

Long-Term Survivorship and Outcomes of Arthroscopic vs. Open Treatment of Femoroacetabular Impingement Syndrome

- Payam Sabetian, MD. 1,3
- Omkar N. Prabhavalkar, BA. 1
- Paulo A. Perez-Padilla, MD. 1
- David R. Maldonado, MD. 1,4
- Benjamin G. Domb, MD. 1,2

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1. *American Hip Institute Research Foundation, Des Plaines, IL, USA*
2. *American Hip Institute, Des Plaines, IL, USA*
3. *The Hip Clinic Guatemala City, Guatemala*
4. *University of Texas at Houston, Houston, USA*

Disclosures

I (and/or my co-authors) have something to disclose.

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Objectives

Background

- Femoroacetabular impingement syndrome (FAIS) has been treated successfully with open surgery.
- Hip arthroscopy has been developed as a minimally invasive alternative presenting excellent long-term outcomes
- Comparative studies with long-term outcomes between the techniques are lacking.

Purpose

- To compare minimum 10-year patient-reported outcome (PRO) scores and survivorship following open treatment of FAIS to a propensity score-matched group of arthroscopically treated patients.
- Hypothesis: arthroscopic treatment would be at least as effective and have at least similar survivorship as open surgical dislocation to treat FAIS.

Materials and Methods

- Data was prospectively collected on patients followed for minimum 10 years after open dislocation of the hip.
- The following PROs were collected preoperatively and long-term: modified Harris Hip Score (mHHS), Nonarthritic Hip Score (NAHS), Hip Outcome Score-Sports Specific Subscale (HOS-SSS), and Visual Analog Scale (VAS) score for pain.
- Clinical outcomes were assessed using the patient acceptable symptomatic state (PASS), minimum clinically important difference (MCID), and maximum outcome improvement satisfaction threshold (MOI), as well as survivorship.
- Patients were matched 1:4 through propensity to an arthroscopically treated cohort

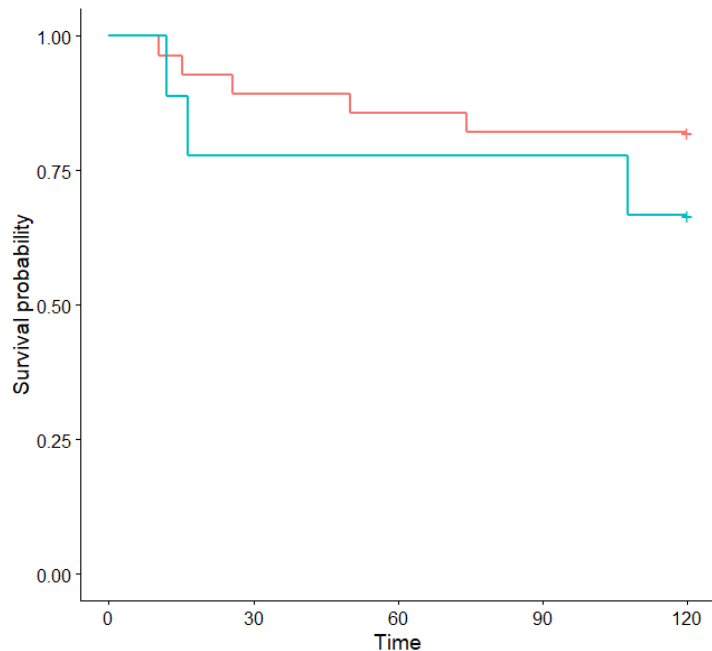
Results - Matching

Nine hips from eight eligible patients who met inclusion criteria, with an average follow-up of 126.5 ± 8.9 months, were matched to 28 hips from 28 patients who underwent arthroscopy.

Characteristics	Open Group	Arthroscopy Group	P Value
Laterality			0.702
Left	3 (33.3)	15 (53.6)	
Right	6 (66.7)	13 (46.4)	
Sex			1.00
Female	8 (88.9)	24 (85.7)	
Male	1 (11.1)	4 (14.3)	
Age at surgery, y	20.0 \pm 6.0 (16.0 – 23.9)	21.2 \pm 5.8 (19.0 – 23.3)	0.594
BMI, kg/m	23.3 \pm 5.7 (19.6 – 27.0)	23.0 \pm 5.6 (20.9 – 25.1)	0.881
Follow-up time, mo	117.5 \pm 22.2 (103.0 – 132.0)	115.4 \pm 24.6 (106.3 – 124.5)	0.954

Results - Survivorship

- Survivorship at 10-year follow-up was 96.4% for the arthroscopic group and 88.9% for the open group.
- Survivorship rate was higher in the arthroscopic group (96.4% vs. 88.9%)



