DEARBORN & ASSOCIATES
INSTITUTE FOR JOINT RESTORATION

Surgical Approaches to the Hip

There are several different routes for getting to the hip joint for the purposes of performing hip replacement surgery. Most of the approaches have been around for several decades, although some methods have recently been touted as "new" or "less invasive." I have performed hip replacements through all the approaches available, and based on my extensive experience, along with the experience of many colleagues, I can comment on the merits and problems associated with each technique.

Traditional hip replacement surgery is done through a single incision, usually six inches or more in length. The hip joint can be approached from the front or the back of the joint. Approaching from the back damages the muscle that makes limping less, but leads to more dislocations, in which the ball comes out of the back part of the joint. Approaching from the front leads to fewer dislocations out the back of the joint, but also generally leads to a more persistent limp for several weeks after surgery, due to muscle damage. Dislocations out the front of the joint care occur with this technique, but are uncommon.

Minimally invasive surgery (MIS) can been performed through one or two incisions.

Single incision method: The incision can be placed directly anterior, somewhat anterior, and posterior. Anterior surgery (direct anterior approach) puts the femoral nerve and the lateral femoral cutaneous nerve at risk. Approximately 20-35% of patients can expect permanent lateral thigh numbness afterward. There is also a greater blood loss and a higher incidence of unrecognized femur fractures with the direct anterior approach, leading to a higher published rate of early failure and revision (see references below).

The mini-posterior method is more versatile, in that straight, curved, uncemented and cemented femoral components can all be placed easily with this technique. The blood loss and surgical time is less than with the anterior method. The dislocation rate is similar in each method, although our dislocation rate is lower than that reported using the anterior approaches. We have shown a very low complication rate with this technique in over 4000 cases.

Two-incision method: In this technique, a small incision on the front on the hip is used to implant the socket portion of the hip prosthesis, and a second small incision on the side of the hip is used to placement the femoral component. This method requires fluoroscopic guidance to assist visualization, similar to the direct anterior method, and has a much higher rate of complications, including fractures and nerve palsies. Recent cadaveric studies have shown that the parts of this technique that are done without being able to directly see cause more muscle damage. Our data did not show faster recovery with this technique when compared with the single incision method. For these reasons, we abandoned this technique.

References:

Woolson ST, Pouliot MA, Huddleston JI. Primary total hip arthroplasty using an anterior approach and a fracture table: short-term results from a community hospital. J Arthroplasty. 2009 Oct;24(7):999-1005.

Eto S, Hwang K, Huddleston JI, Amanatullah DF, Maloney WJ, Goodman SB. The Direct Anterior Approach is Associated With Early Revision Total Hip Arthroplasty. J Arthroplasty. 2017 Mar;32(3):1001-1005.

Angerame MR, Fehring TK, Masonis JL, Mason JB, Odum SM, Springer BD. Early Failure of Primary Total Hip Arthroplasty: Is Surgical Approach a Risk Factor? J Arthroplasty. 2018 Jun;33(6):1780-1785.

