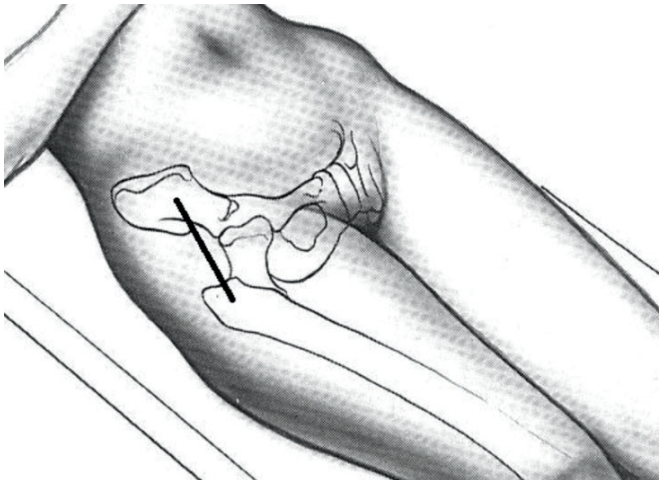
Total Hip Replacement – Anterior or Posterior Approach?

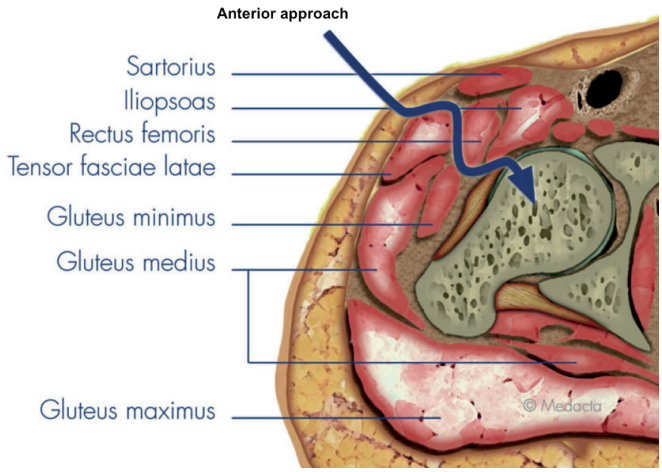
Despite the success of total hip replacement (THR) surgery, there has been growing debate over recent years as to which approach is the most effective when undertaking THR. The most common question I get asked in my rooms is which is better out of the anterior and posterior approach. This article hopefully answers this question for you.

Overview of Anterior Approach

The incision begins 2cm lateral to the anterior superior iliac spine of the pelvis and is continued distally. The plane is developed between the tensor fascia lata and sartorius, followed by the interval between the rectus femoris and gluteus medius.



