

The Safety of Ketorolac in Pediatric Outpatient Penile Surgery

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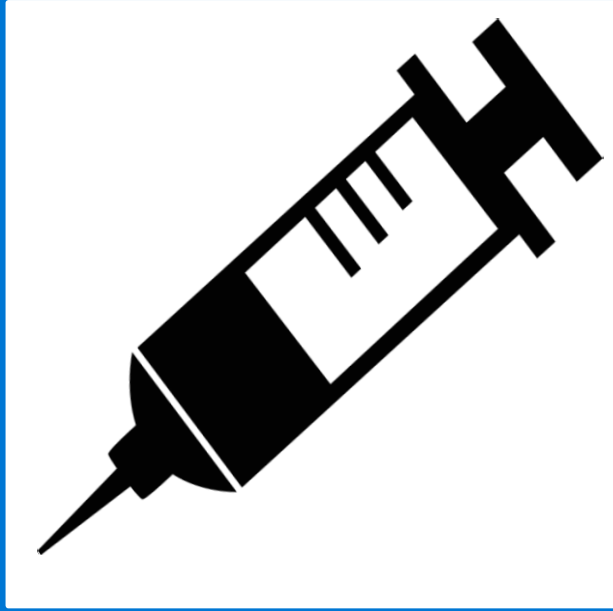
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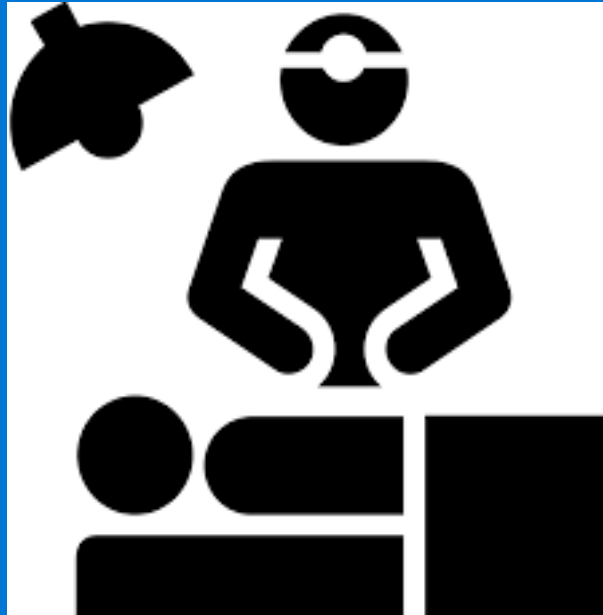
Disclosures

