

# OA of the Hip

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## ‘Minimally Invasive’ Total Hip Replacement

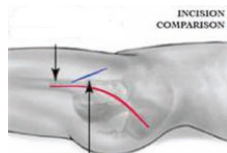
I recently observed Dr Daniel Rahme perform a THR through the ‘anterior approach’. This technique has been around for some time, but has gained greater popularity in recent years, due to improved equipment and operative methods. Dr Rahme has performed around 300 of these procedures. Since I first saw this operation a few years ago, I have been of the opinion that this is the best technique available for hip replacement.

### Advantages

As a physiotherapist, the main advantage I see to this procedure is that no muscles are divided to access the joint. This is in contrast to traditional approaches. The lateral approach involves gluteus medius / minimus detachment, which invariably leads to a postoperative limp. The posterior approach divides the deep hip rotators, which are very important muscles for hip stability. Long-term weakness can result from these procedures.

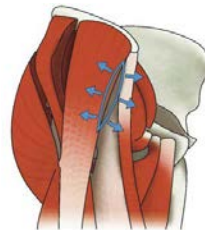
Other advantages to the anterior approach include:

- Less chance of periarticular nerve and vessel damage.
- Greatly reduced dislocation risk. Hip extension is the only movement restricted in the early postoperative period.
- Less blood loss.
- Decreased postoperative pain.
- Shorter hospital stay & rehab period.
- Reduced scar tissue. The incision is 6-12cm with this technique, and around twice as long with posterior / lateral approaches. More experienced surgeons produce shorter scars.



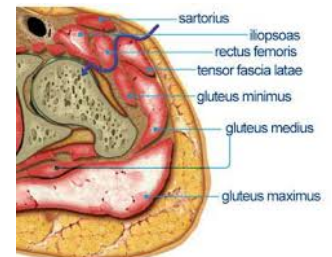
### Procedure

The leg is placed in a ‘Mobile Leg Positioner’ device which allows the hip to be moved in all directions – particularly extension and external rotation.



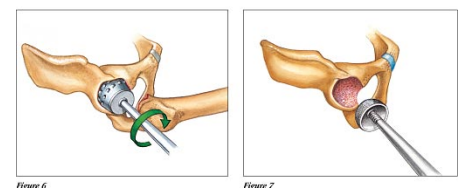
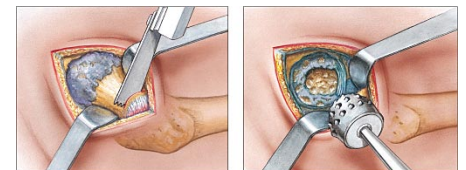
There are subtle variations to the anterior approach. Dr Rahme accesses the joint through the intermuscular plane between tensor fascia lata (TFL) and sartorius, and then beneath the

rectus femoris & iliopsoas. Muscular aponeuroses are divided, and the access to the joint is allowed through the use of retractors holding the rectus femoris medially & the TFL laterally. The anterior joint capsule is then divided.



Traction is applied to the leg holding device, and the femoral neck is cut using an oscillating saw. The level of the cut is determined preoperatively. The head is then extracted to expose the acetabulum.

A hemispherical reamer is placed into the acetabulum, and connected to a motorized handle. The reamer spins to grate and deepen the acetabulum. Once at the required depth, the



prosthetic cup is inserted. A metal implant goes in first, followed by a polyethylene cover.

The leg positioner is adjusted to place the foot in 100° to 180° of external rotation. Traction is then released to avoid stretching injury to the crural nerve, and the hip is placed in full extension and a degree of adduction. This position places the greater trochanter in a posterior position, & exposes the top of the femoral shaft.

A rasp is inserted into the cortical bone, and this is used to gradually widen and deepen the femoral shaft. When of sufficient size, the stem is inserted, and the femoral head attached. This can be metal or ceramic. The stem is generally uncemented, but bone removed surgically is grafted around the prosthesis.

The leg positioner device is moved toward abduction and flexion, with traction applied to ensure the femoral prosthesis does not impact the acetabular rim. Finally, external rotation is released, and the head reduced into the acetabulum as traction is removed. The capsule and fascia lata aponeuroses are sutured, and the incision closed.

### **Postoperatively**

The patient will be full-weight-bearing on the day of, or next day after surgery. As the posterior capsule was left intact, flexion is not restricted, and the patient can sit comfortably. Progressive walking, and early hip strengthening and general conditioning exercises are commenced immediately. If the patient was not limping preoperatively, there will be no reason they should limp once they discard any postoperative walking aids.

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