

Effect of Patient and Provider Education on Post-operative Opioid Management

Erin Campaigniac, MD; Jacqueline Krumrey, MD; Taylor Harris, DO, MA, MS; Ryan Willen, DO;
Delaney Keane, DO; Olivia Pipitone, MPH

BACKGROUND

- Between 2013 and 2015 in the Linn-Benton-Lincoln County region, there was an annual rate of 11.6 deaths per 100,000 residents due to drug overdose¹ with 33,091 annual deaths nationally in 2015².
- Post-operative narcotic use has been shown to be a nidus for opioid addiction, regardless of surgical type, with over-prescription leading to overuse and diversion.³
- Previously, an observational pilot study was carried out at GSRMC in 2017-2018 that investigated post-surgical opioid use, knowledge, and disposal after selected orthopedic and general surgery cases.
- Of the 142 patients who completed the survey, less than half knew how to dispose of their medications and greater than two-thirds had unused medications after surgery.

OBJECTIVES

1. Improve orthopedic patient knowledge regarding proper narcotic use and disposal.
2. Decrease the number of opioid pain medications prescribed after surgery.
3. Evaluate the effectiveness of patient and provider education to decrease the opioid burden in our community.

METHODS

- Prescribing guidelines were compiled for carpal tunnel release (CTR), distal radius open reduction internal fixation (ORIF), and ankle open reduction internal fixation (ORIF).
- Five attending surgeons (three orthopedic trauma surgeons, two hand surgeons), fifteen orthopedic surgery resident physicians, and four physician assistants participated in clinician education.
- Patients answered a pre-operative telephone survey regarding opioid use and safe disposal.
- Directions regarding opioid safety and disposal were included in the patients' discharge instructions.
- A telephone survey was conducted 8 weeks after surgery.
- Questions included:
 - Did you fill your opioid prescription?
 - How many pills did you take/how long did you take your prescription?
 - How well was your pain controlled?
 - What did you do with extra opioid medications?

RESULTS

- 41 patients were included in this study
 - 24 patients underwent carpal tunnel release
 - 11 patients underwent distal radius ORIF
 - 6 patients underwent ankle ORIF
- 59% of patients had excess opioid medication after surgery

Table 1. Summary of post operative survey responses

	Carpal Tunnel Release	Distal Radius ORIF	Ankle ORIF
Average number of pills prescribed (Min, Max)	14.4 (5, 65)	55.8 (30, 90)	40 (30, 60)
Average number of pills taken after leaving the hospital (Min, Max)	8.5 (0, 65)	48 (1, 90)	26.2 (6, 45)
Average highest amount of pain experienced (Min, Max)	5.7 (1, 10)	8.5 (5, 10)	8 (5, 10)
How well pain was controlled			
Not very well controlled	2 (8.3%)	0 (0%)	0 (0%)
Somewhat controlled	2 (8.3%)	5 (45%)	3 (50%)
Very well controlled	20 (83.3%)	6 (55%)	3 (50%)
Had extra pills after surgery	15 (62.5%)	5 (45%)	4 (67%)
Patients who read the information that was included in discharge paperwork (Of those who received information at discharge)	14 (82%)	8 (100%)	3 (75%)

Figure 1. Patient management of unused opioid medication prior to pre-operative education

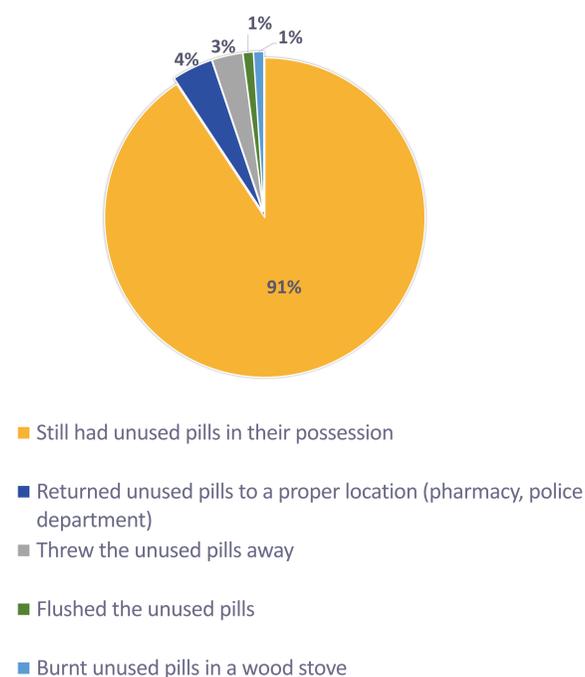
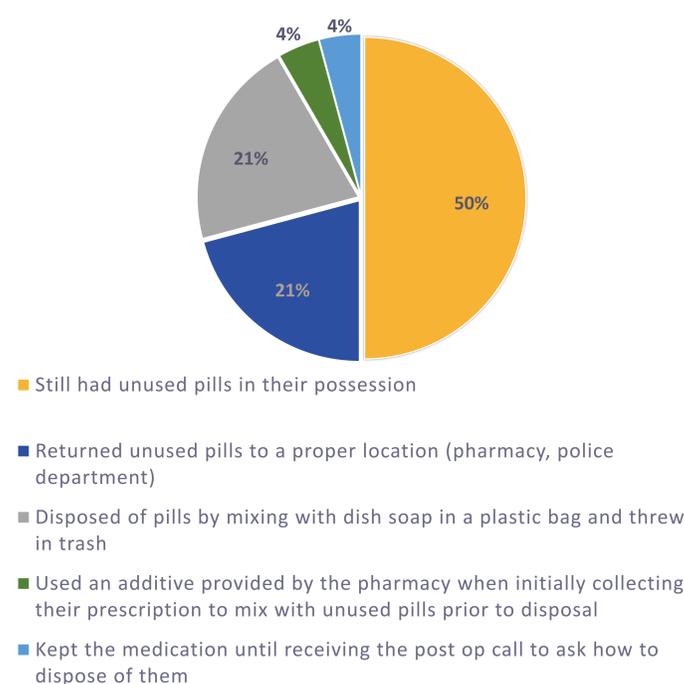


Figure 2. Patient management of unused opioid medication after pre-operative education



CONCLUSIONS

- Pre-operative education resulted in improved patient knowledge and safe disposal of opioid medication when compared to a previous observational pilot study.
- The results of the post-operative survey indicate many patients have excess opioid medications after surgery, which could help guide changes in future prescribing practices.
- A total of 275 opioid pills dispensed to our study population of 41 patients were unused (23% of all opioid medications dispensed). These medications are now susceptible to abuse or diversion.

FUTURE IMPLICATIONS

- Implementation of peri-operative opioid safety and disposal education during pre-operative clinic appointments and post-operative follow up.
- Assess effect of safe opioid use and disposal education to include additional surgical procedures and inpatients discharging from the hospital.
- Routine inclusion of "Safe Opioid Use and Disposal" smartphrase in discharge paperwork for inpatients.

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**Post-op pain management protocol recommendations developed from current protocols existing at East Bay Hand Medical Center (Dr. Andrew Stein, MD and Dr. Orrin Franko, MD; San Leandro, CA) and Dr. David L. Nelson, MD (Greenbrae, CA)