

Increased Risk of New Persistent Opioid Use in Pediatric and Young Adult Kidney Stone Patients Prescribed Opioids at Presentation

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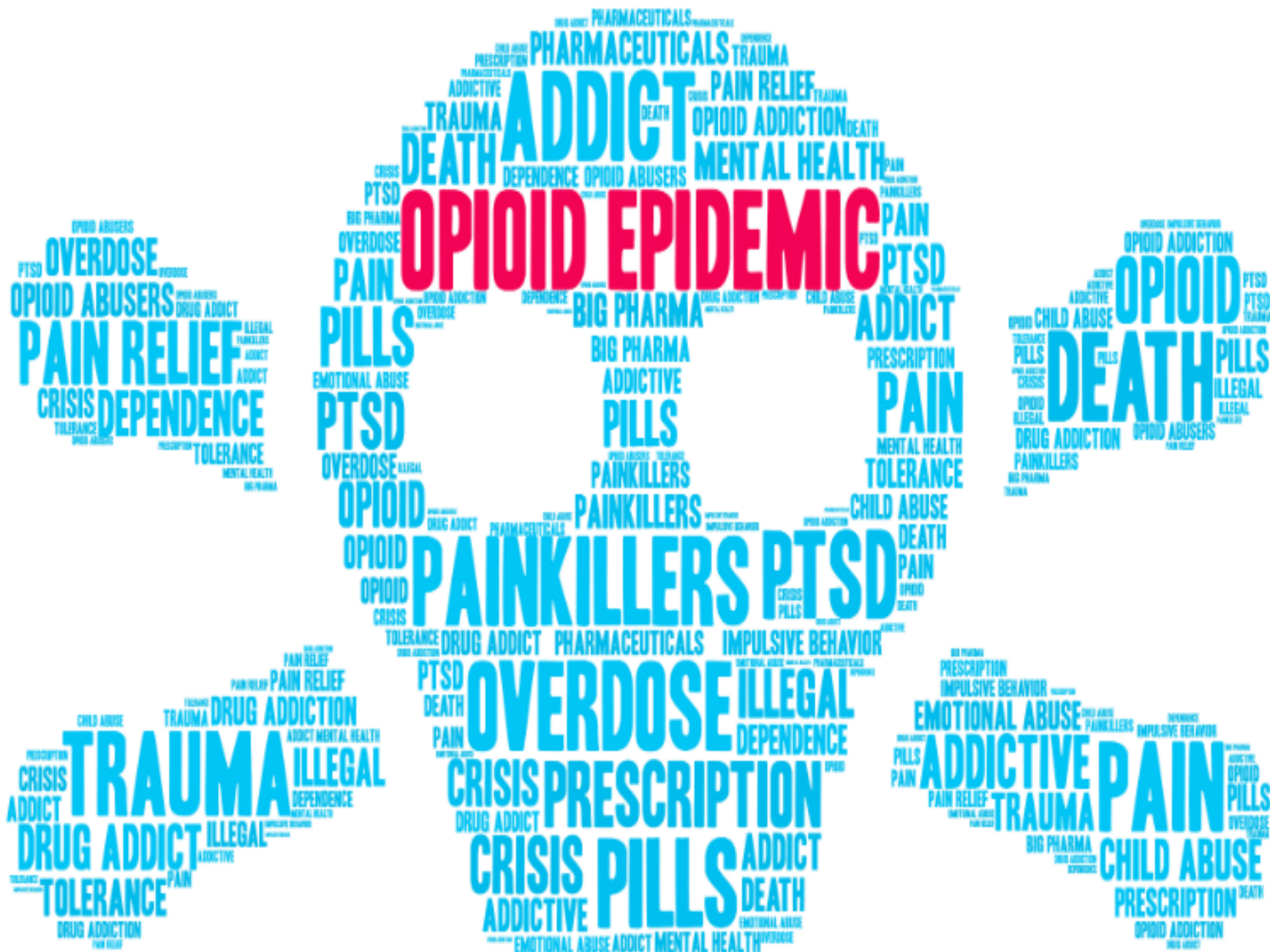