Incision for the anterior approach

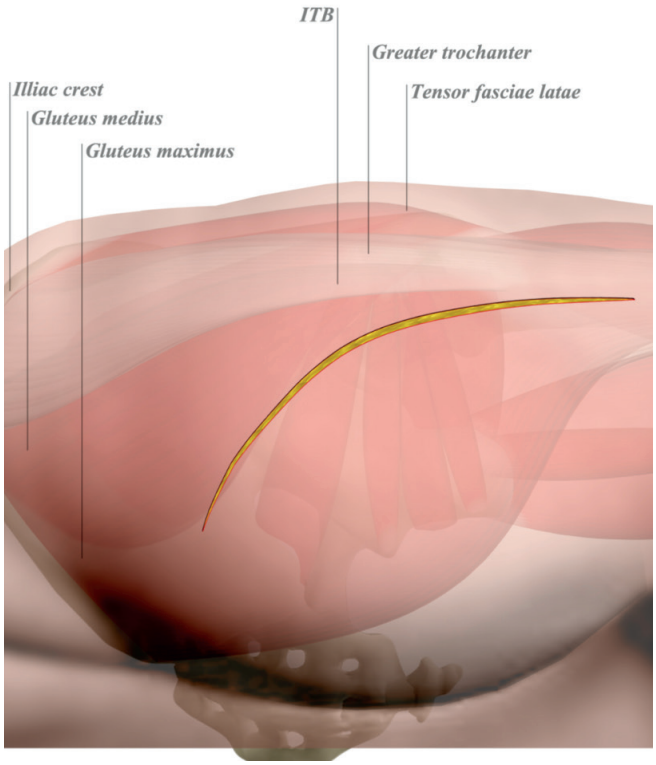


Muscle interval for the anterior approach

Overview of Posterior Approach

The incision begins 5cm distal to the greater trochanter and curves proximally and posteriorly towards the posterior superior iliac spine. The fascia lata is incised and the muscle fibres of gluteus maximus are gently separated so as to spare them. The piriformis and short external rotators are then divided at their insertion onto the greater trochanter. The short external rotators are re-attached at the end of the operation with trans-osseous sutures.

The anterior approach is performed with the patient in the supine position. The posterior approach is performed with the patient in the lateral position.



Incision for the posterior approach

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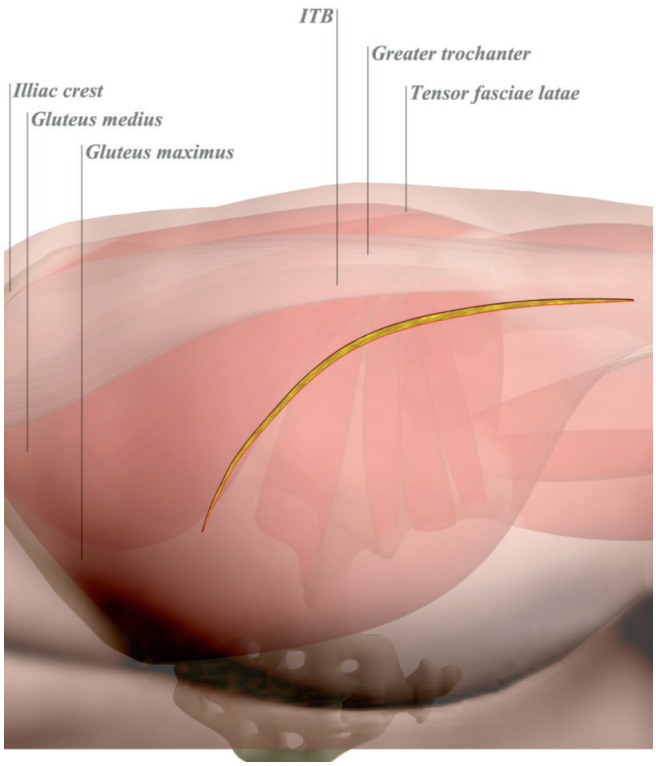

Muscle interval for the posterior approach

Which approach is better?

One thing is for sure, the reported advantages and disadvantages of each approach will vary according to whom you speak with. Anterior hip surgeons are notoriously biased towards their preferred approach, as are posterior hip surgeons. For this reason, I like to quote the literature when asked this question.

What does the literature say?

The most recent systematic review showed that there was little evidence for one approach over the other. However, it helps to look at each variable below.

Dislocation – The largest studies report a 1.5% dislocation rate in anterior hips, compared to 2.5% in posterior hips

Fracture – The rate of fracture in anterior hips is 2.5%, compared to less than 1% for posterior hips.

Nerve injury – The rate of major nerve injury in both approaches is approximately 1%

Muscle injury – the rate of muscle injury is slightly lower in anterior hips

Surgery time – the anterior hip takes 30 minutes longer on average

Length of Stay – the anterior approach results in an overall reduction in length of stay by 1 day compared to the posterior approach

Return of Function – the anterior hip results in a slightly quicker recovery in the early phase of rehabilitation, with no difference found at 3 months.

The verdict

Anterior hips result in a quicker recovery with a slightly higher risk profile. At 3 months post-operatively, there is no difference between the two.

What is clear is that the choice of surgeon is of prime importance in deciding which approach to have. Complications can occur no matter how experienced the surgeon or how simple the operation. For this reason, my advice is to choose a hip surgeon that is experienced and comfortable managing fractures around the hip and pelvis. That way, your patients will be assured of having the best possible outcome, particularly if they are dealt a rare and unplanned complication.

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MR0016273 KarPH Total Hip Replacement Clinical Updates for GP News 0819