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CORR Insights®: Anterior and Anterolateral Approaches for THA Are Associated With Lower Dislocation Risk Without Higher Revision Risk

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Where Are We Now?

The direct anterior approach for THA has garnered substantial interest among total joint surgeons. A Google search for “anterior approach hip” returned 1,190,000 matches. The most common claims of superiority of direct anterior approach

include: Decreased length of hospital stay, quicker rehabilitation, less blood loss, shorter surgery, less postoperative pain, lower risk of dislocation, more natural return to function and activity, and shorter incisions. In fact, one manufacturer’s website (<http://www.aboutstryker.com/hip/procedures/procedures-daa.php>) emphasizes that the new approach can be done through a three or four inch incision, compared to eight to 12 inches for a more-traditional approach, which the manufacturer also says “requires a significant disturbance of the joint and connecting tissues.”

Ironically, direct anterior is considered a new approach even though the anterior approach (which is the lower limb of a classic Smith-Peterson approach) was described in 1949 and was used during my residency training and musculoskeletal oncology training (1979–1986). The approach was rec-

ommended for patients with higher risk of dislocation (dementia, neuromuscular disorders) and was used for treatment of benign and malignant disease of the hip. In practice, I have also used it in cases of simultaneous bilateral THA.

Where Do We Need To Go?

The study by Sheath and colleagues supports the safety of anterior approach with regard to dislocation and revision. However, it still leaves open a few promising and important avenues for future work. First, this study did not comment on intraoperative fracture or neuropraxia; other studies have done so [1, 6] but it remains unclear from the patient’s point of view whether any putative advantages of this approach are offset by these complications, which can be alarmingly common and sometimes severe. Second, although Sheath and colleagues found the dislocation rate to be lower with the direct anterior approach than the posterior approach, the anterolateral approach still seems to

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have fewer dislocations than any other. Additionally, contemporary repair techniques have been shown to reduce the risk of dislocation using posterior approaches rather substantially [8]. As surprising as it is, we still do not have a clear sense for how this should factor into a surgeon's choice of approaches, or how to weigh it against the potential advantages of some of the newer "less-invasive" approaches.

The posterior and direct anterior approaches are evolving. My personal observation is that there is little difference in the length of incision, particularly with the contemporary "mini-posterior" approach. Most importantly, the evolution of pain management and rehabilitation protocols have made things easier on patients regardless of the approach. Poehling-Monaghan and colleagues [7] directly compared anterior approach versus mini-posterior approach using modern protocols and found no differences in hospital length of stay, operative or inpatient complications, intravenous narcotic breakthrough control, stair or feet walked in the hospital, or percentage discharged home, and pointed to some problems and shortcomings with the direct anterior approach. Moreover, Christensen and colleagues [3] showed a greater return to the operating room with wound problems with direct anterior ($p < 0.007$). Clearly, we still have

much to learn about the pros and cons of these approaches.

How Do We Get There?

I believe we should continue to train our residents and fellows in both anterior and posterior approaches to the hip, making sure they understand the true advantages and disadvantages of each. Misleading marketing or "false" advertising should be avoided as it is a violation of the American Academy of Orthopaedic Surgeons (AAOS) ethics policies [2] and may violate Federal laws [4]. In their recent study, Higgins and colleagues argued: "Current evidence comparing outcomes following anterior versus posterior THA does not demonstrate clear superiority of either approach" [5]. I agree with his recommendation that the choice be made based on patient characteristics, surgeon experience, and patient preferences. We have an opportunity to positively improve the care of the THA patient. Ideally, we should perform well designed, multicenter, randomized controlled trials comparing hip approaches. I believe organizations and societies such as the AAOS, the Orthopaedic Research and Education Foundation, The Hip Society, and the American Association of Hip and Knee Surgeons should utilize their

available funding toward these trials and I believe we as surgeons should participate in these studies without additional compensation. Additionally, the American Joint Replacement Registry, may be a resource for more complete data.

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