

# Hip Arthroscopy: Predictors of Ambulatory Surgery Center Utilization

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# Disclosures

One or more authors have something to disclose:

- Shawn G Anthony, MD MBA: consultant for Smith & Nephew, Manhattan Surgery Center, Education payments from Gotham Surgical Solutions & Devices, Education payments from Arthrex

# Introduction

- Hip arthroscopy (HA) is a minimally invasive procedure utilized to treat symptomatic femoroacetabular impingement (FAI).<sup>1</sup>
- Prior studies comparing outpatient hospitals (OHs) versus ambulatory surgery centers (ASCs) found no difference in rates of postoperative complications,<sup>2</sup> however, ASC utilization remains low.
- This study aims to investigate the predictors of ASC versus OH utilization for HA to better understand opportunities and barriers to moving HA patients to the ASC setting.

# Methods

**Design:** Retrospective Cohort Study

**Data Set:** 2013-2017 IBM MarketScan Commercial Claims Encounter database

**Cohorts:** ASC vs. Outpatient Hospital setting

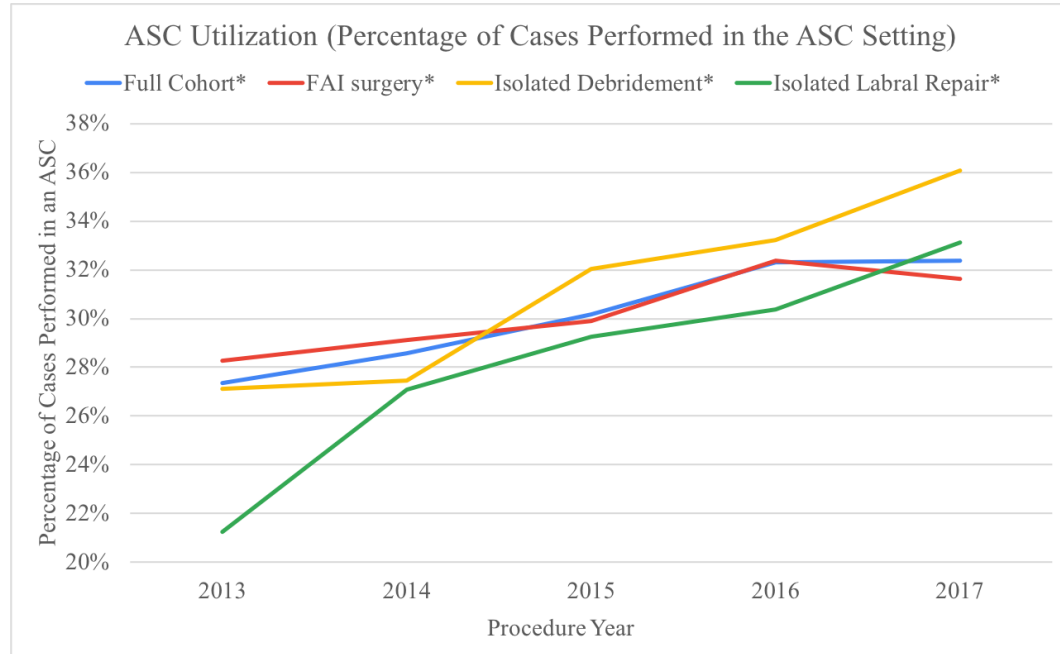
- Patients aged 18 to 65 undergoing debridement-only, FAI surgery or hip labral repair.

**Statistical analysis:** Multivariable logistic regression

- Primary Outcome: Odds ratio (OR) of ASC utilization
- Covariates: gender, age, geographical region of the U.S., insurance plan type, calendar year, Deyo-Charlson Comorbidity Index (DCCI) score, obesity/smoking/osteoarthritis status, surgeon/facility network status, peripheral nerve block (PNB) utilization, and procedure type.

# Results

- 20,335 HA procedures were identified: 6,077 performed at ASCs and 14,258 at OHs.
- Surgeons were significantly more likely to be in-network when the procedure was performed at an ASC (OR:1.63; 95% CI: 1.35-1.96;  $p < 0.001$ ).
- ASC facilities themselves were less likely to be in-network (OR:0.59; 95% CI:0.49-0.70;  $p < 0.001$ ).



- ASC utilization increased over the study period (OR:1.09; 95% CI:1.07-1.12;  $p < 0.001$ ).

# Results

- Geographical location, namely Southern U.S., patient age 45 to 54 years, debridement-only procedures, and High Deductible Health Plan (HDHP) and Consumer Driven Health Plan (CDHP) coverage increased ASC utilization (all  $p < 0.05$ )

	OR (95% CI)	p-value
<b>Geographical Region</b>		
West	Ref.	
Northeast	0.96 (0.87 - 1.05)	0.350
North Central (Midwest)	1.24 (1.14 - 1.35)	<b>0.001</b>
South	1.92 (1.77 - 2.08)	<b>0.001</b>
<b>Insurance Plan Type</b>		
EPO/PPO	Ref.	
HD/CDHP	1.10 (1.01 - 1.20)	<b>0.033</b>
HMO/POS	0.89 (0.82 - 0.98)	<b>0.012</b>
Other	1.35 (1.16 - 1.58)	<b>0.001</b>
<b>Procedure Year</b>	1.09 (1.07 - 1.12)	<b>0.001</b>
<b>DCCI Score</b>		
0	Ref.	
1	0.30 (0.25 - 0.35)	<b>0.001</b>
2	0.14 (0.06 - 0.32)	<b>0.001</b>
3+	0.12 (0.02 - 0.90)	<b>0.039</b>
<b>Obesity Status</b>		
No	Ref.	
Yes	0.35 (0.27 - 0.46)	<b>0.001</b>
<b>Smoking Status</b>		
No	Ref.	
Yes	0.21 (0.15 - 0.30)	<b>0.001</b>
<b>Osteoarthritis Status</b>		
No	Ref.	
Yes	0.63 (0.57 - 0.70)	<b>0.001</b>
<b>Surgeon Network Status</b>		
Out-of-Network	Ref.	
In-Network	1.63 (1.35 - 1.96)	<b>0.001</b>
<b>Facility Network Status</b>		
Out-of-Network	Ref.	
In-Network	0.59 (0.49 - 0.70)	<b>0.001</b>
<b>Peripheral Nerve Block (PNB) Utilization</b>		
No	Ref.	
Yes	1.20 (1.11 - 1.30)	<b>0.001</b>
<b>Procedure Type</b>		
FAI surgery	Ref.	
Isolated Debridement	1.16 (1.07 - 1.26)	<b>0.001</b>
Isolated Labral Repair	0.96 (0.86 - 1.07)	0.439

# Conclusion

- Increasing ASC utilization for HA over the study period is consistent with broader trends.<sup>3</sup>
- In keeping with strict ASC screening criteria for patients obesity, smoking status, and higher comorbidity burden had lower odds of ASC utilization.
- Older patients had higher odds of ASC utilization, likely due to the observed increased odds of debridement-only surgery being performed at ASCs due to shorter operative times.<sup>4</sup>
- There are significant opportunities for the expansion of ASC utilization for HA procedures among patients; however, the facility out-of-network status of many ASCs may present a barrier to their increased utilization.

# References

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