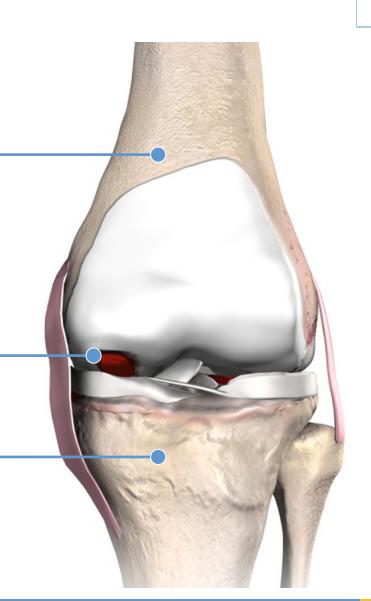
## **A Diseased Knee**

Femur (thigh bone)

Diseased Cartilage

Tibia (shin bone)





# Why are knees replaced with artificial implants?



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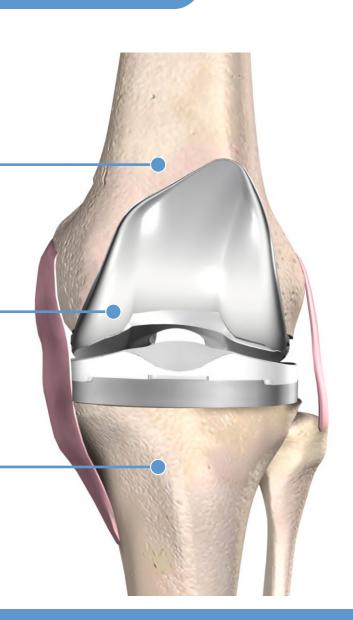
# A Replaced Knee

Femur (thigh bone)

Artificial Knee Implant

Tibia (shin bone)



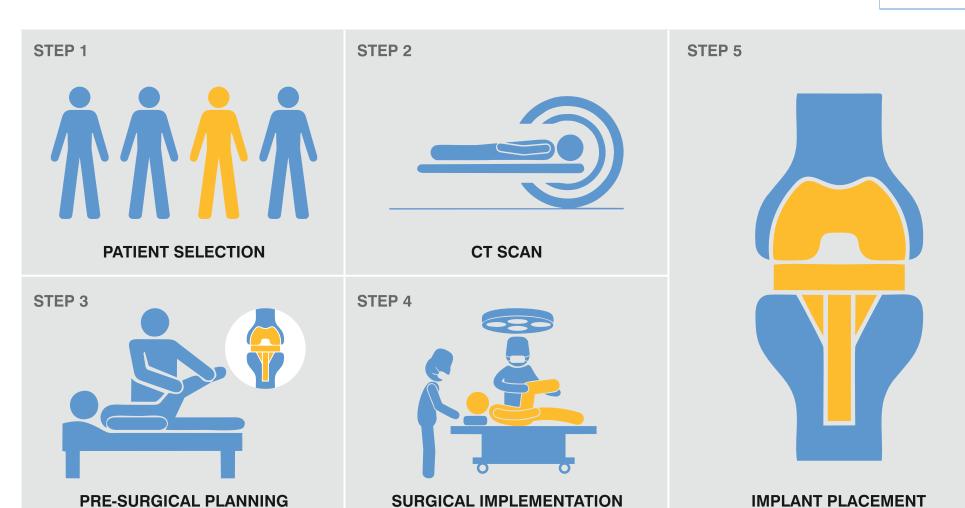


# PROCESS

## Total Knee Replacement Process

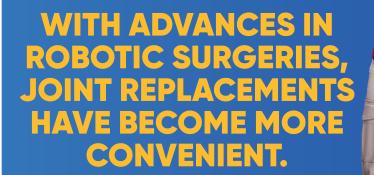


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## Robotic Knee Replacement Surgery



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Severe joint conditions such as Arthritis may not have a complete cure yet. But the treatment methods are getting better with technology and the long-term relief factor is improving as well.

