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Opioid Use After in situ Fixation of Slipped Capital Femoral Epiphysis

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Opioid Use After Screw Fixation of Slipped Capital Femoral Epiphysis

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INTRODUCTION

- Slipped femoral capital epiphysis (SCFE) is a common pediatric hip disorder primarily managed with *in situ* screw fixation [1].
- Opioid analgesia is often utilized postoperatively but there is little evidence to guide prescriptions.
- Pediatric and adolescent opioid exposure is correlated with future opioid abuse [2] and oversupply is a major contributing factor to the current opioid crisis [3].
- SCFE patients commonly report significantly improved pain postoperatively, likely secondary to physal stabilization.
- Hypothesis:** fewer than 10% of prescribed outpatient opioid doses will be utilized after SCFE fixation

METHODS

- Design: observational prospective cohort study
- Patient population: ages 8-17 who underwent *in situ* SCFE fixation
- Data collected: pain scores, prescriptions, and medication utilization (via postoperative surveys)

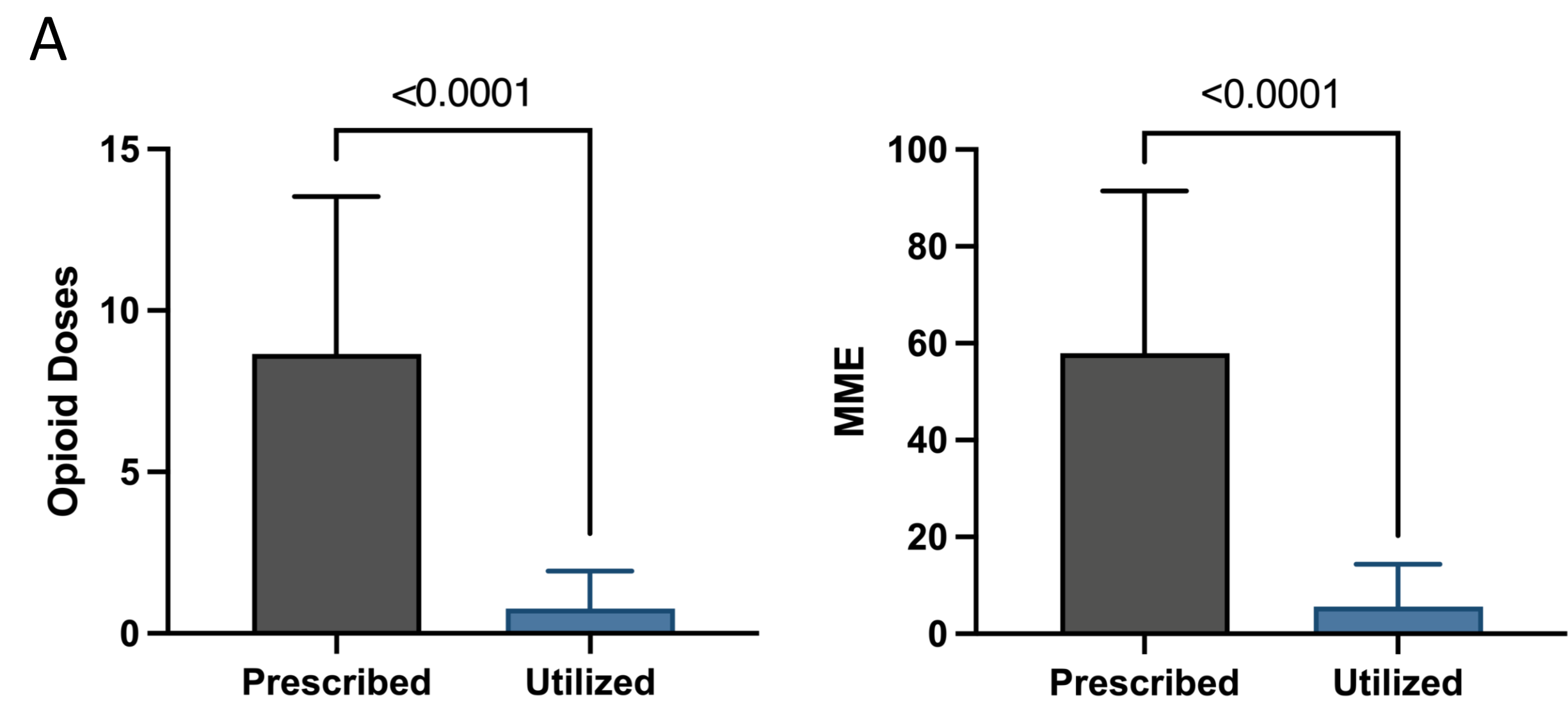


Figure A: bar charts of the average opioid amounts prescribed versus utilized. Whiskers indicate standard deviations. "MME" indicates morphine milliequivalents

