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Poster #29: Delayed Hip Arthroscopy Increases Risk of Revision Surgery and Post-Operative Narcotic Prescriptions

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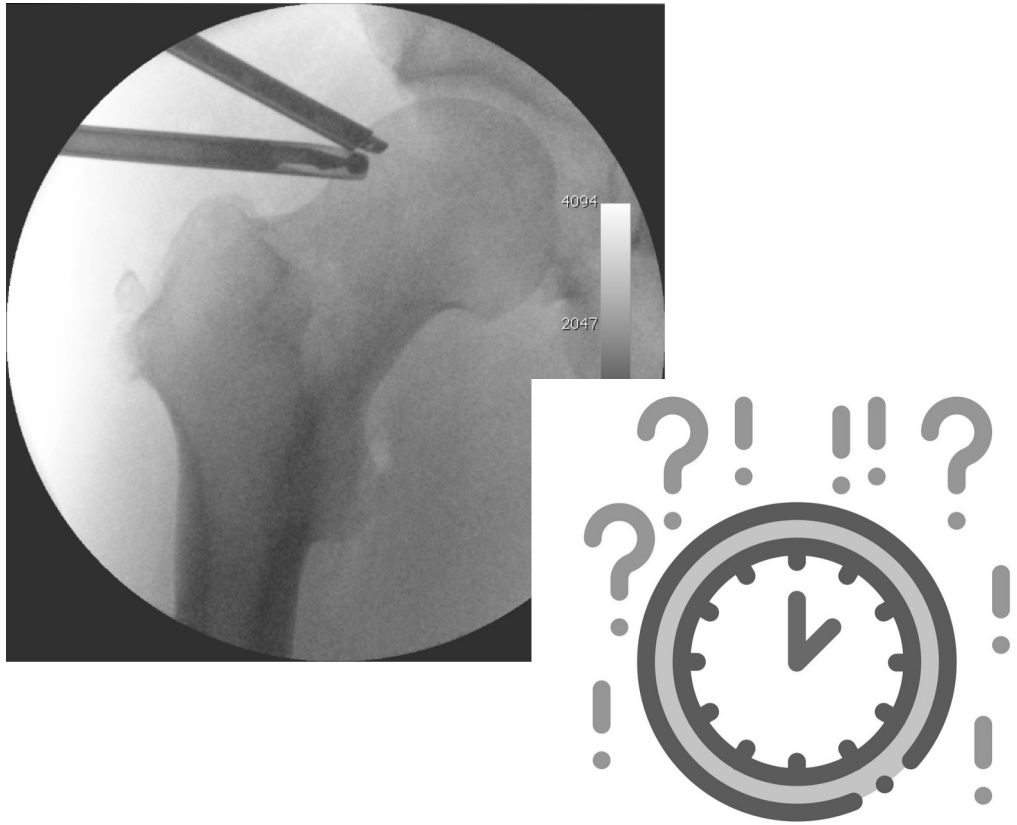
Disclosures

- Ryan Freshman: None
- Sergio Flores: None
- Drew Lansdown: Vericel Inc., Allosource
- Stephanie Wong: None
- Alan Zhang: Stryker, Depuy-Mitek

Background

- Optimal timing of hip arthroscopy for femoroacetabular impingement syndrome (FAIS) is unclear
- Prior studies in knee[1] and shoulder[2] have demonstrated inferior patient reported outcomes (PROs) with delayed surgery
- PROs worse with delayed hip arthroscopy[3,4], but no conclusive data on how timing affects revisions and narcotic prescriptions



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Purpose

- **To examine the relationship between timing of hip arthroscopy for FAIS and rates of revision hip procedures, conversion to total hip arthroplasty (THA), post-operative medical complications, and opioid prescriptions in a large cross-sectional cohort**

Methods

- Retrospective cohort study from 2015-2019 using PearlDiver database and ICD-10/CPT codes to identify cohorts
- Patient cohorts stratified based on time from diagnosis of FAIS to hip arthroscopy (< 3 months, 3-6 months, 6-9 months, 9-12 months, > 12 months)
- Multivariate analysis to determine factors independently associated with revision hip arthroscopy
- Kaplan Meier analysis to examine 2-year survival free of revision hip arthroscopy and conversion to total hip arthroplasty