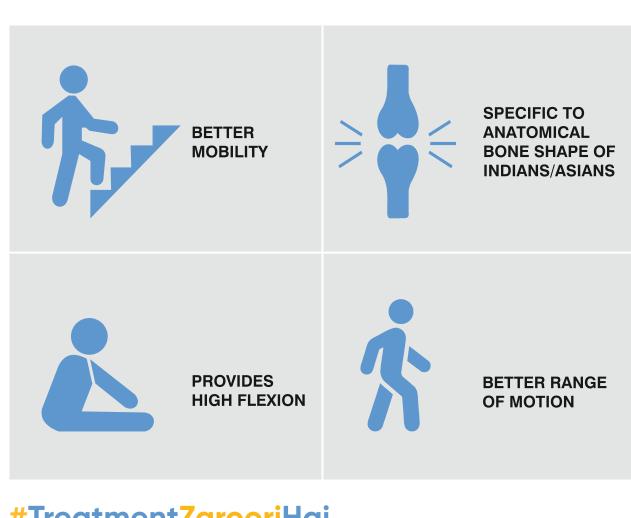
In traditional knee replacement surgery, the damaged part of the bone is removed and replaced with an artificial joint implant.

Robotic knee replacement surgery is not carried out by a robot on its own (a common misconception due to its name).

In this procedure, the same process of the traditional knee replacement surgery is carried out by the surgeon, but with the assistance of a robotic arm. This is the latest technologically advanced treatment option for patients suffering from knee arthritis pain, as the robotic knee replacement surgery offers precise and better surgical outcome.

## ENJOY THE BENEFITS OF **JOINT REPLACEMENT SURGERY** AND LIVE PAIN FREE.









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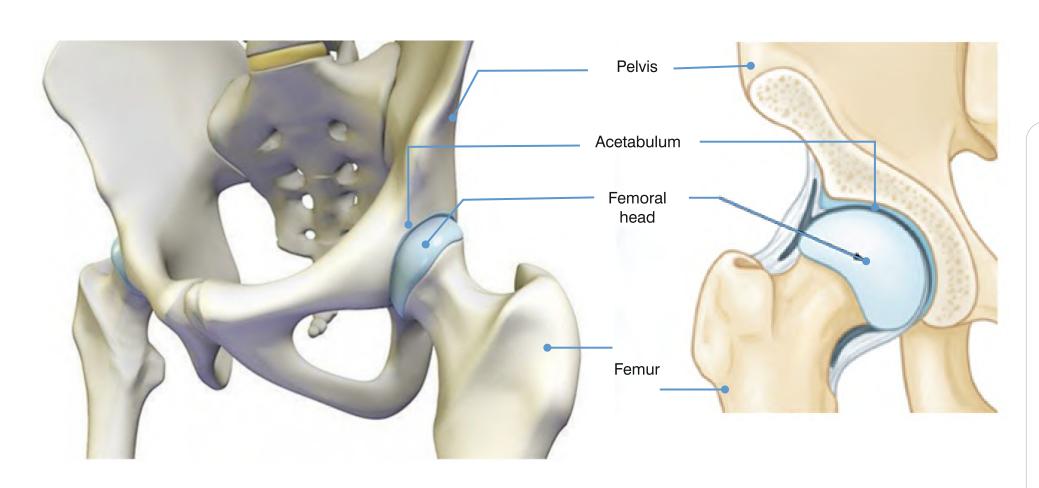
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# Hip Joint

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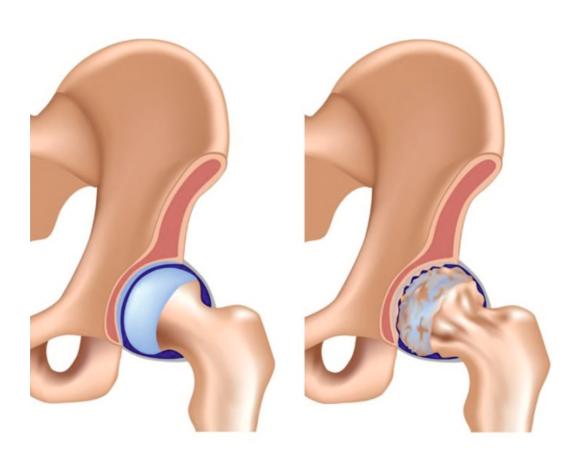
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## Hip Osteoarthritis



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Osteoarthritis occurs when the protective cartilage that cushions the ends of bones wears down over time.

