

## Direct Anterior versus Mini-Posterior Total Hip Arthroplasty with the Same Advanced Pain Management and Rapid Rehabilitation Protocol: Some Surprises in Early Outcome

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**Purpose:** Determining the effect of surgical technique on early outcome is confounded when advances in pain management, rapid rehabilitation, or patient education are introduced or applied asynchronously. We sought to determine the influence of surgical technique alone in contemporary cohorts of total hip arthroplasties done by 2 fellowship trained surgeons each performing their technique of choice with the same advanced pain and rapid rehabilitation protocol.

**Methods:** 126 consecutive direct anterior (DA) procedures were compared with 96 consecutive mini-posterior (MP) procedures done from July 2011 - February 2012. Groups did not differ ( $p > 0.2$  for all) in age ( $64 \pm 12$  years), sex (50% female), body mass index ( $30 \pm 5.7$ ), or preoperative Harris Hip Score (HHS) ( $55 \pm 12$ ). Operative details, in-hospital complications, visual analog scale (VAS) pain scores, and functional milestones at two- and eight-weeks were reviewed.

**Results:** No differences in length of stay (2.2 days), operative or in-hospital complications, intravenous breakthrough analgesia, stairs, maximum feet walked in-hospital, or discharge disposition (80% home) all  $p > 0.2$ . The DA group had a higher VAS max pain (5.3 DA;  $\pm 2$ , vs 3.8 MP;  $\pm 2$   $p = < 0.0001$ ). At two weeks, more DA patients required gait aids (92% vs 68% of MP;  $p = < 0.0001$ ). At eight weeks, DA had higher HHS (95 versus 89) but a lower return to work and driving; no difference: gait aids, narcotics, ADLs, or walking 0.5 mile. More wound problems occurred in the mini-posterior ( $p = < 0.01$ ).

**Conclusion:** With the same advanced pain and rehabilitation protocol it was somewhat surprising to find that the direct anterior had more early pain and more often used gait aids at 2 weeks. The DA group had fewer early wound problems contrasting with the belief that anteriorly based incisions would be more problematic.

**Significance:** Advanced pain and rehabilitation protocols may trump surgical approach in determining most early outcomes after contemporary hip arthroplasty done by surgeons experienced in using direct anterior or mini-posterior techniques.

