

A Pipe Dream? Opioid-free Anesthesia in Pediatric Urology

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Introduction:

- Opioids are associated with prolonged recovery times, postoperative nausea & vomiting (PONV), constipation, and pruritus.
- In 2018, Seattle Children's Hospital transitioned to opioid-free methods for outpatient urologic surgeries by using dexmedetomidine, ketorolac and regional anesthesia techniques.

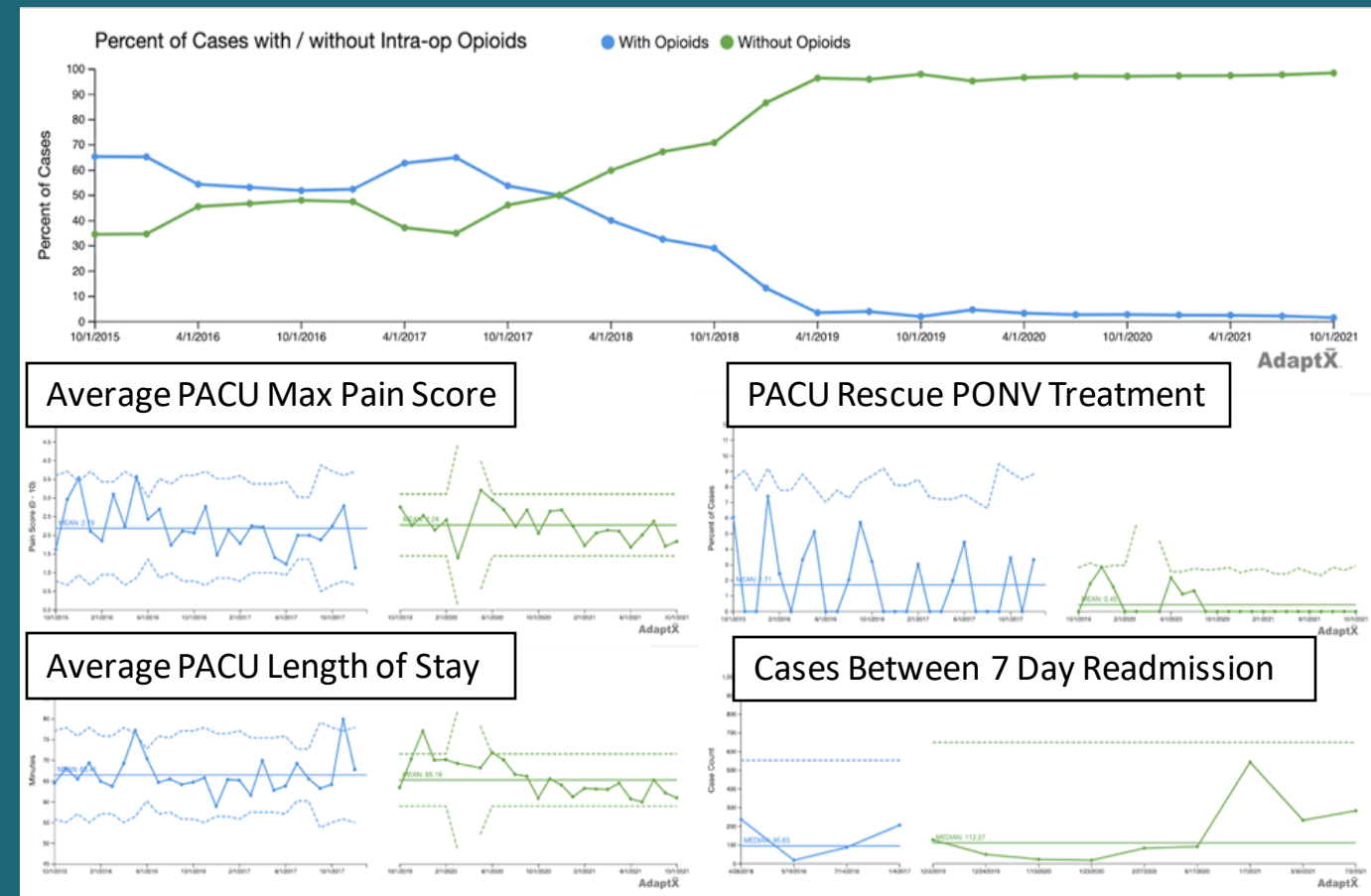
Objective:

- We aimed to examine for differences in postoperative pain, PONV, recovery length of stay, or 7-day readmission rates

Methods

- Study type: Quality Improvement project using real-world data from the EHR
- Population: Children (age 6 months - 20 years) who underwent urologic procedures at SCH's ambulatory surgery center from 2015-2021.
- Patients were stratified based on administration of opioids intraoperatively. Those who had surgery before or after 2018 were defined as the pre- and post-intervention groups, respectively.
- Outcome variables:
 - Postoperative pain scores
 - Recovery length of stay
 - Need for rescue PONV treatment
 - 7-day readmission rates

Characteristics	With Opioids (N=1050)	Without Opioids (N=1795)
Gender		
M	1024 (97.5%)	1754 (97.7%)
F	26 (2.5%)	41 (2.3%)
Average Age in Years (min, max)	6.4 (0 - 20)	3.6 (0 - 20)
ASA Score		
1	694 (66.1%)	1224 (68.2%)
2	344 (32.8%)	548 (30.5%)
3	10 (1.0%)	20 (1.1%)
Other	2 (0.1%)	3 (0.2%)
Race & Ethnicity		
Non-Hispanic White	524 (50.0%)	904 (50.4%)
Hispanic	147 (14.0%)	198 (11.0%)
Asian	102 (9.7%)	189 (10.5%)
2 or more	72 (6.9%)	157 (8.8%)
Other/Unknown	205 (19.5%)	347 (19.3%)
Average Weight in kg (mix, max)	27.8 (6.5 - 120.5)	20.2 (5.8 - 112.9)
Average BMI	17.8	18.2



Discussion:

While numerous studies have examined opioid-sparing techniques in adult populations, few have focused on pediatric patients. We demonstrated a decrease in opioid-related side effects with no increase in pain scores, recovery length of stay, or readmission rates with an opioid-free anesthetic during outpatient urologic procedures. This data support our hypothesis that there would be no difference in short-term outcomes.

Conclusion:

Opioid-free anesthesia for outpatient pediatric urologic surgeries is readily achievable, whilst providing non-inferior post-operative analgesia and vastly reduced PONV rates.

References:

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