Opioid Prescribing Practices after Pediatric Urologic Surgery

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30% increase in prescription opioid overdose deaths ages 15-24 years
U.S. opioid crisis is affecting children

Opioid-related overdose deaths ↑250%


Prescribing guidelines do not exist
Objectives

• To evaluate current prescribing practices after the most common ambulatory pediatric urology procedures
• To identify areas in need of improvement, with the goal of creating prescribing guidelines
Methods

2016-2017 opioid prescribing after...

Circumcision
Orchiopexy
Hernia/hydrocele
Opioids Prescribed

94% Circumcision

811 circumcisions

Mean number of doses: 21.5

97% Inguinal Surgery

883 hernia, hydrocele, orchidopexy

Mean number of doses: 23.5

75% of patients received 15 opioid doses or more
Mean number of opioid doses by age

- Age 0-2:
  - Circumcision: 23.05
  - Inguinal surgery: 25.92
  - n= 696

- Age 2-5:
  - Circumcision: 19.34
  - Inguinal surgery: 21.4
  - n= 280

- Age 5-10:
  - Circumcision: 16.8
  - Inguinal surgery: 20.6
  - n= 411

- Age >10:
  - Circumcision: 21.7
  - Inguinal surgery: 24.9
  - n= 254

p<0.01
Mean number of opioid doses by prescriber

Resident
- Circumcision: 24.6
- Inguinal Surgery: 25.1

Attending
- Circumcision: 21.8
- Inguinal Surgery: 26.7

n= 483
n= 520
Mean number of opioid doses by institution

![Bar chart showing mean number of opioid doses by institution for Circumcision and Inguinal Surgery.](chart.png)

- **Circumcision**:
  - Institution 1: 17.6
  - Institution 2: 23.2

- **Inguinal Surgery**:
  - Institution 1: 19
  - Institution 2: 25.8

- **Sample Size**:
  - Institution 1: n=611
  - Institution 2: n=1030

*p<0.01*
Mean number of opioid doses by year

- 2016: Circumcision = 22.7, Inguinal Surgery = 25.2

\[ p < 0.01 \]

n = 802

n = 839
Mean number of opioid doses by prescribing surgeon

![Bar chart showing mean number of opioid doses by surgery type and prescribing surgeon.](chart.png)
Increased opioid prescribing was associated with:

- Younger age (OR 0.907, 95% CI 0.87-0.94, P-value: <0.001)
- Pill form (OR 3.040, 95% CI 1.75-5.29, P-value <0.001)
- Earlier year (OR 0.691, 95% CI 0.53-0.89, P-value 0.005)
Conclusions

• 96% of children were given an opioid prescription after outpatient surgery
  – 75% received 15 doses or more

• Younger patients (<2 years) were prescribed the most
  – Followed by older patients (>10 years)
Future Directions

Multi-institutional engagement

Prescribing guidelines
Thank you
Children Are Vulnerable

Accidental ingestion

Intentional misuse and self-harm

5% of teens developed persistent use after surgery

Limitations and Future
Introduction

• Surgery is a leading cause of excess opioid prescription
• Opioids are not commonly safely stored or disposed of
  – Children at risk for accidental ingestion
  – Opioid overdose is increasing in children
• Prescribing practices are variable

1. Citation?
CIRCUMCISIONS

Opioids: 48
No opioids: 763

INGUINAL SURGERY

Opioids: 27
No opioids: 856
Results

- 811 circumcisions, 883 inguinal surgeries
- Graph with percentages receiving opioid
- Graphs with all results
- Include photos of baby, toddler, small kid, older kid