Healthy hip joint

Osteoarthritis

## Hip Osteoarthritis Symptoms

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The main symptoms of hip osteoarthritis include:

#### Stiffness in the joints:

Patients usually experience stiffness in the affected joint after prolonged inactivity. This joint stiffness is commonly experienced upon waking up in the morning.

#### Tenderness and pain:

The affected hip joint will also start to hurt. Due to this pain, even the smallest of ordinary movements might become challenging.

#### Crackling sounds:

When moved, the joints might produce a crackling or popping sound.

Limited motions: The pain and stiffness can lead to a limited range of motions.

The patient might not be able to perform daily tasks with former ease. These tasks could include basic movements, such as stretching the leg or even getting up from a chair.

#### Swelling:

The affected hip can swell up due to inflammation.

Noticeable change in walk: The extreme pain associated with Osteoarthritis can lead to a visible difference in the way the patient walks.

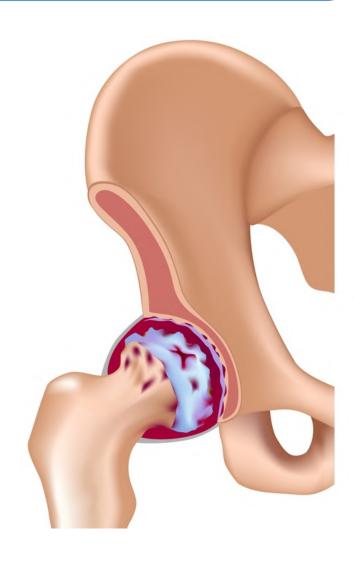
If you notice any of these hip osteoarthritis symptoms, reach out to a doctor immediately.



## Rheumatoid Arthritis



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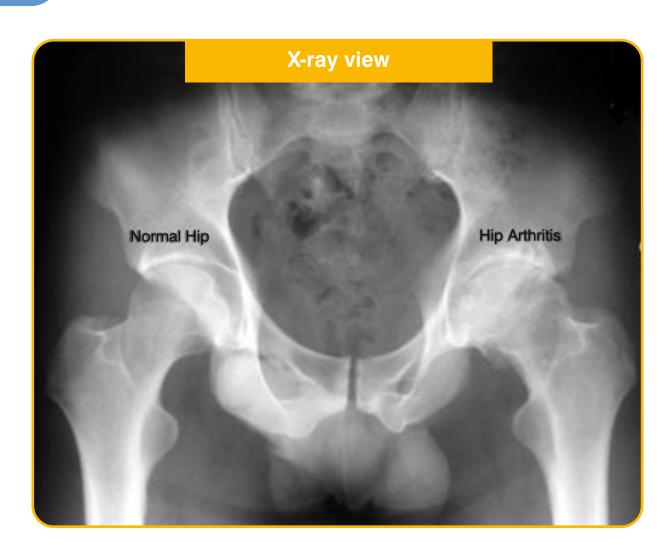


It is an autoimmune disease in which the synovial membrane becomes inflamed and thickened. This chronic inflammation can damage the cartilage, leading to pain and stiffness.

# Hip Arthritis



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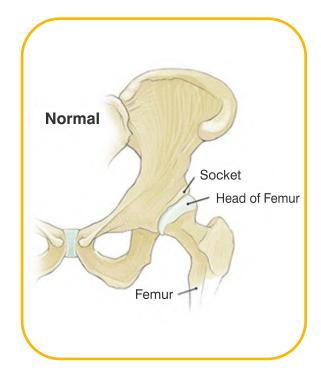
# Hip Dysplasia



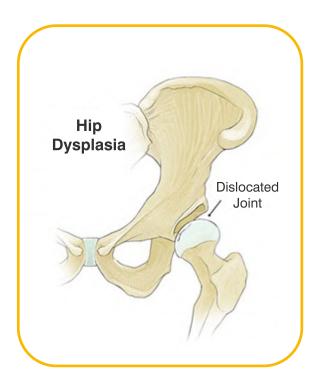
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Hip dysplasia is the medical term for a hip socket that doesn't fully cover the ball portion of the upper thighbone.