Disclosures

None

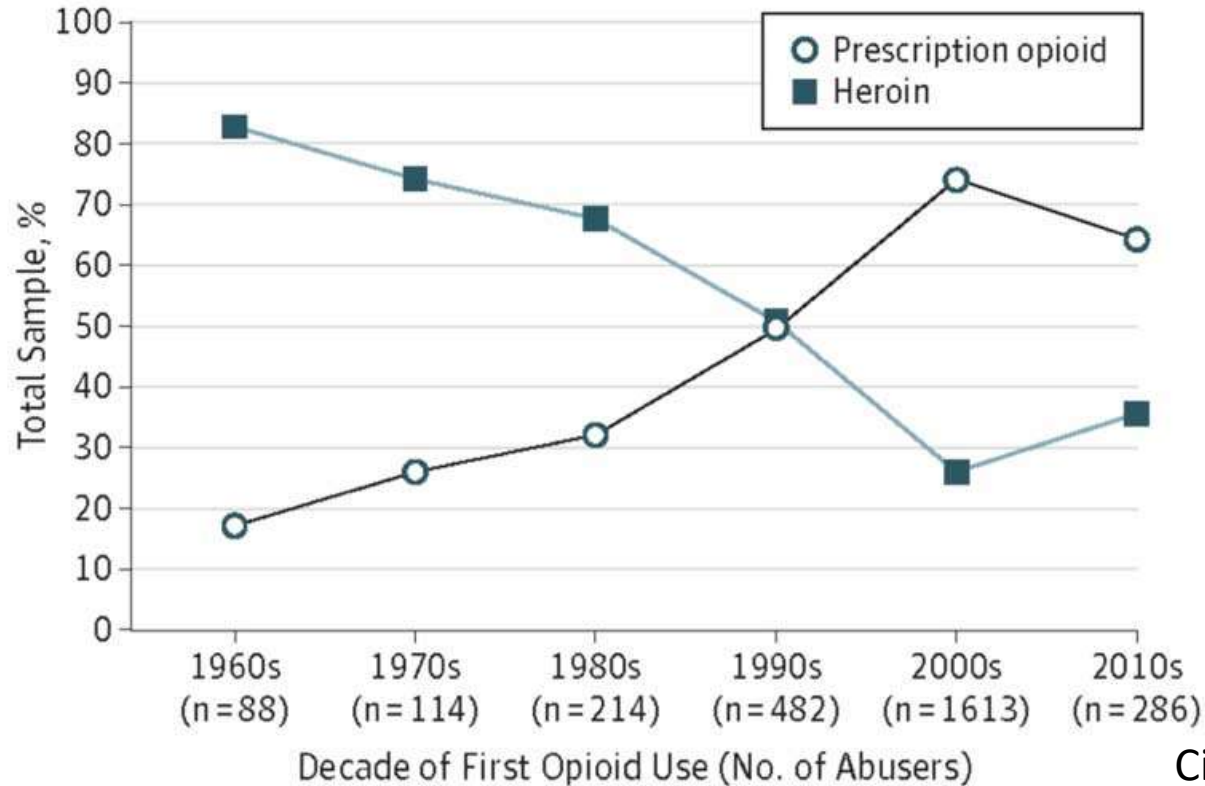
Acknowledgements





Background

The changing face of heroin addiction in the US



Cicero et al. 2014



Pediatric Stones



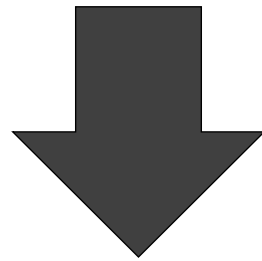
Study Objectives

1. Describe rates of opioid prescription for urolithiasis in patients 25 years or younger
2. Describe rates of persistent opioid use and overdose among stone patients 25 years or younger
3. Identify risk factors for persistent opioid use in stone patients 25 years or younger



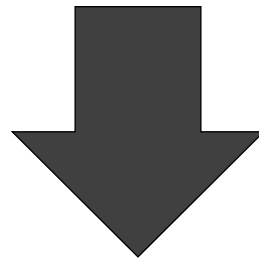
Methods

Stone patients 25 years or less in Ontario
2013-2017
N= 11,378



Exclusion:
Dispensed opioid
prescription within 1 year

N= 9,515



Exclusion:
Healthcare visits for
urolithiasis in last year

N= 6,962

Outcomes



Index urolithiasis visit



Last urolithiasis visit + 30 days
Surgery + 30 days

**Opioid exposure during acute
stone episode**

91-180 days

Persistent opioid use

Primary outcome: Persistent opioid use

Secondary Outcome:

- Opioid overdose



Baseline Characteristics



Characteristic	Value	Median (IQR)
Age (years)		21 (19-24)
N (%)		
Sex	F	3612 (52)
	M	3350 (48)
Charlson Index	0	6884 (99)
	1 - 2	70 (1)
	+ 3	8 (0.1)
Mental health history	Yes	2792 (40)
	No	4170 (60)
Surgery	Yes	756 (11)
	URS	541 (72)
	SWL	139 (18)
	PCNL	76 (10)
Time to surgery (days)	30>	516 (68)
	+ 30	240 (32)



Opioids dispensed in the acute period



Characteristic	Median (IQR)
Dispensed opioids	3877 (56)
Total oral morphine equivalents during acute stone episode	
- 199	908 (24)
100 - 149	859 (23)
150 - 199	733 (19)
200 - 299	704 (18)
>300	613 (16)
Prescriber specialty	
Emergency medicine	1822 (55)
Family practitioner	1058 (32)
Urology	326 (10)
Other	123 (3)



Rates of Opioid Sequelae



Characteristic	Unexposed opioids N=3085	Exposed opioids N=3877	P	Adjusted OR (95% CI)	P
Persistent opioid use (91-180 days)	138 (4)	313 (8)	<.001	1.9 (1.5-2.3)	<.001
Overdose	<6	14 (0.4)	.06	3.5 (1.1-11)	0.03



Impact of Patient Related Factors on Persistent Opioid Use



Characteristic	Value	Rate (%)	Adjusted Odds Ratio	p-value
Age	0-11	2	0.2	0.22
	12-18	9	1.2 (0.8-1.7)	
	19-21	7	Ref	
	22-25	9	1.1 (0.8-1.4)	
Sex	Female	9	1.2 (0.9-1.5)	0.26
	Male	7	Ref	
Mental health history	No	7	Ref	0.034
	Yes	10	1.3 (1.1-1.7)	



Impact of Care Related Factors on Persistent Opioid Use



Characteristic	Value	Rate (%)	Adjusted Odds Ratio	p-value
Duration of stone episode	<60 days	6	0.6 (0.5-0.8)	0.0008
	>60 days	13		
# ED visits after index	0	6	0.5 (0.3-0.7)	0.006
	1	8	0.5 (0.3-0.8)	
	2	13	0.7 (0.4-1.1)	
	>2	21	Ref	



Impact of Opioid Related Factors on Persistent Opioid Use



Characteristic	Value	Rate (%)	Adjusted Odds Ratio	p-value
Oral morphine equivalents during acute stone episode	- 199	5	Ref	0.0001 >
	100 - 149	6	1 (0.7-1.5)	
	150 - 199	7	1.2 (0.8-1.8)	
	200 - 299	8	1.4 (0.9-2)	
	>300	17	2.2 (1.5-3.3)	



Impact of Surgery Related Factors on Persistent Opioid Use



Characteristic	Value	Rate (%)	Adjusted Odds Ratio	p-value
Had Surgery	No	7	Ref	0.00009
	Yes	14	1.7 (1.2-2.3)	
Time to surgery from index visit	< 30 days	10	Ref	0.17
	>= 30 days	7	.06 (0.03-1.3)	
# of surgeries (within 180 days of index renal colic visit)	1	5	Ref	0.0001 >
	2	6	4.5 (0.9-23.7)	
	2 <	28	29 (4.9-182)	
1 st surgery type	URS	10	Ref	0.43
	PCNL	7	0.5 (0.2-1.6)	
	SWL	10	1.3 (0.5-3.5)	
Stent placement	No	7	Ref	0.18
	Yes	10	0.32 (0.1-1.7)	
Septic stone	No	9	Ref	0.47
	Yes	10	0.77 (0.4-1.6)	



Conclusions



8% of previously opioid-naïve patients 25 years or younger developed persistent opioid use

Initial opioid prescription increased the risk of new persistent opioid use 1.9 times

Initial opioid prescription increased the risk of opioid overdose 3.5 times



Take Home Message

Use of opioids should be limited in stone patients

