



#6539: Pediatric Orthopedic Surgical Patients Requiring Perioperative Consultations with the Complex Pain Service: A Registry Study

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INTRODUCTION

- ❖ The Perioperative Pain Service (POPS) at Hospital for Special Surgery (HSS):
 - Provides personalized pain management plans to patients undergoing orthopedic surgery
 - Provides care primarily to adult surgical patients and to vulnerable, surgical younger patients
- ❖ The Complex/Chronic Pain Service (CPS) arm of POPS optimizes patients who are:
 - Chronic opioid users
 - Have a history of substance use disorders
 - Have a history of uncontrolled pain
 - Patients who have an implanted device to manage chronic pain
- ❖ POPS creates personalized care and treatment plans for pediatric surgical patients with:
 - Complex pain needs
 - Psychiatric comorbidities
 - History of adverse effects to opioids/ family history of substance use disorder
- ❖ The purpose of this study was to identify and characterize the pediatric patient population requiring a CPS consult and describe their perioperative pain management plans.

METHODS

- ❖ After IRB approval, institutional data were extracted from an institutional Electronic Health Record based registry and the details below were used in the analysis.
- ❖ Inclusion criteria:
 - Pediatric patients, ranging from five to nineteen years old
 - Seen preoperatively and during admission by CPS from January 10th, 2022, to July 5th, 2024, at HSS
- ❖ Patients' preoperative and inpatient complex pain consult notes were reviewed
- ❖ Patient and case characteristics were extracted
- ❖ Descriptive statistics were used to summarize the findings

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Pediatric patients undergoing orthopedic surgery with specific pain management needs may benefit from personalized care offered by a perioperative Complex Pain Service.

Table 1. Patient Characteristics

Psychiatric co-morbidities, n (%)*	
Anxiety/Depression	7 (77.8)
Other (PTSD, Anorexia, ADHD)	5 (55.6)
Reasons for preoperative pain consult, n (%)*	
History of uncontrolled pain/ high-impact chronic pain	9 (100)
Adverse effects to opioids/ Chronic Opioid Use/ Family History of SUD	3 (33.3)
Active Prescriptions at PSS Pain Consult Visit, n (%)*	
Antidepressant (Duloxetine, Sertraline, or Fluoxetine)	6 (66.7)
Other (Gabapentin, Methocarbamol, Tramadol)	5 (55.6)
NSAID (Meloxicam, Diclofenac)	3 (33.3)

*Patients may fall into more than one category. ADHD = attention-deficit hyperactivity disorder; NSAID = nonsteroidal anti-inflammatory drug; PTSD = post-traumatic stress disorder; SUD = substance use disorder

Table 2. Case Characteristics

Surgical Procedure Types, n (%)	
Arthroplasty/ Arthrotomy Knee Reconstruction; Arthroscopy	3 (33.3)
Posterior Lumbar Fusion (2 Level)	2 (22.2)
Peri-Acetabular Osteotomy	2 (22.2)
Tendon Transfer	1 (11.1)
Gastrocnemius Recession	1 (11.1)
Opioid Prescription at Discharge, n (%)	
Average daily CPS visits, mean (SD)	2.1 (0.8)
Hospital Length of Stay (days), mean (SD)	3.9 (2.7)

RESULTS

- ❖ Nine patients met the study inclusion criteria
- ❖ Mean age at surgery was 15.9 years. Mean BMI was 25.4
- ❖ Patients were mostly female, White, and not Hispanic or Latino
- ❖ Reasons for a preoperative pain consult included (Table 1):
 - Uncontrolled or high-impact chronic pain
 - Significant family history of substance use disorder (SUD)
 - Active opioid use
 - Severe adverse effects with a previous opioid prescription, spinal cord stimulator, and medical cannabis use
- ❖ Most patients had at least one psychiatric co-morbidity and were taking antidepressants
- ❖ Inpatient pain management:
 - 56% received regional anesthesia
 - 78% received patient-controlled analgesia
- ❖ Average number of daily CPS inpatient visits was 2.1 (Table 2)
- ❖ Average length of hospital stay was 3.9 days
- ❖ Patient with chronic, active medical cannabis use had significant postoperative pain control issues:
 - Required extended PACU stay
 - Off-label dronabinol
 - Dexmedetomidine administration
- ❖ Most patients were discharged home with an opioid prescription
- ❖ Patient with a significant family history of SUD underwent an opioid-free surgery and did not receive opioids for postoperative pain control

DISCUSSION

- ❖ 9 pediatric patients required a CPS consult. Multimodal pain management plans were devised and personalized for all patients, included:
 - Education
 - Regional anesthesia where clinically appropriate
 - Patient-controlled analgesia
 - Continuation of gabapentin
 - Incorporation of dronabinol for patients who used medical cannabis
 - Twice-daily inpatient consults from POPS to monitor progress, adjust medications and provide psychosocial support
- ❖ Preoperative consults with pain specialists (those offered by POPS and other transitional pain services) may provide additional, targeted support to mitigate the risk of severe pain and reliance on opioids in younger, vulnerable surgical patients
- ❖ This study highlights that pediatric patients with complex pain needs undergoing orthopedic surgery can benefit from preoperative optimization

References →

