

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

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**Introduction:** The opioid epidemic remains a challenging problem currently facing healthcare systems. As opioids are often prescribed in greater quantities than patients consume, proper disposal of unused medications is crucial.

**Identification of the problem:** Literature suggests many patients who are prescribed opioids share medications with another person and that there is a lack of patient education regarding safe disposal of opioids.

**Purpose of the Study:** To analyze how the implementation of the Deterra® Disposal Pouch (DDP), and education regarding its use, may reduce the percentage of improper disposals of opioids following orthopedic surgery. Secondly, the study examined the patient utilization rate of the DDP after implementation.

**Methodology:** All patients undergoing elective orthopedic surgery at a single ambulatory surgery center noted their opioid disposal technique via an automated survey 2-weeks post-operatively. Pre-implementation (12/2018-02/2019) versus post-implementation (12/2019-02/2020) of the DDP were compared for improper disposal (storing prescription, flushing down the toilet, etc.) versus proper disposal (DDP, dropped at police station/pharmacy/city-hall, etc.). Patients not prescribed opioids, still taking opioids, or who had finished their opioid prescription at the time of the survey were excluded.

**Results:** Prior to implementation of the DDP, 54.2% (n=39) of patients disposed of their opioids improperly versus 45.8% (n=33) properly. Following implementation, 49.1% (n=53) disposed of their opioids improperly versus 50.9% (n=55) properly. Importantly, post-implementation, 21.3% (n=23) of patients disposed of their opioids using the DDP. This difference between 54.2% and 49.1% was not statistically significant, yet may be deemed clinically relevant (p=.502).

**Discussion:** The results suggest the effectiveness of implementing strategies to encourage proper disposal of unused opioids following orthopedic surgery, with important implications for reducing the negative, secondary effects of improperly storing and disposing of opioids.

**Conclusion:** 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.

**Implications for perianesthesia nurses and future research:** 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.