Results

Baseline Demographics

N = 6,707

	<3 Months	3-6 Months	6-9 Months	9-12 Months	>12 Months	P-Value
Total No. of Patients (%)	5290 (78.9)	574 (8.6)	178 (2.7)	90 (1.3)	575 (8.6)	-
Age, Mean (SD)	37.1 (13.7)	37.2 (12.9)	36.2 (12.5)	36.6 (13.2)	**33.9 (12.4)**	**<0.001**
Male Gender, %	31.3	32.9	33.7	33.3	28.7	0.53
Obesity, %	27.3	26.8	32.6	34.4	28.9	0.28
Tobacco Use, %	27.3	26.3	27.0	33.3	27.1	0.74
CCI, Mean (SD)	0.96 (1.28)	0.98 (1.40)	**1.22 (1.25)**	1.12 (1.35)	**1.14 (1.30)**	**<0.01**
Pre-Operative Opioid Use, %	52.4	50.2	47.9	51.3	54.5	0.38

Slight differences in baseline demographics (age, CCI)

No difference in pre-operative opioid use

Results

90-Day Complications

	<3 Months	3-6 Months	6-9 Months	9-12 Months	>12 Months	P-Value
Readmission <90 days (%)	48 (0.9)	2 (0.4)	3 (1.8)	0 (0.0)	**11 (2.0)**	**0.04**
Urinary Tract Infection (UTI) (%)	1281 (24.7)	139 (24.7)	39 (22.8)	30 (34.1)	160 (28.7)	0.08
Pneumonia (%)	476 (9.2)	62 (11.0)	13 (7.6)	4 (4.5)	52 (9.3)	0.29
Hematoma (%)	79 (1.5)	10 (1.8)	3 (1.8)	1 (1.1)	8 (1.4)	0.98
Superficial Wound Infection (%)	112 (2.2)	11 (2.0)	7 (4.1)	**7 (8.0)**	18 (3.2)	**0.002**
Acute Kidney Injury (%)	97 (1.9)	10 (1.8)	1 (0.6)	4 (4.5)	6 (1.1)	0.13
Deep Venous Thrombosis (%)	56 (1.1)	5 (0.9)	5 (2.9)	0 (0.0)	9 (1.6)	0.11
Pulmonary Embolism (%)	37 (0.7)	3 (0.5)	3 (1.8)	0 (0.0)	3 (0.5)	0.43
Cardiac Arrest (%)	11 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.2)	0.78
Septic Arthritis (%)	8 (0.2)	3 (0.5)	1 (0.6)	1 (1.1)	3 (0.5)	0.08

Rates of 90-day complications largely similar between cohorts

Results

2-Year Conversion to THA

	<3 Months	3-6 Months	6-9 Months	9-12 Months	>12 Months	P-Value
Conversion to THA within 2 Years (%)	171 (3.2)	19 (3.3)	8 (4.5)	3 (3.3)	16 (2.9)	0.86

