

# Implementation of Strategies to Reduce Improper Disposal of Opioids Following Orthopedic Surgery: A Pilot Study



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## BACKGROUND AND PURPOSE

- The opioid epidemic remains to be a challenging problem facing healthcare systems. Since opioids are often prescribed in greater quantities than patients consume, proper disposal of unused medications is crucial for the safety of both patients and the community.<sup>1</sup>
- In 2017, there were more than 47,000 estimated deaths involving an opioid overdose.<sup>2</sup>
- Orthopedic surgeons are the third highest prescribers of opioids.<sup>3</sup>
- It was reported that approximately 10.3 million people misused an opioid in 2018 in the United States, with more than half of people obtaining the medications from a friend or relative.<sup>4</sup>

## METHODS

- In an effort to combat improper disposal of opioids, a single ambulatory surgery center provided a Deterra® Disposal Pouch (DDP) to patients following their elective outpatient surgeries.
- Patients were given the bag at discharge in addition to instructions on its usage and purpose.
- All patients undergoing elective orthopedic surgery noted their opioid disposal technique via an automated survey 2-weeks post-operatively to compare pre-implementation (12/2018-02/2019) versus post-implementation (12/2019-02/2020) of the DDP.
- Data was compared for improper disposal (storing prescription, flushing down the toilet, etc.) versus proper disposal (DDP, dropped at police station/pharmacy/city-hall, etc.).

## RESULTS

- Prior to implementation of the DDP, 54.2% of patients disposed of their opioids improperly versus 45.8% properly, and following implementation, 49.1% disposed of their opioids improperly versus 50.9% properly (Table 1).
- This difference between 54.2% and 49.1% was not statistically significant, yet may be deemed clinically relevant (p=.502).
- Post-implementation, 21.3% of patients disposed of their opioids using the DDP.

|                          | Pre-DDP      | Post-DDP     |
|--------------------------|--------------|--------------|
| <b>Improper Disposal</b> | <b>54.2%</b> | <b>49.1%</b> |
| <b>Proper Disposal</b>   | <b>45.8%</b> | <b>50.9%</b> |
| <b>DDP Usage Rate</b>    | <b>NA</b>    | <b>21.3%</b> |

**Table 1:** Improper Versus Proper Opioid Disposal Following DDP Implementation.

## DISCUSSION

- There exists a large group of patients who dispose and/or store opioid medications improperly following orthopedic surgery.
- Comprehensive implementation and education regarding proper use of the DDP led to decreases in improper opioid disposal, with over 1 in 5 patients utilizing the new disposal method.
- Even with education regarding proper disposal of unused opioids following orthopedic surgery, many patients still disposed of their opioid medications improperly.

## CONCLUSIONS AND IMPLICATIONS

- This study provides valuable information about patient opioid disposal habits and an opportunity to further strengthen post-surgical education regarding proper disposal of opioids.
- This shows that patients are willing to adopt novel methods to dispose of their opioids properly. Additional efforts to educate staff, and therefore patients, about the DDP may further increase patient utilization rates.
- Perianesthesia nurses play an important role in educating patients about correct use and reasoning behind proper disposal of opioids. The authors recognize this data is preliminary, but further large-scale studies are warranted to study effective opioid disposal.

## REFERENCES

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