This leads the hip joint to become partially or completely dislocated. It is sometimes called congenital hip dislocation as it is predominantly found in babies and young children.



**NORMAL HIP** 

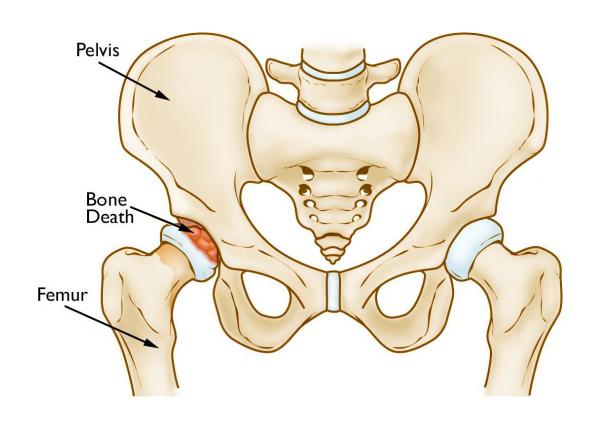


DYSPLASTIC HIP

## Osteonecrosis or Avascular Necrosis (AVN)



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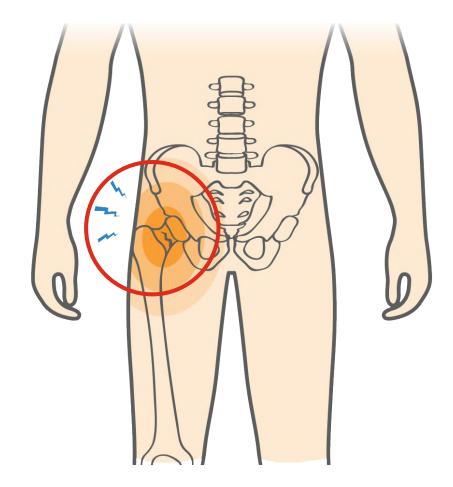
Avascular necrosis (AVN) is death of bone tissue due to lack of blood supply.

It is also called as osteonecrosis, it can lead to tiny breaks in the bone and the bone eventually collapses.

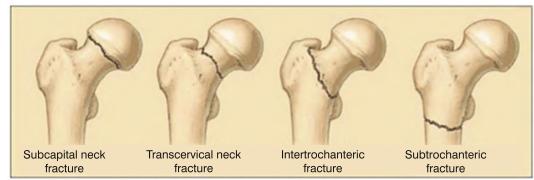
## Fractured Neck of Femur



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A fractured neck of femur (broken hip) is a serious injury, especially in older people. It occurs when the top part of the femur (thigh bone) is broken, just below the ball and socket joint.



## Total Hip Replacement (THR)

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- Hip replacement is a surgical procedure in which a surgeon removes the damaged and painful sections of the hip joint and replaces it with an artificial one that is usually made from metal, ceramic, and high density plastic components. This procedure is undertaken to reduce pain and improve one's joint movement and function. The artificial joint is known as a prosthesis.
- Hip replacement is usually done when other, less invasive methods have failed to provide relief to the patient. Also known as Hip Arthroplasty, hip replacement is also considered if the hip pain interferes with one's daily activities.
- Damage caused due to Arthritis is one of the most common reasons for Hip Replacement Surgery.





#### KNEE AUR HIP KI HEALTH ZAROORI HAI.

# TREATMENT ZAROORI HAI.

Technology for knee and hip replacement procedures has come a long way.

Now, they are designed according to Asian body types with lesser recovery time.

So, don't let your worries stop you living a fuller life.