No differences in rates of 2-year conversion to total hip arthroplasty

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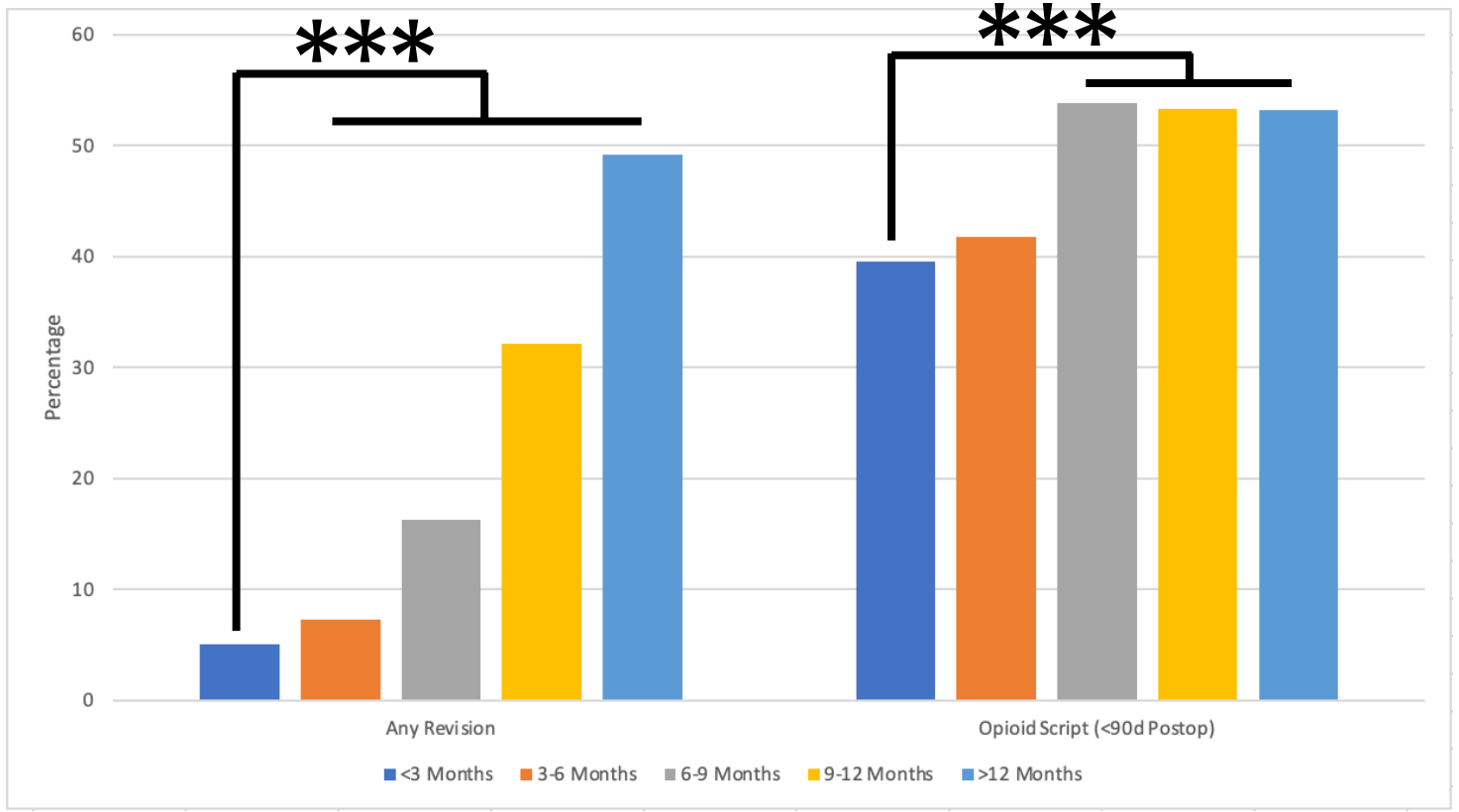
Results

Univariate Analysis

- Overall 2-year rate of revision hip arthroscopy: **10%**
- Rates of revision hip arthroscopy and post-operative opioid prescriptions filled rose significantly as time to surgery increased (**P<0.001**)



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Results

Multivariate Analysis

- Time to surgery was associated with increased risk of revision hip arthroscopy with delays as short as **6 months** from diagnosis to surgery (**P<0.001**)