- None

Background



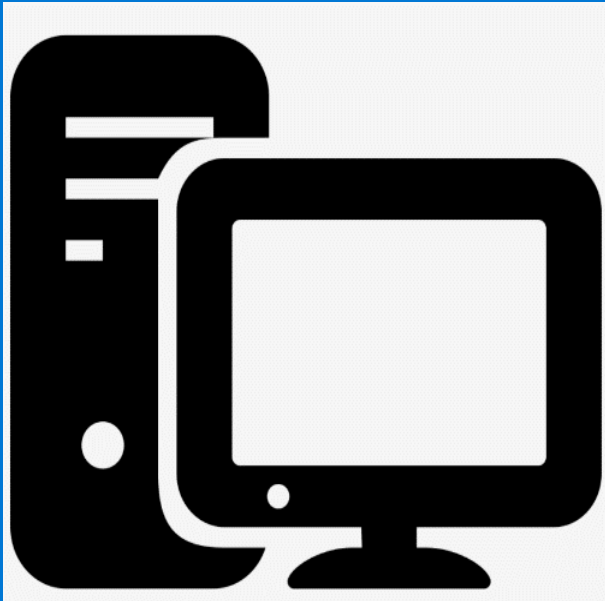
Ketorolac



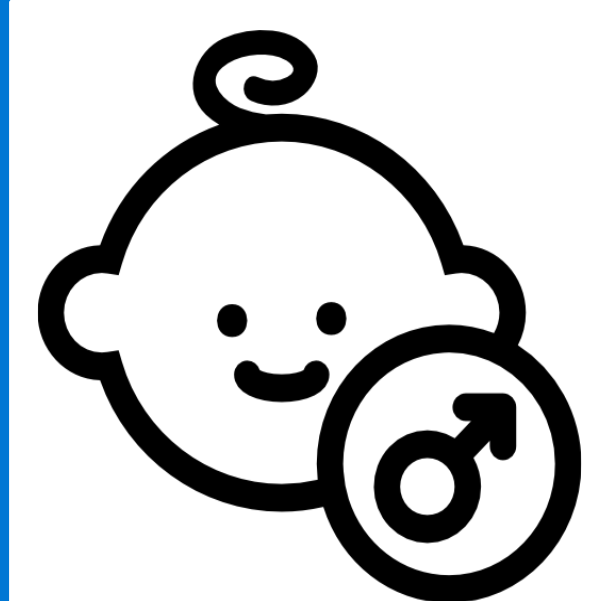
Outpatient penile
procedures



Complications



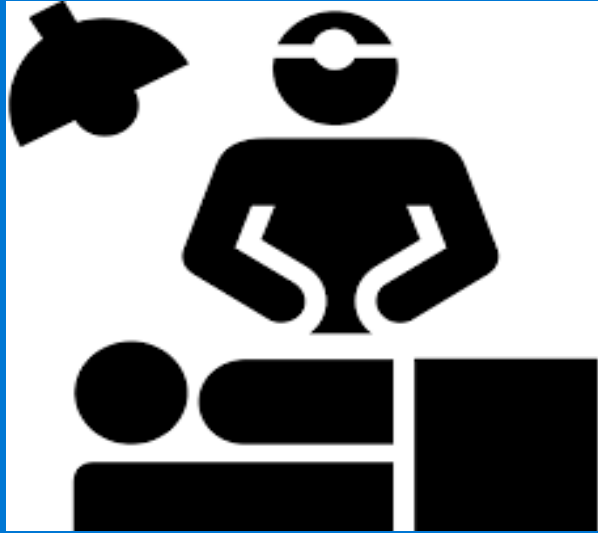
Pediatric Health
Information System
(PHIS)



Males 3 months – 18
years



January 2010 –
December 2017



Qualifying initial
encounter

- Penile surgery as
primary procedure



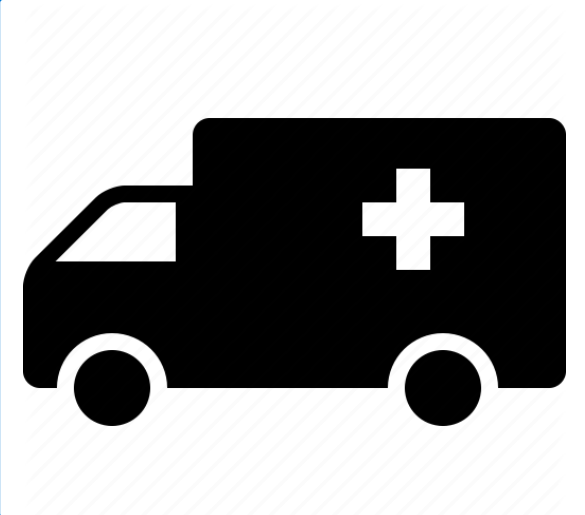
Procedures

- Circumcision
- Chordee repair
- Hypospadias repair
- Penoplasty

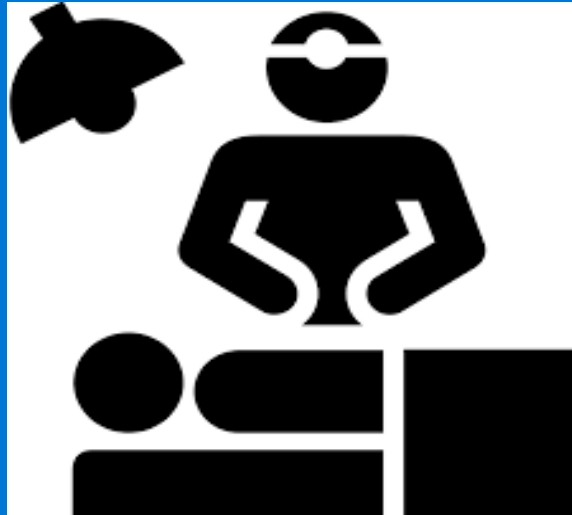
Exclusions

- Complex chronic conditions
- Intraoperative complications

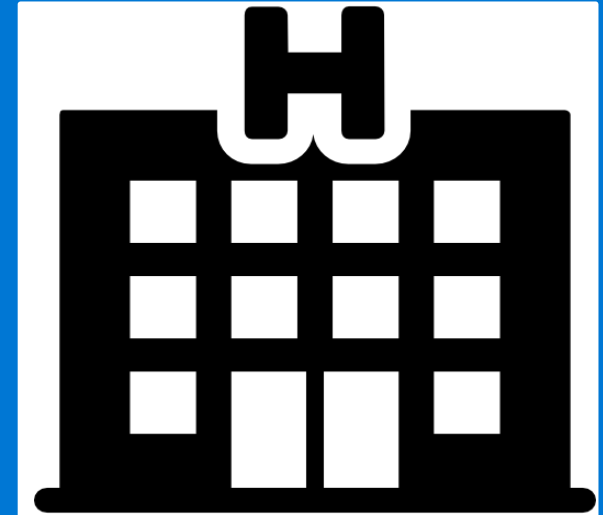
Collected all **hospital-based** return encounters within 30 days including:



ED visits



Repeat surgeries



IP admissions

Two Cohorts



```
graph TD; A[Two Cohorts] --> B[Patients who received ketorolac]; A --> C[Patients who did not receive ketorolac];
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Patients who
received **ketorolac**

Patients who **did not**
receive **ketorolac**

Outcomes

Primary

- Return for bleeding

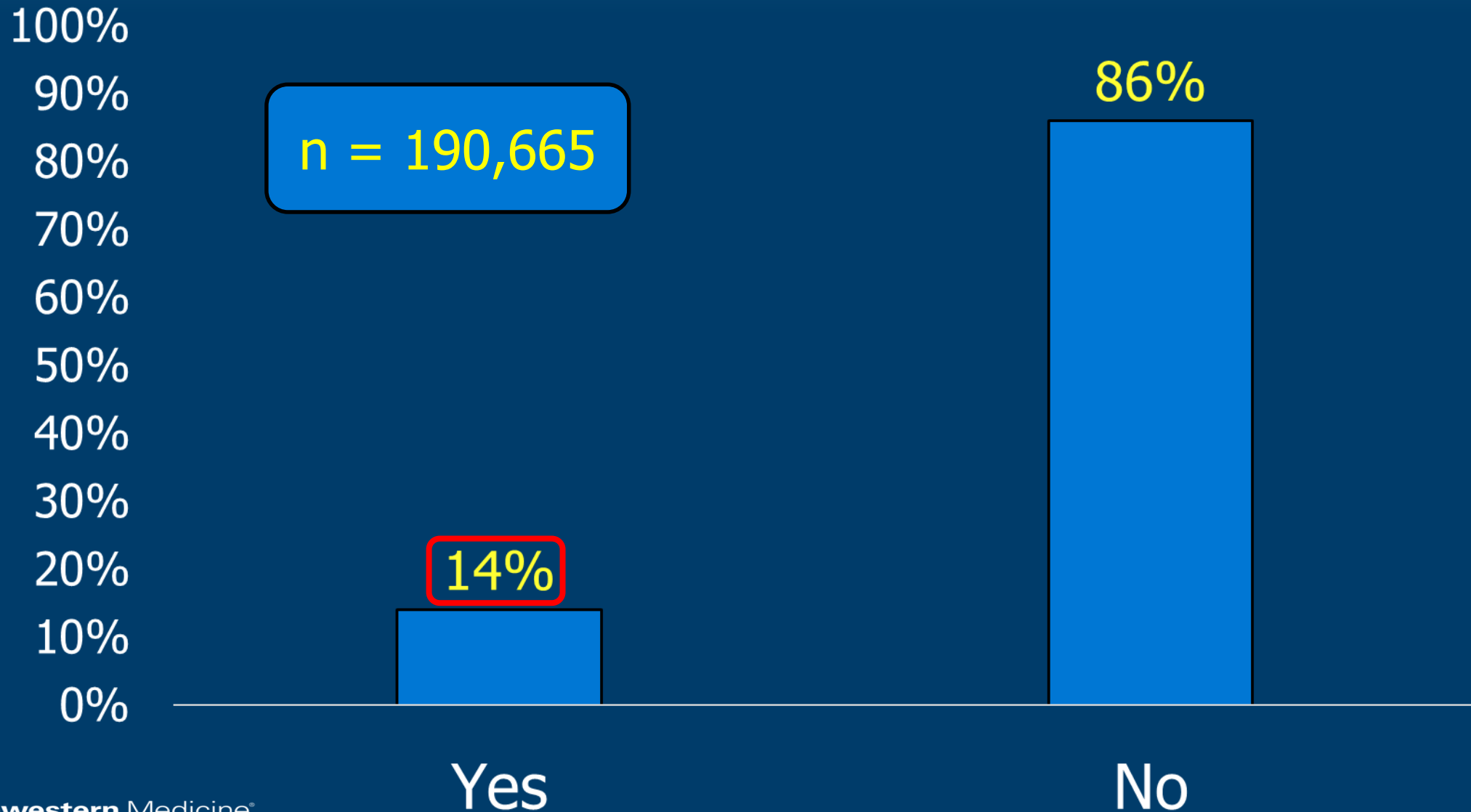
Secondary

- Return for any reason

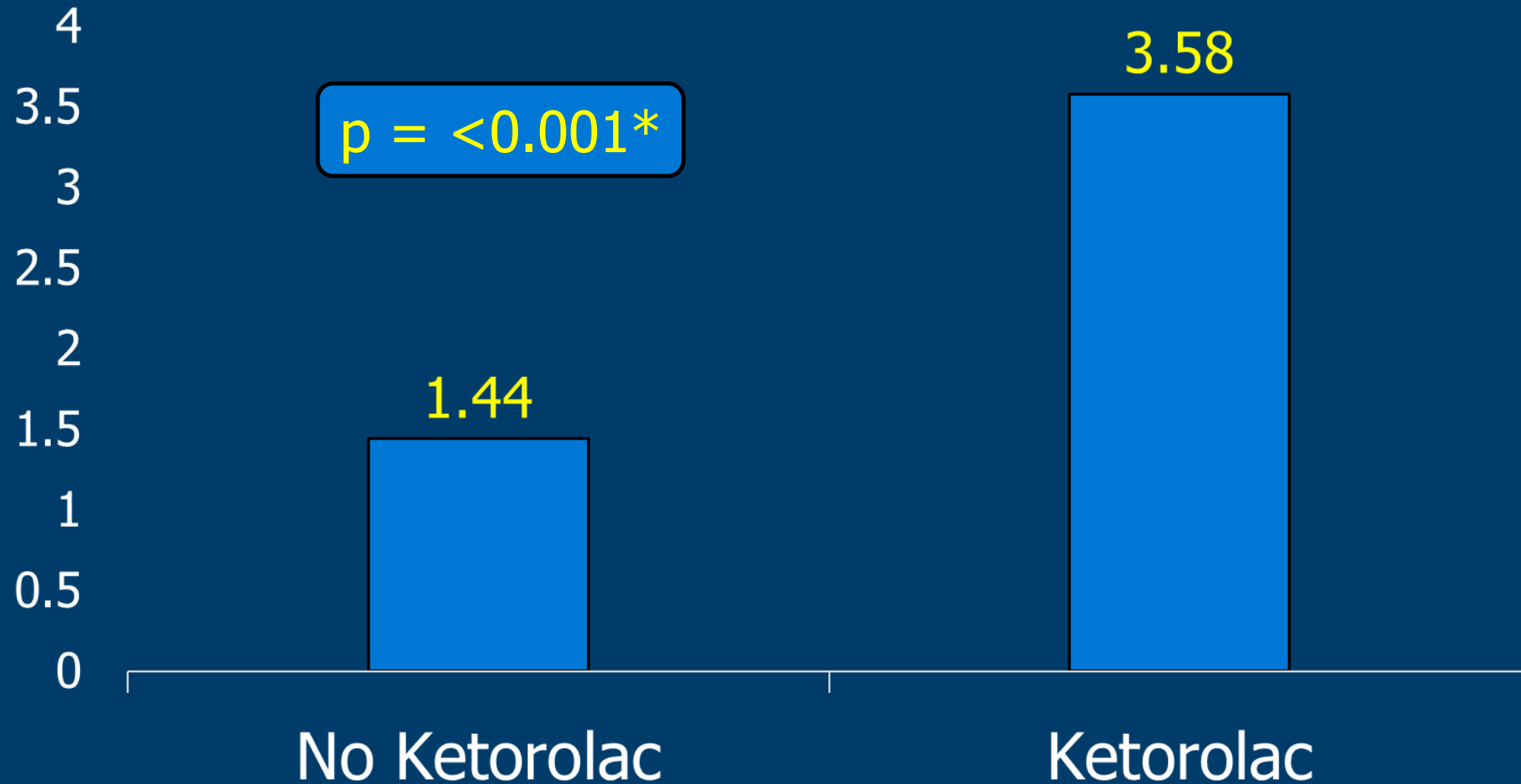
Statistical analysis

- Multivariable logistic regression incorporating significant covariates

Ketorolac at initial encounter



Median age at initial procedure (years)



