Introduction:

- The number of hip arthroplasty procedures performed has increased significantly in recent decades in the United States from 138,700 in 2000 to an estimated 310,800 in 2010.1
- Recent studies have investigated patient outcomes following total hip arthroplasty (THA) based on surgical approach.
- The anterior approach has been associated with a lower rate of dislocation and faster recovery in the first six to twelve post-operative weeks, but no significant advantages have been found beyond three months post-operatively.2,4
- Though self-reported outcomes are commonly utilized, functional measures represent a novel and objective technique for comparing outcomes after THA with respect to surgical approach.

Methods:

- Patients undergoing primary total hip arthroplasty between April 2015 and December 2018 were prospectively enrolled in the cohort and grouped by surgical approach – 379 posterior, 400 anterior.
- Patients were evaluated pre-operatively and at both three and twelve months post-operatively.
- Perioperative data included surgical approach, operative time, estimated blood loss, and length of hospital stay.
- Outcomes were measured using the Hip Dysfunction and Osteoarthritis Outcome Score (HOOS, JR.), timed up and go (TUG) test, 30 second sit to stand test (30 sec STS), and four-meter walk test (4MWT).
- Adverse events that were recorded included trochanteric fracture, acetabular fracture, post-operative dislocation, post-operative infection, and wound healing problems.
- Mean differences between the direct anterior and posterior groups were tested using independent t-tests (normality assumption satisfied).

Results:

- Patient demographics showed the two groups were similar.
- Self-reported outcomes and functional outcome scores improved among patients in both approach groups at both three and twelve months post-operatively.
- The anterior group showed significant improvement in HOOS, JR. score compared to the posterior group at three months postoperatively, but no difference existed at twelve months postoperatively.
- There were no significant differences in functional outcome between the two approach groups at three or twelve months postoperatively.
- There was no significant difference in frequency of adverse events between the two approach groups at three or twelve months postoperatively.

Conclusion:

- These data suggest anterior and posterior approaches are equally effective in restoring function among THA patients long-term.
- The anterior approach may have improved patient satisfaction in the early post-operative period.
- Surgeon preference is likely the most important factor in determining outcome following THA.

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References: