

Generalized Ligamentous Laxity in Robotic Direct Anterior THA: A Propensity-Matched 2-Year Study

Benjamin G. Domb, Roger Andres Quesada Jimenez, Absolon Reyes-Cordova, Dharma H Patel, Ady Haim Kahana Rojkind

INTRODUCTION:

Generalized ligamentous laxity (GLL) has been associated with increased risk of dislocation and reduced implant survivorship in primary total hip arthroplasty (THA). This study evaluates the impact of GLL on outcomes following primary robotic-assisted direct anterior approach (DAA) THA.

METHODS:

Retrospective analysis of prospectively collected data from patients who underwent DAA primary robotic-assisted THA between August 2013 and October 2022. Eligible patients had preoperative and a minimum 2-year follow-up for at least one patient-reported outcome (PRO) measure, including modified Harris Hip Score (mHHS), Hip Disability and Osteoarthritis Outcome Score for Joint Replacement (HOOS-JR), Forgotten Joint Score (FJS), patient satisfaction, and the visual analog scale (VAS) for pain. Patients with a Beighton score ≥ 4 were classified into the GLL group and matched 1:2 to a control group (Beighton score ≤ 3) based on age, sex, body mass index (BMI), and follow-up duration. The analysis included comparisons of hip arthroplasty thresholds, complications and revision surgery.

RESULTS:

A total of 126 patients were included, with 42 in the GLL group and 84 in the control group. The GLL group demonstrated significant improvements across all evaluated PROs, with high levels of patient satisfaction. Compared to control group, there were no significant differences in preoperative PRO scores, postoperative scores, or magnitude of improvement. The groups achieved MCID and PASS for mHHS, HOOS-JR, VAS, and FJS at similar rates. With no significant differences observed in revision surgery rates ($p > 0.05$). One patient (2.3%) in the GLL cohort required revision due to acetabular component aseptic loosening, while one patient (1.2%) in the control group underwent revision for deep joint infection.

DISCUSSION AND CONCLUSION:

GLL patients who underwent robotic-assisted primary DAA THA achieved favorable outcomes and survivorship, with no associated dislocations at a minimum 2-year follow-up. Notably, these outcomes were comparable to those of patients without GLL.