### **#TreatmentZarooriHai**

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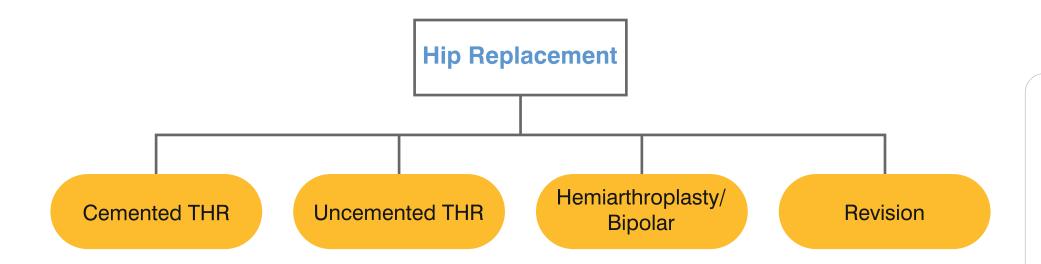


## Types of Hip Replacements



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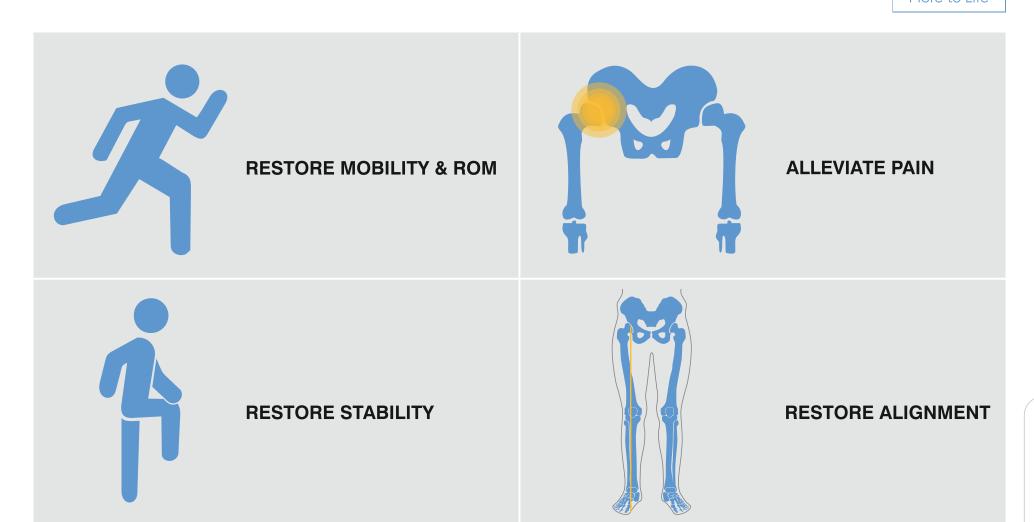
Depending on the indication, age, bone stock, quality and expected survivorship of implant, a doctor suggests any of the following replacement.

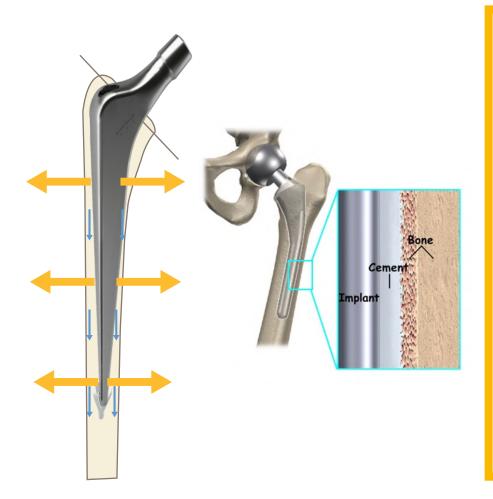


# BENEFITS

# Benefits of Implant / Prosthesis







Cemented hip surgery is done by filling the femoral canal or acetabulum with bone cement. producing an interlocking fit between bone and prosthesis.

Cement mantle acts as a filler and helps in equal load dissipation.