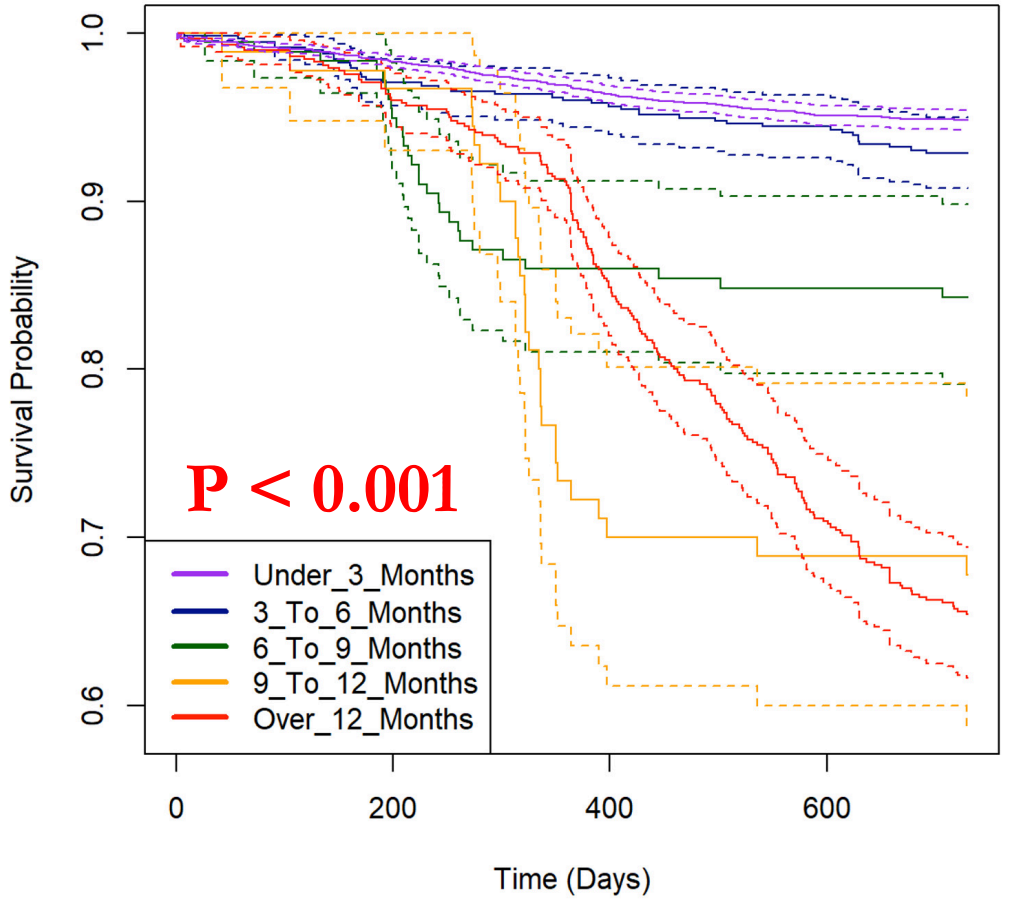
	Odds Ratio (OR)	95% Confidence Interval (95% CI)	P-Value
Age	0.97	0.96 – 0.98	**<0.001**
Male Gender	0.71	0.58 – 0.86	**0.001**
Obesity	0.91	0.75 – 1.12	0.39
Tobacco Use	0.77	0.64 – 0.95	**0.01**
CCI	1.07	0.99 – 1.14	0.06
Time From Diagnosis to Surgery			
<3 Months	1.00 (Reference)	N/A (Reference)	N/A (Reference)
3-6 Months	1.45	0.99 – 2.06	0.04
6-9 Months	4.07	2.60 – 6.17	**<0.001**
9-12 Months	11.22	6.79 – 18.24	**<0.001**
>12 Months	19.19	13.74 – 26.86	**<0.001**

Results

Survival Analysis

- Increasing time to surgery **(>6 months**) was associated with lower revision hip arthroscopy-free survival (**P<0.001**), but was not associated with differences in conversion THA-free survival (P=0.90)

Revision Hip Arthroscopy



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Limitations

- Retrospective study design
- Results reliant upon ICD-10/CPT coding
- No access to pre-operative/post-operative PROs
- No access to MRI or operative reports

Conclusions

- Delaying surgery for FAIS (**>6 months**) increases risk of undergoing revision hip arthroscopy, negatively influences revision-free survival, and affects rates of filling post-operative narcotic prescriptions

- Timing of surgery does not appear to affect conversion to total hip arthroplasty

Significance

- Extended symptom duration or delayed surgical management may portend worse outcomes for patients undergoing hip arthroscopy for FAIS

- Given that many FAIS patients undergo ineffective procedures[5] and encounter delays in diagnosis[6], providers should take these factors into account when discussing and formulating treatment plans with patients

- High rates of opioid use in our study 1) were consistent with prior literature[7] and 2) were further increased with surgical delay, which highlights both the need for opioid reduction strategies AND the importance of timely surgical management for FAIS

References

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Acknowledgments

- Co-Authors
  - Sergio Flores, MD
  - Drew Lansdown, MD
  - Stephanie Wong, MD
  - Alan Zhang, MD
- Pearldiver
  - Scott Ellison