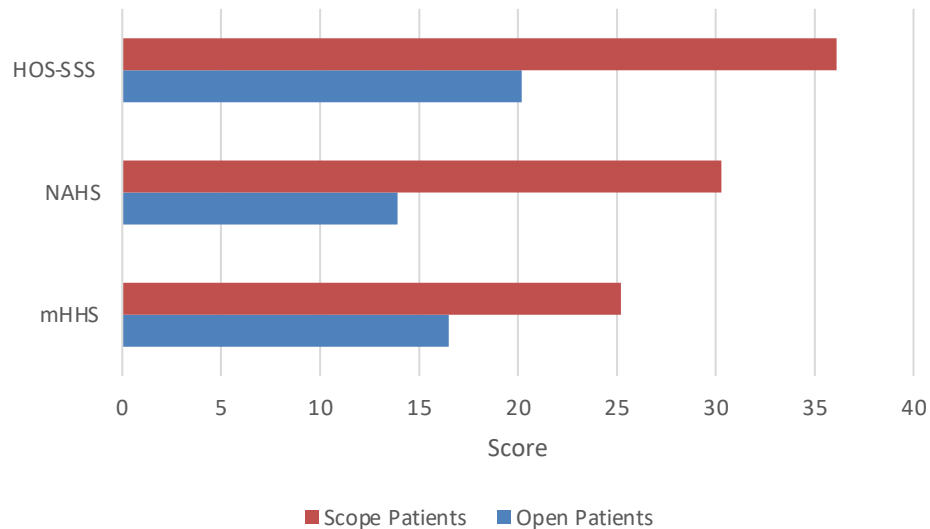
Results - Outcomes

- Both groups demonstrated significant improvement from preoperative scores to latest follow-up ($P > 0.05$).
- Patient satisfaction between groups was similar

	Open Group	Arthroscopy Group
mHHS		
Preoperative	69.8 ± 8.0 (64.6 – 75.1)	62.7 ± 15.6 (56.9– 68.5)
Latest	86.3 ± 16.0 (75.9 – 96.8)	87.9 ± 13.9 (82.7– 93.1)
P value	0.011	<0.00001
NAHS		
Preoperative	69.4 ± 9.6 (63.1 – 75.7)	58.0 ± 17.6 (51.5– 64.5)
Latest	83.3 ± 20.7 (69.8 – 96.9)	88.3 ± 11.8 (83.9– 92.6)
P value	0.037	<0.00001
HOS-SSS		
Preoperative	56.7 ± 10.8 (49.7 – 63.8)	44.4 ± 19.9 (37.0– 51.7)
Latest	76.9 ± 27.5 (59.0 – 94.9)	80.5 ± 19.4 (73.3– 87.7)
P value	0.049	<0.00001
VAS for Pain		
Preoperative	5.7 ± 2.4 (4.1 – 7.2)	6.2 ± 2.0 (5.5 – 7.0)
Latest	3.0 ± 2.3 (1.5 - 4.5)	2.0 ± 2.3 (1.2 – 2.9)
P value	0.0021	<0.00001
Patient Satisfaction		
	7.7 ± 2.1 (6.3 – 9.0)	8.5 ± 1.4 (7.9 – 9.0)

Results – Improvement Magnitude

- Mean magnitude of improvement was also statistically similar, although there was a trend in favor of arthroscopy
 - [mHHS: 16.5 ± 15.0 vs 25.2 ± 19.4 ($P = 0.177$), NAHS: 13.9 ± 16.7 vs 30.3 ± 18.9 ($P = 0.080$), HOS-SSS: 20.2 ± 26.1 vs 36.1 ± 23.6 for the arthroscopy group ($P = 0.096$)].



Results – Clinical Outcomes

- The two groups demonstrated comparable rates of achieving MCID, PASS, and MOI ($P > 0.05$).

	Open Group	Arthroscopy Group	P values
MCID			
mHHS	7 (77.8)	23 (82.1)	1.0
HOS-SSS	7 (77.8)	24 (85.7)	0.620
PASS			
mHHS	7 (77.8)	23 (82.1)	1.0
HOS-SSS	7 (77.8)	17 (60.7)	0.446
iHOT-12	7 (77.8)	24 (85.7)	0.620
MOI			
mHHS	7 (77.8)	18 (64.3)	0.687
NAHS	6 (66.7)	20 (71.4)	1.0
VAS	4 (44.4)	20 (71.4)	0.229

Significance / Conclusions

- Hip arthroscopy and open surgical dislocation are both viable treatment options, demonstrating significant improvement from preoperative to long-term outcomes. Trending toward significance (although $p>0.05$) the arthroscopy group reported higher PROs.
- Survivorship at 10-year follow-up was 96.4% for the arthroscopic group and 88.9% for the open group.