#### Indications:

- Arthritis confirmed on X-ray
- Pain not responding to analgesics or antiinflammatory medication
- Normally preferred in patient with less bone stock & quality
- Aged patient with less good bone

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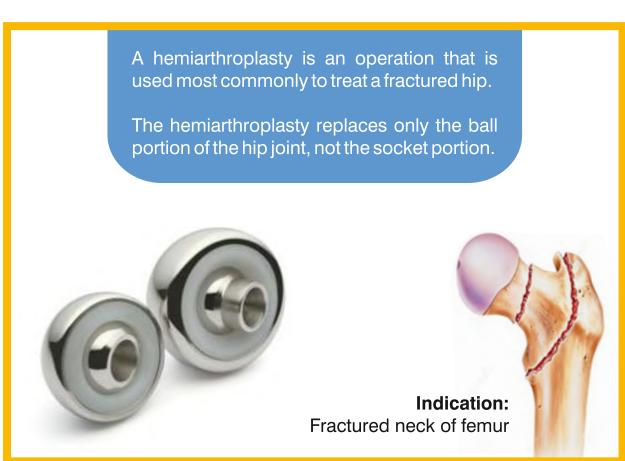
Cemented Hip Surgery

# Bipolar (Hemiarthroplasty) Hip Surgery

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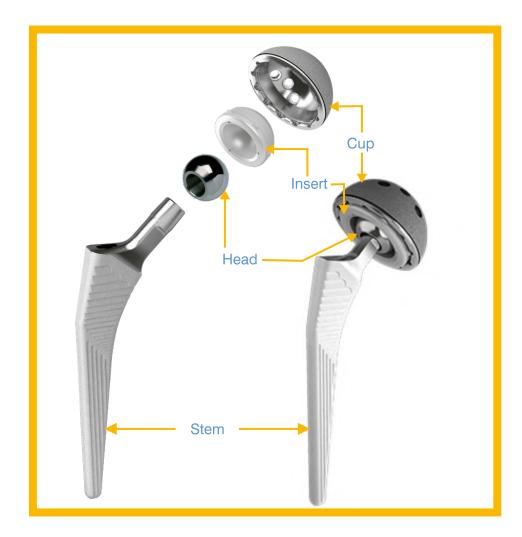




## Uncemented THR

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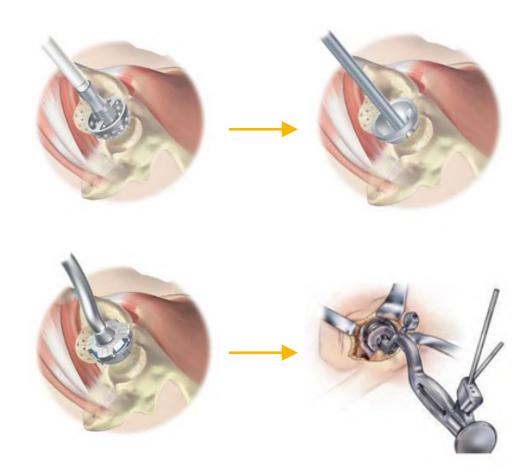




## Uncemented - Acetabulum



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Ball like space in hip bone called Acetabulum is recreated with reamer for implant which are made up of Titanium alloy like metals.



Acetabular implant

## Bearing Options

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# Metal on Poly (MOP)

