

ANTERIOR VS. POSTERIOR APPROACH FOR TOTAL HIP REPLACEMENT

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Medicine is a profession where there are often two ways – or more – to achieve the same result. It is human nature for doctors to believe their technique, or method of treatment, is preferred. That is good for that doctor, and his/her patients, because of confidence in the treatment.

However, it is not fair to patients to market a treatment as better when there is no scientific evidence to support that claim. Marketing for the self-interest of the doctor deludes patients into believing they are getting a superior result – and unfairly causing doubt in patients who had a different treatment.

This false marketing is occurring in orthopedics now with the ANTERIOR APPROACH/INCISION for total hip replacement. It is marketed as “no muscle cut”, “more rapid recovery”, “better outcomes”. It is unfair marketing because there is NO scientific data to support these claims.

This is the reported information regarding incisions:

1. Randomized studies are those done exactly the same way for both treatments. Only one true randomized study has been done (two others have method faults). The MAYO Clinic performed a randomized study that compared anterior and posterior small incisions. The study found no differences for any parameter studied. Muscle function was the same; recovery the same; gait analysis the same (measure of function).

2. Gait analysis: These are tests which measure walking function. Gait analysis is the best test we have in orthopedics to objectively measure postoperative function. There is no difference in these studies done at Duke, MAYO Clinic, in Canada, at Cal Berkeley, or by us. This data means the functional outcome is the same no matter the incision.

3. Muscle injury: In addition to gait analysis, which measures the function of the muscles with walking, the MAYO Clinic did an analysis of muscle injury and found no difference with anterior or posterior incisions.

4. Rapid recovery: There is no study with an anterior approach that has published data like we have with the minimally invasive posterior approach. We have an article published on patients discharged the same day as surgery. Patients on Medicare cannot go home the same day, but almost all our patients less than 75 years of age are home the next day. The patients in the study kept a diary that gave data on recovery at three weeks: pain score was 1.9; 87% had returned to work; 98% walked a mile; 41% were off a cane; 84% were driving; 64% were off pain medications. If a doctor says his anterior approach is a faster and better recovery, ask for similar data on their patients – not their opinion of how they do.

5. X-rays: Doctors who do an anterior approach claim better position of their implants because they used intraoperative x-rays. Unfortunately, published data says they are wrong. There is no study of patients with an anterior approach that had postoperative CT scans to prove the cup positions, and this is the gold standard for confirming implant positions. One study with fluoroscopy has 19% of cups malpositioned, and a recent study says this imaging technique is not superior to the surgeon's judgment alone. We use computer navigation, and our published data shows we are correct in our implant positions 96% of the time.

6. Performance of the operation: Almost all comparative studies of anterior and posterior approaches show longer surgery, more blood loss, and more intraoperative fractures of femur bone with the anterior approach. Fractures of the ankle have been reported with the special table used for the anterior approach. Our published data with intraoperative use of computerized instrumentation for performance of the operation is superior to any published data with the anterior incision which mostly includes only the position of the acetabular component, and does not include the stem.

7. Outcome data: The anterior approach claims superiority for protection against dislocation. The randomized study from the MAYO Clinic does not support this. Our data for dislocation is 0.7% which compares to Matta's published data of 0.6%. Dislocation is a much less common complication today because of the improved technical performance of hip replacement and the use of larger femoral heads. Today, dislocation is more often a consequence of poor component position by the surgeon than the incision used or an extreme position by a patient in the early postoperative weeks. There are also no articles published with results of the anterior approach beyond 6 months to 1 year, despite the use of this operation by Matta since 1996. We have data on 10 year results with the posterior minimally invasive incision in the process of preparation for publication and only 2% of patients have had a reoperation in that 10 year time period.

In conclusion, we believe that equivalent results are possible with either an anterior or posterior approach, but it is unfair to patients to claim one or the other incision is superior. In fact, the only aspect of the operation that can show superiority is the surgeon, because some get better results than others, no matter the incision. Your choice of a surgeon should be based on his/her published data, if available, and the reputation in the community. Do not expect an incision to improve your result. It is only a way to get into the hip to do the important work. It is the position of the implants, and biomechanical reconstruction of the hip, which determines the comfort and longevity of your hip replacement. The surgeon is responsible for achieving this.

The citations of the published articles which support these statements are available on request.