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CORR Insights

CORR Insights®: Does Surgical Approach Affect Patient-reported Function After Primary THA?

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Where Are We Now?

Recovery after primary THA has become a hotly debated topic in an era of increased patient and surgeon demands. Less-invasive approaches, such as the direct-anterior approach, have been introduced to further the goal of rapid recovery. Prior investigations of other less invasive hip approaches have sited an inferior satisfaction when compared to the posterior approach [7]. However, numerous studies have suggested a faster early postoperative recovery time when comparing the direct anterior approach to the posterior approach [1, 6, 9, 12]. In a randomized gait analysis assessment, recovery after direct-anterior approach improved a larger number of gait parameters than the anterolateral approach between 6 and 12 weeks [5].

Woolsen et al. [11] were among the first to suggest caution, demonstrating the key importance of experience and education to decrease complications while performing the direct-anterior approach, which resulted in major complications 9% of the time when performed by relatively inexperienced surgeons. Further studies have continued to demonstrate the technical challenges with the direct-anterior approach including tissue damage and perioperative complications [2, 10].

In the current study by Graves and colleagues, the authors demonstrate small and transient benefits of the direct-anterior approach when compared to a posterior approach. This before-and-after designed study is focused on patient reported outcomes (PROs) of recovery as a more reliable measure of outcome. The physical component scores improved slightly in the direct-anterior patients at 3 months, indicating a small clinical difference. This is similar to other more recent retrospective studies showing no systematic advantage of direct-anterior THA versus posterior THA [8].

Where Do We Need To Go?

Delivering value requires that we constantly evaluate the overall episode of care as well as patient safety. Primary THA is common, and traditional approaches generally are both safe and effective. Any changes to our surgical approaches, therefore, must be data-driven, since if they fall short either in terms of safety or efficacy, they risk incurring great cost to the system. Advocates of less-invasive surgical techniques suggest these approaches can deliver faster recovery with similar complications. This study was able to importantly identify that when

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evaluating PROs, the direct-anterior approach provided only a 6% improvement in physical component score of the Veterans RAND-12 at 3 months over the posterior approach. At 1-year post-THA, there were no intergroup differences in self-reported physical function. Further efficacy studies should continue to focus on the fine details of recovery after THA. The quality of gait and amount of activity is an excellent surrogate for overall function after THA. These data can help predict recovery after THA, such as the ability to return home rather than skilled facilities, and has an important impact on healthcare utilization. Further large-scale studies should focus on assessing the wide-scale deployment of the approach. These studies could evaluate whether less invasive approaches are indeed safe or broadly applicable. Additionally, cost analysis will be an important evaluation of episodes of care to help assess the value of many treatment parameters during THA.

How Do We Get There?

While this study focuses on patient reported outcomes of THA through two important surgical approaches, the before-and-after type design does have its biases and limitations. Additionally, a comprehensive study would include not only PROs, but also objective measurement of strength and gait parameters after surgery. Further prospective, randomized studies with well-matched patient cohorts are needed. These studies should evaluate PROs, as well as activity, gait analysis, complications, and cost. Further study should also assess component alignment and fixation at longer-term followup.

The question also remains: Is the direct-anterior approach safe and generalizable? Demonstrating safety is of key importance to us and our patients. Concern is raised as pooled data has shown that the direct-anterior approach is not without complications [3]. Prior efficacy studies are unable to demonstrate safety [4]. In order to evaluate the performance and safety of different approaches in a wide breath of surgeons' hands, registries similar to the American Joint Replacement Registry will need to include surgical approach as well as Level II and III data. Study of this data will help refine our understanding of THA and the value of different surgical approaches and recovery programs. With this further data, we can potentially guide surgeons in the best operative treatment for symptomatic hip arthrosis.

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