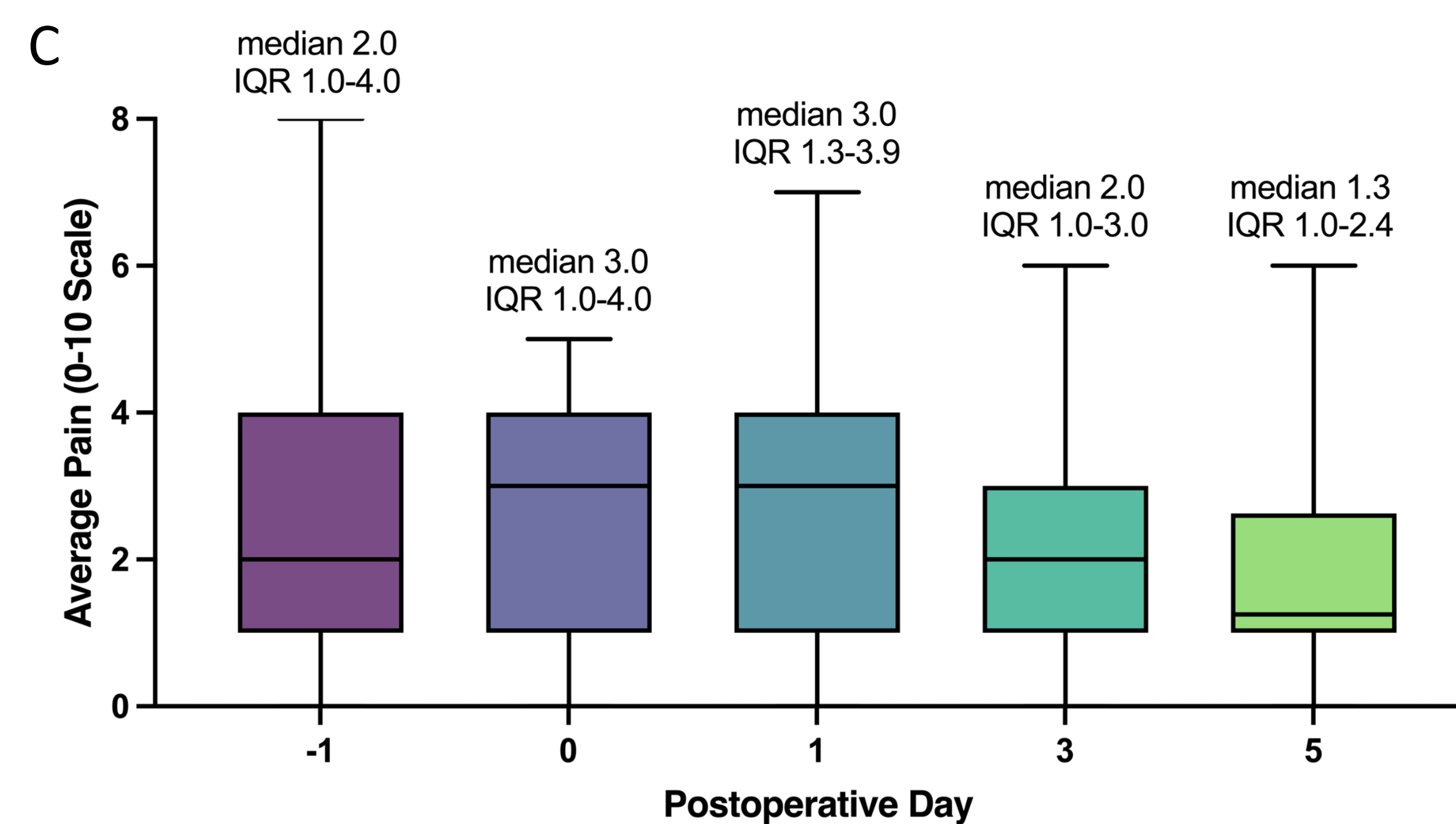


Figure C: box-and-whisker plots of average pain the day prior to (-1), day of (0), and days 1, 3, and 5 after surgery. Data points from days -1 and 0 data represent the 24-hour average of recorded inpatient pain assessments for that day. Data points from days 1, 3, and 5 represent average pain for that day as reported by the patient's caregiver

REFERENCES

- Loder RT, Dietz FR. What is the best evidence for the treatment of slipped capital femoral epiphysis? J Pediatr Orthop. 2012 Sep;32 Suppl 2:S158-65.
- Miech R, Johnston L, O'Malley PM, Keyes KM, Heard K. Prescription Opioids in Adolescence and Future Opioid Misuse. Pediatrics. 2015 Nov;136(5):e1169-77.
- Bicket MC, Long JJ, Pronovost PJ, Alexander GC, Wu CL. Prescription Opioid Analgesics Commonly Unused After Surgery: A Systematic Review. JAMA Surg. 2017 Nov 1;152(11):1066-71.

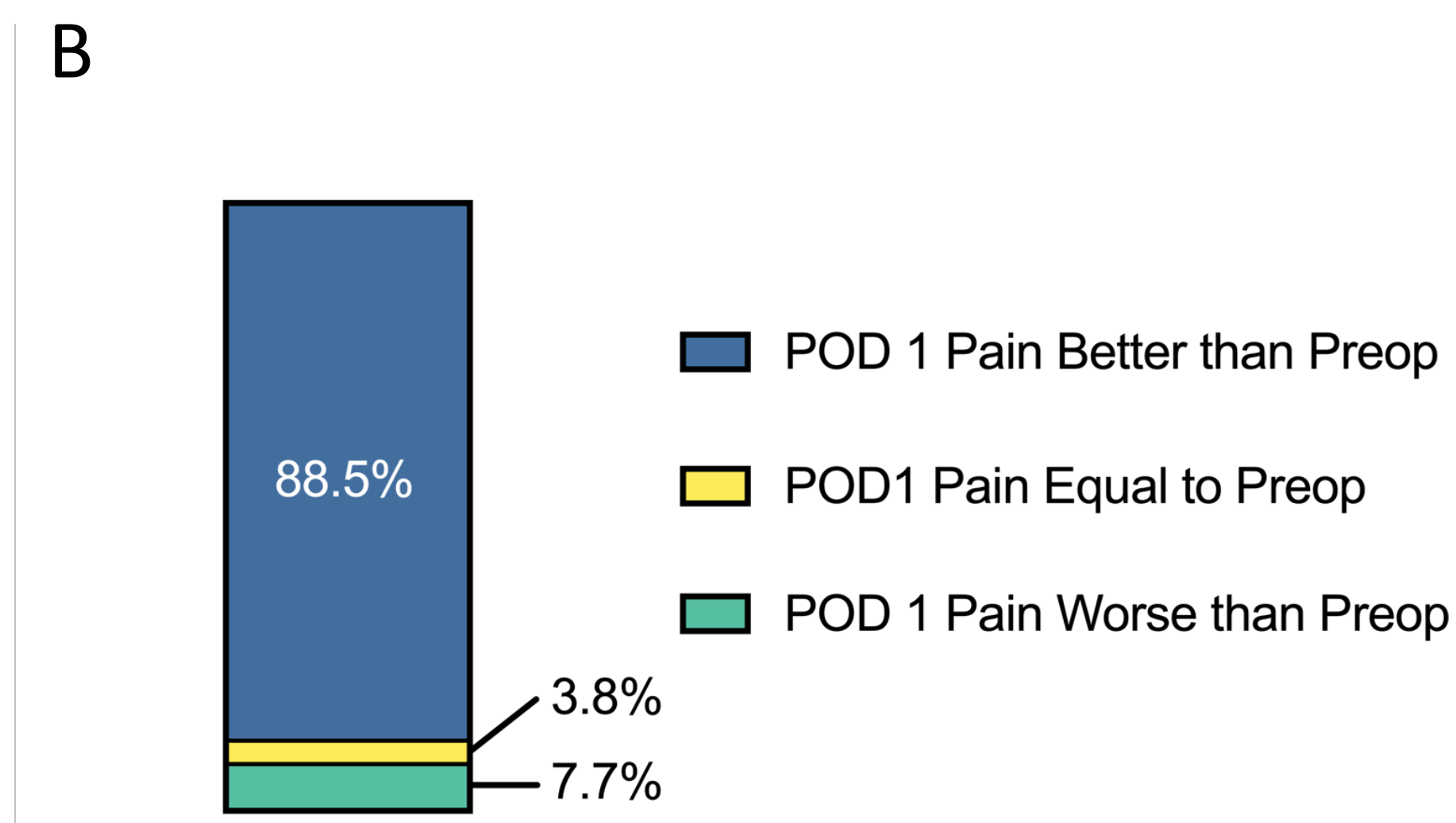


Figure B: parts-of-a-whole bar chart demonstrating caregiver-reported pain on postoperative day (POD) 1 compared to pain prior to surgery

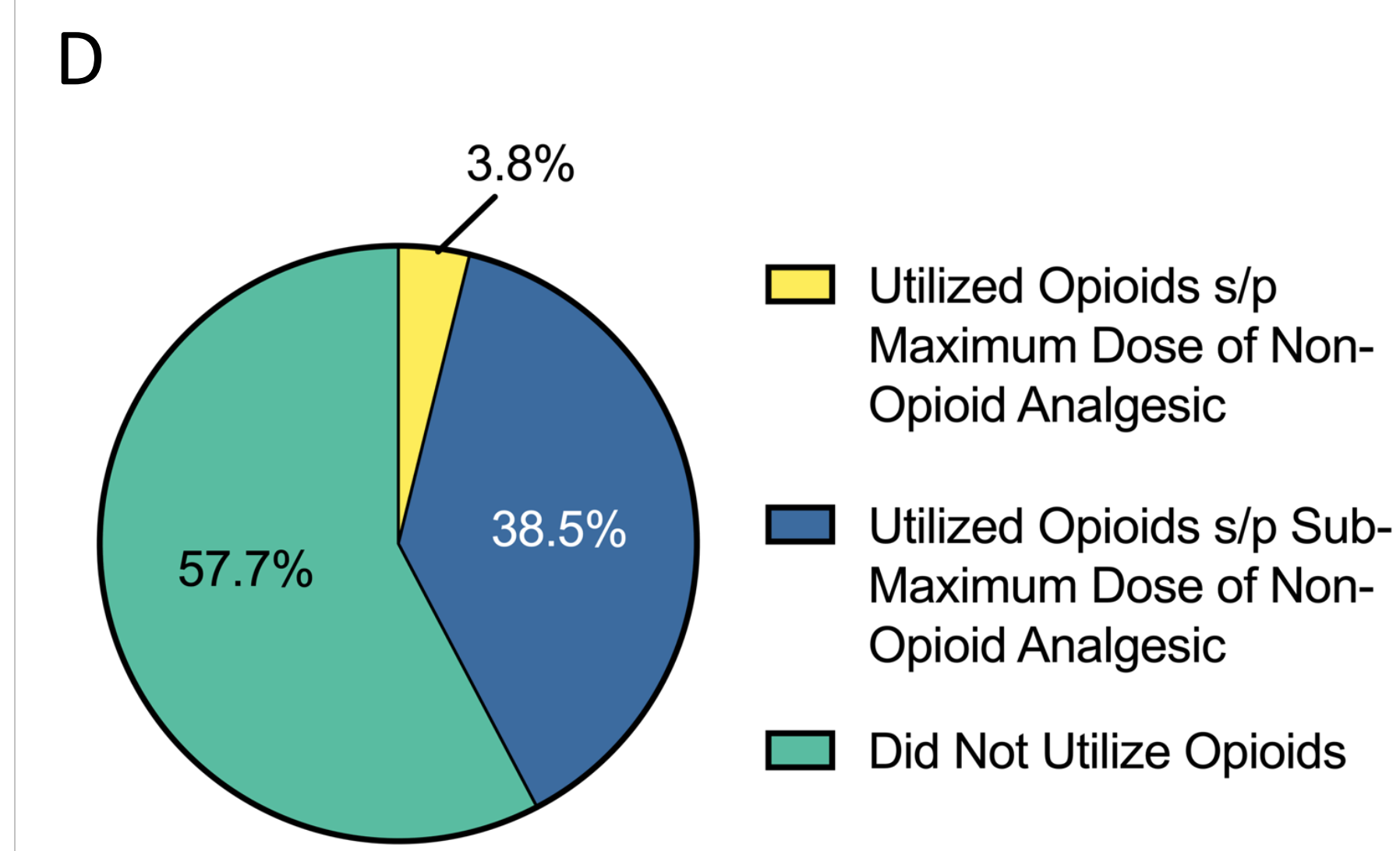


Figure D: parts-of-a-whole pie chart demonstrating the percent of patients who did not utilize opioids following discharge compared to the percent who did following receipt of maximum non-opioid analgesia and the percent who did following receipt of sub-maximum non-opioid analgesia. "s/p" indicates status-post

RESULTS

- 30 patients enrolled; 4 lost to follow-up; 26 included in analysis
- Mean age 12.4 ± 1.6 years; mean BMI 29.0 ± 4.6
- 3 unstable by Loder Classification; 4 had Southwick slip angles $>50^\circ$
- Maximum outpatient opioid doses taken by a single patient = 3
- 225 opioid doses (1,507.5 MME) prescribed; 20 opioid doses (146 MME) utilized ($p < 0.0001$) (Fig. A)
- Almost 90% reported improved pain on POD 1 compared to pain levels prior to surgery (Fig. B)
- Most pain scores stayed below 4/10 before and after surgery (Fig. C)
- Most patients who utilized opioids had not received the maximum dose of non-opioid analgesia (ibuprofen and acetaminophen) (Fig. D)

CONCLUSIONS

- Overprescription of opioids is occurring following this procedure
- Recommendation:** with adequate non-opioid analgesia, routine opioid prescriptions following screw fixation of SCFE are unnecessary

