



Global Acetabular Retroversion Is Associated with Increased Risk of Conversion to Total Hip Arthroplasty after Primary Hip Arthroscopy and Greater Chondrolabral Junction Breakdown: A Propensity-Matched Analysis with Minimum 8-Year Follow-Up

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# DISCLOSURES

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- I (and/or my co-authors) have nothing to disclose directly related to this talk.
- I have no conflicts.





## Background

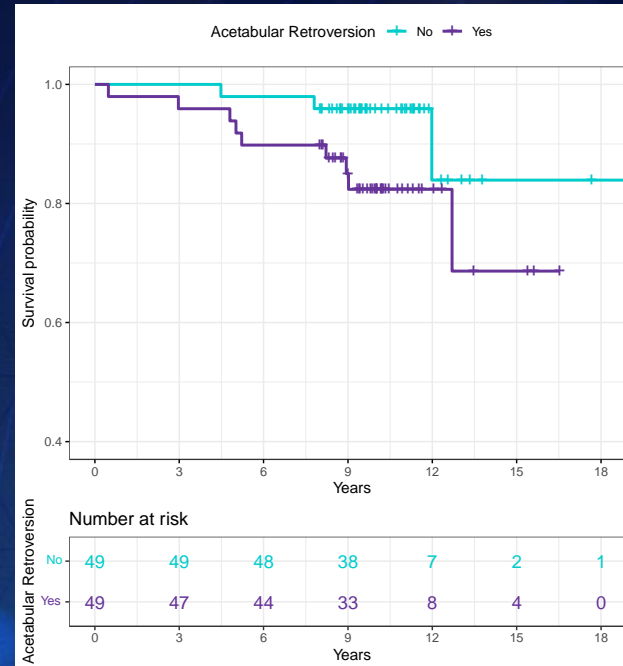
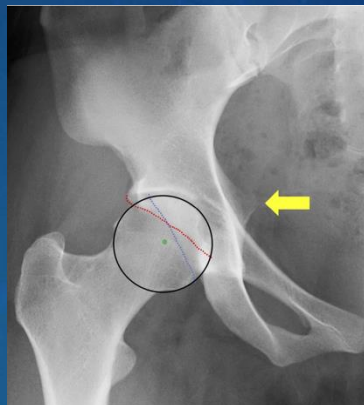
- Global acetabular retroversion (GAR) is associated with increased risk of hip osteoarthritis, femoroacetabular impingement (FAI), and intra-articular soft tissue pathology.
- However, the role of GAR on total hip arthroplasty (THA)-free survivorship has not been explored.

## Purpose

- To compare long-term survivorship following primary hip arthroscopy between patients with GAR and a propensity-matched control group.

## Methods

- This retrospective study queried patients  $\geq 18$  years with minimum 8-year follow-up that underwent hip arthroscopy for the treatment of symptomatic labral tears secondary to FAI.
- Patients with GAR, as indicated by the presence of a crossover sign, ischial spine sign, and posterior wall sign on preoperative pelvic radiographs, were 1:1 propensity-score matched by age, sex, body mass index, and labral treatment (repair versus debridement) to controls without GAR.



**Figure 1.** Unadjusted Kaplan-Meier survival curves depicting THA-free survivorship as a function of time between patients with global acetabular retroversion ("Yes") and matched controls ("No"). Data were analyzed by log-rank test.

	Global retroversion	Matched controls	P value
	n = 49	n = 49	
mHHS	86.3 ± 14.8	86.5 ± 12.6	0.946
NAHS	85.8 ± 14.8	85.1 ± 13.9	0.842
LEFS	69.8 ± 12.6	69.4 ± 10.9	0.870
HOS-ADL	92.4 ± 10.8	90.3 ± 10.0	0.373
HOS-SSS	82.8 ± 18.9	79.1 ± 21.1	0.404
iHOT-33	76.7 ± 23.9	72.0 ± 22.2	0.362
VAS pain (0: no pain; 10: worst pain imaginable)			
Pre-operative	6.6 ± 2.1	7.1 ± 1.7	0.143
Post-operative	2.6 ± 2.2	3.3 ± 2.4	0.143
Change from pre- to post-operative (Δ)	-4.6 ± 2.7	-3.5 ± 3.4	0.081

\*Data are reported as mean ± standard deviation or No. of patients (%). **Boldface** denotes statistical significance ( $p < 0.05$ ). Abbreviations: mHHS, modified Harris Hip Score; NAHS, Nonarthritic Hip Score; LEFS, Lower Extremity Functional Scale; HOS-ADL, Hip-Outcome Score-Activities of Daily Living; HOS-SSS, Hip Outcome Score-Sports Specific Subscale; iHOT-33, 33-item International Hip Outcome Tool; VAS, visual analog score.

## Results

- 49 patients with GAR were 1:1 matched to 49 controls, with mean follow-up of  $10.7 \pm 2.1$  years and  $11.1 \pm 2.8$  years, respectively ( $P = 0.524$ ).
- Unadjusted Kaplan-Meier survival curves analyzed by log-rank test demonstrated significantly decreased survivorship among patients with GAR (68.6%) compared to controls (83.9%) at final follow-up ( $P = 0.036$ ).
- There were no significant differences in baseline demographics and radiographic findings between cohorts.
- Patients with GAR had significantly greater rates of severe chondrolabral junction (CLJ) breakdown ( $P = 0.010$ ).
- Cox multivariable regression demonstrated that patients with GAR had a significantly greater risk of THA conversion (hazard ratio, 3.94;  $P = 0.039$ ). There were no differences in PROMs.

## Conclusion

- Patients with GAR had significantly inferior THA-free survivorship at minimum 8-year follow-up relative to controls and greater rates of severe CLJ breakdown, despite no differences in PROMs at final follow-up.
- These findings suggest that global retroversion on preoperative radiographic assessment may be a valuable predictor of long-term failure after hip arthroscopy.