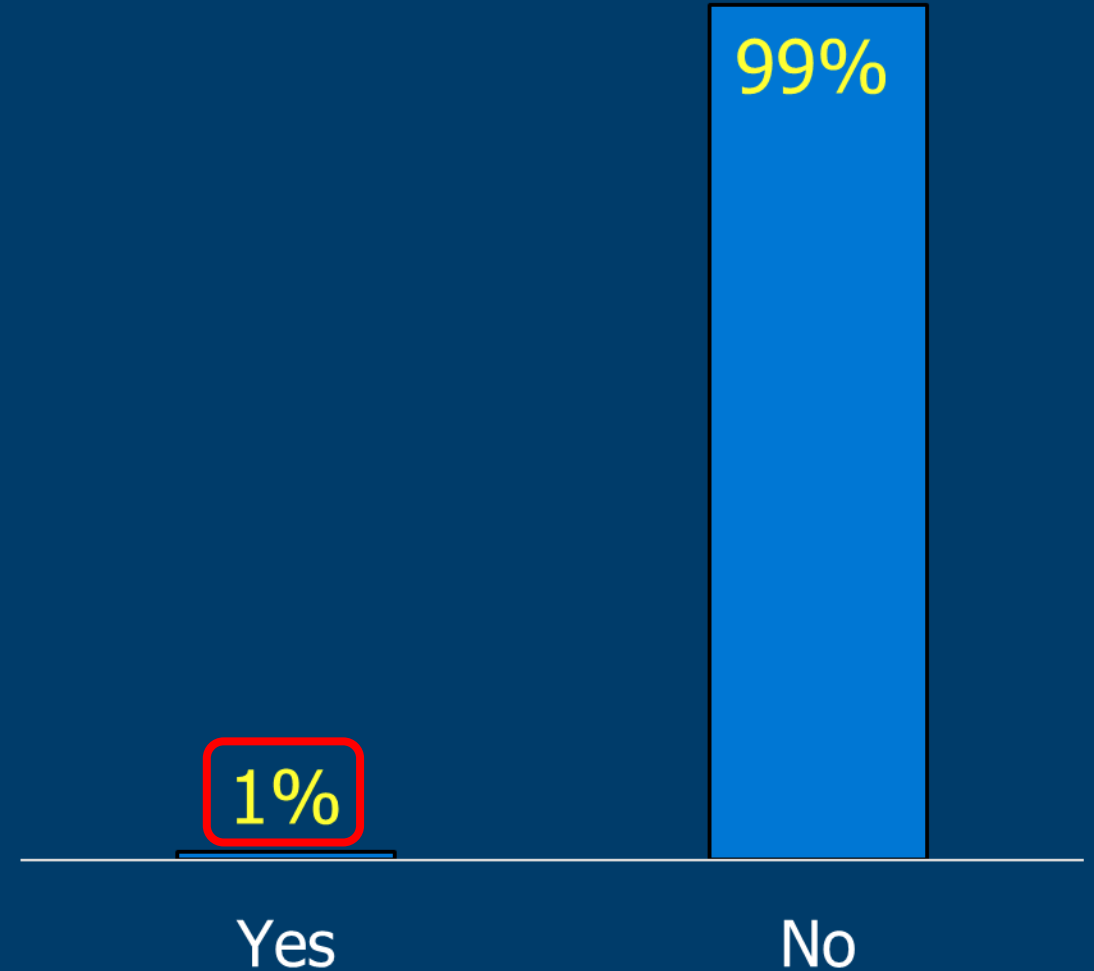
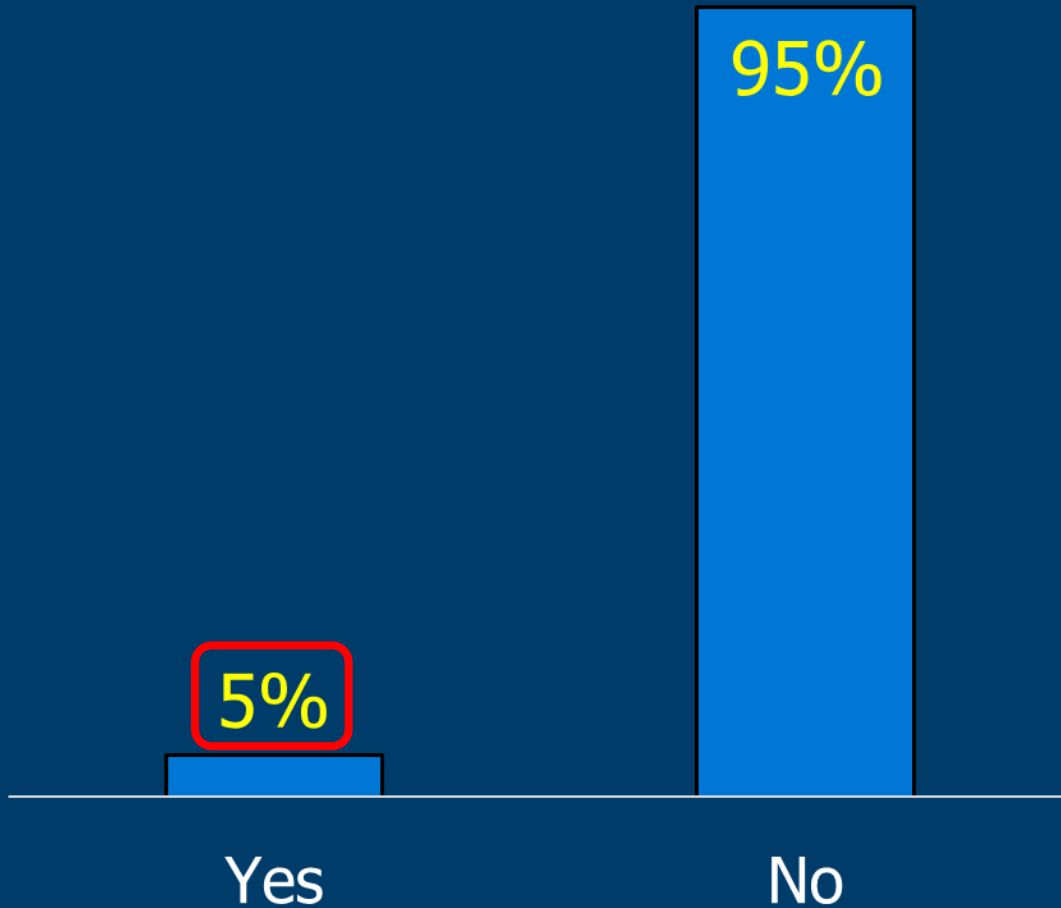
Ketorolac at initial qualifying procedures

	Ketorolac		p-value
	No	Yes	
Race			
White	86%	14%	<0.001*
Black	87%	13%	
Other/multiple	85%	15%	
Ethnicity			
Hispanic/Latino	82%	18%	<0.001*
Not Hispanic/Latino	86%	14%	
Unknown	91%	9%	

Return encounters < 30 days

Return for any reason

Return for bleeding



No association between ketorolac and return encounter

	Return encounter	p-value	Return encounter with bleeding	p-value
Ketorolac Use				
No	4.9%	0.259	0.3%	0.101
Yes	4.8%		0.4%	

Ketorolac not associated with return in regression model

Return encounter				
Effect	Odds ratio	95% Wald Confidence Limits		p-value
Ketorolac (Yes vs No)	1.053	0.989	1.122	0.1065
Return encounter with bleeding				
Effect	Odds ratio	95% Wald Confidence Limits		p-value
Ketorolac (Yes vs No)	0.834	0.666	1.044	0.1131

Limitations

- PHIS: billing claims database
- No control for surgeon decision making/surgery type
- Could not assess intraoperative details (dressing type)
- Only PHIS hospitals
- Did not examine efficacy of ketorolac

Conclusion

- Ketorolac not associated with increased risk of return visit following surgery
- Safe perioperative analgesic for pediatric penile surgeries