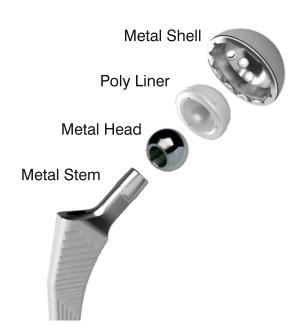
Head-CoCr metal Liner-Polyetheylene

# Ceramic on Poly (COP)

Head-Ceramic Liner-Polyetheylene

# Ceramic on Ceramic (COC)

Head-Ceramic Liner-Ceramic



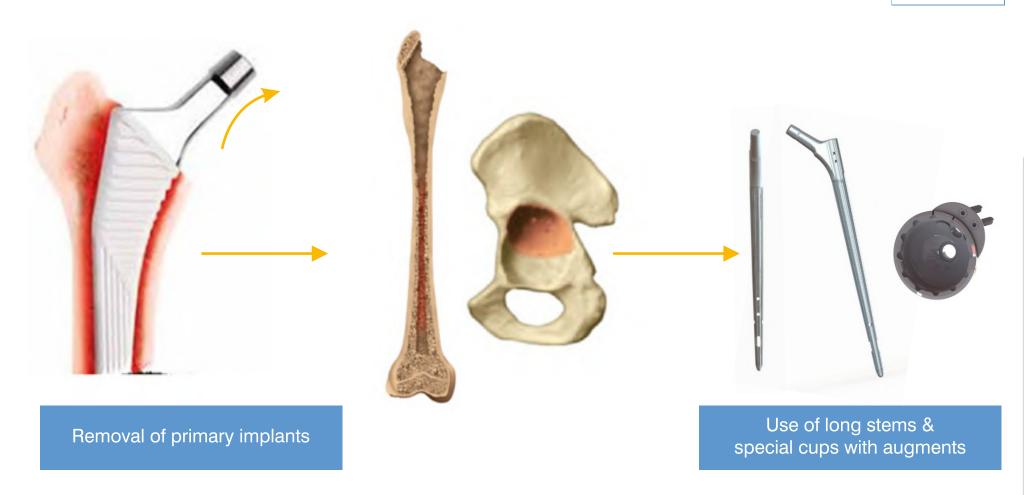




# Revision Total Hip Replacement



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In revision THR, primary components are removed and replaced with special revision components

## Revision - Long Stem



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- Revision of previously failed hip arthroplasty or hemi-arthroplasty.
- Failed previous hip surgery due to internal fixation, joint fusion or surface replacement arthroplasty.
- Unstable inter-trochanteric fracture in osteoporotic elderly patients.
- Complex primary situation in which proximal bone is compromised due to previous surgery or disease

## Dual Mobility System

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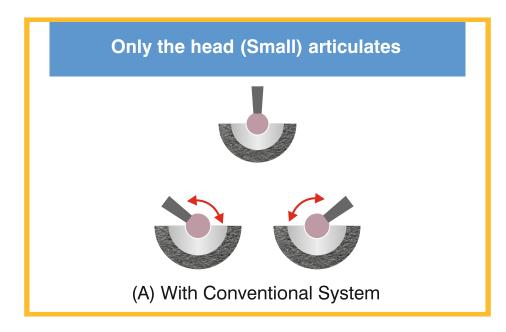
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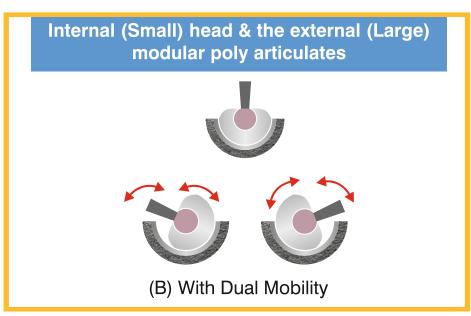
#### A Dual mobility implant system works on two point articulating principle

- Small head Less wear
- Large head More stability

Advantage: Reduced risk of dislocation & better range of motion







## Dual Mobility System

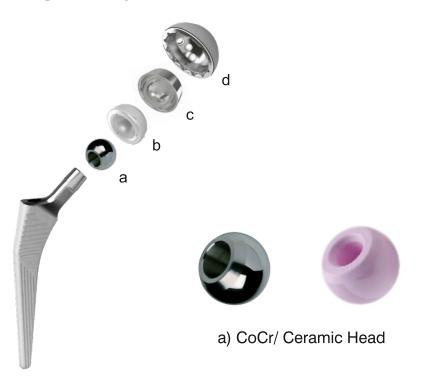
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#### **Indications:**

- Revision surgery
- Recurrent dislocation of hip
- Osteoarthritis
- Avascular necrosis

**Design of implant**: It consists of the following components





b) Polyethelene Insert



c) Metal Liner (CoCr alloy)



d) Acetabular Cup (Titanium alloy)



# Post Surgery Recovery



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Physical therapy



Shower bench



Lose weight



Prevent infection



# Research Empowering Individual











Cardiovascular

Orthopedics

**Endo-Surgery** 

gery Diagnostics

Robotics

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