

# ***Total Hip Replacement***



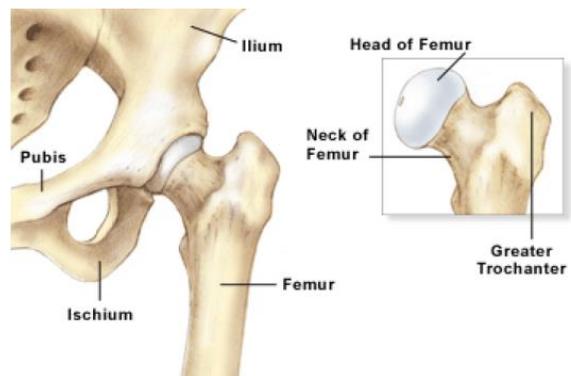
# **Total Hip Replacement/Arthroplasty (THA)**

## **Indications for Surgery:**

- Pain which affects your activities of daily living
- Difficulty sleeping due to pain
- Deformity of the hip
- Stiffness or loss of motion
- Certain types of hip fractures
- Failure of conservative treatments (medications, injections, therapy, activity modification, attempts at weight loss, walking aids, etc.)

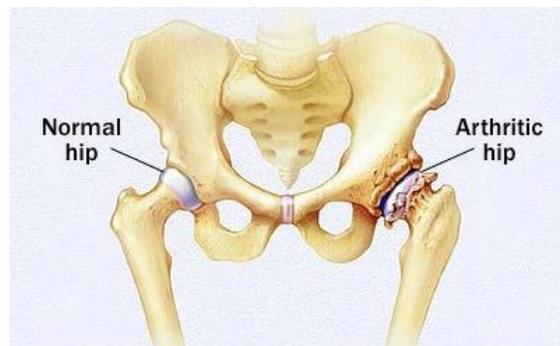
## **Normal Hip Anatomy:**

The hip joint is a ball and socket joint that typically moves smoothly and freely without pain or stiffness. This motion is very important for activities such as walking, stair-climbing, bending/squatting and even tying our shoes. The hip joint is made up of the top portion of the femur bone called the femoral head (ball) and the acetabulum (socket), which is part of the pelvis bone.



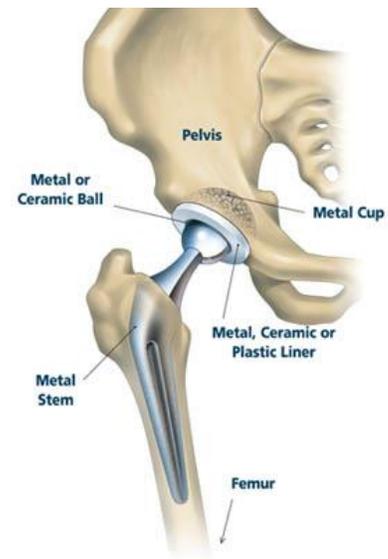
## **Hip Anatomy with Arthritis:**

Both the femoral head (ball) and acetabulum (socket) are covered with articular cartilage (shock absorber/cushion). Over time or after injury, this layer of cushion can wear out just like the tread on your car tire, leading to “bone on bone” contact or arthritis. At a certain point, the “bald tire” may need to be replaced much like an arthritic joint may need a new joint to allow it to function and be relatively pain free.



**Hip Anatomy after a Total Hip Replacement:**

A hip replacement consists of several implant components: the cup, the stem and a new ball and plastic liner. The cup is made of metal and will be placed inside the pelvis bone to create a new socket. It is sized and positioned to match your personal anatomy. The stem is also made of metal and goes inside the femur bone and will be sized and positioned to match your normal bony anatomy. The ball is either made of metal or ceramic and will articulate with a new plastic liner inside the metal cup. Multiple sizes and shapes exist and your surgeon will determine which implants are most appropriate for your case.



**Total Hip Surgical Technique/Approach:**

There are multiple surgical approaches that can be used to perform a total hip replacement. Traditional hip replacements are done using either a posterior or lateral approach where the incision is placed on the side of the hip and require large and powerful muscles to be cut to gain necessary exposure of the bone to do the case. Although these approaches both lead to very successful/predictable results, they both require extensive physical therapy to re-train these muscles as well as hip precautions (a set of rules and positions to avoid after surgery) to help protect the hip from dislocating for several months until the hip tissue and muscles scar in.

An alternative approach that is becoming more commonly sought out is a Direct Anterior (D.A.) approach, which is a minimally invasive approach that does not cut any muscles or tendons. It allows for a much quicker functional recovery with much less pain, less blood loss, more accurate implant positioning/sizing and leg length restoration.

As with any technique or approach, there are multiple advantages and disadvantages, which are outlined below:

	Posterior Approach	Lateral Approach	Direct Anterior Approach
Advantages	<ul style="list-style-type: none"> <li>• Wide exposure</li> <li>• Technically relatively easy</li> <li>• Most common</li> <li>• Extensible</li> <li>• Easier prep/drape/positioning</li> </ul>	<ul style="list-style-type: none"> <li>• Wide exposure</li> <li>• Technically relatively easy</li> <li>• Extensible</li> <li>• Easier prep/drape/positioning</li> </ul>	<ul style="list-style-type: none"> <li>• Minimally invasive</li> <li>• Much quicker post-op functional recovery</li> <li>• No muscles cut</li> <li>• Accurate component size, position</li> <li>• Accurate/easier leg-length restoration</li> <li>• Real-time fluoroscopic feedback</li> <li>• Inherently stable/extremely low dislocation risk</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>• Highest dislocation risk (2-6%)</li> <li>• Damage a lot of muscle</li> <li>• Leg length restoration difficult</li> <li>• More difficult to properly size and position implants</li> </ul>	<ul style="list-style-type: none"> <li>• Most muscle damage (post-op limp)</li> <li>• Leg length restoration difficult</li> <li>• Intermediate dislocation risk</li> <li>• More difficult to properly size and position implants</li> </ul>	<ul style="list-style-type: none"> <li>• Extremely difficult/challenging from a technical standpoint (steepest learning curve)</li> <li>• X-ray exposure</li> <li>• Special table/equipment necessary</li> <li>• Higher risk of anterolateral thigh numbness</li> <li>• Harder to extend exposure</li> <li>• More demanding prep/drape/positioning</li> </ul>