

## **A Prospective Evaluation of Pain Intensity, Satisfaction, and Analgesic Consumption Following Outpatient Fracture Surgery**

**Stuart Aitken, MD**

*MaineGeneral Medical Center, Augusta, Maine, UNITED STATES*

**Purpose:** The optimal balance between non-opioid and opioid medication for postoperative pain control after fracture surgery has yet to be defined. Responsible prescribing encompasses the provision of analgesic treatment that reduces pain, but minimizes the provision of potent opioids. This study was designed to assess the patient-perceived acceptability of current postoperative analgesic prescribing, and record corresponding patterns of non-opioid and opioid consumption. An opioid-limiting prescribing protocol was introduced midway through the study. The primary aim was to determine if any difference exists at the first postoperative office visit between pre- and post-protocol groups in terms of average pain intensity and satisfaction with pain relief.

**Methods:** This prospective cohort study included 96 adult patients (47% men, median 56 years) receiving outpatient surgical management of an extremity fracture (39% upper limb). Primary outcome measures of pain intensity and satisfaction (11-point numeric rating scale) were captured via questionnaire at the first postoperative office visit, and compared for pre-protocol and post-protocol participants. Power analysis determined that 90 participants would provide sufficient power to detect a clinically important difference in mean pain scores. Non-opioids were used as first-line analgesia, with weak opioid (tramadol, 12 pills) reserved for breakthrough and strong opioid (oxycodone, 8 pills) as rescue medication.

**Results:** No difference in outcome measures was noted following opioid-limiting protocol initiation (median pain score 4 pre-protocol vs 3 post-protocol; median satisfaction score 9 vs 10), despite a reduction in the variation, potency and duration of prescription opioid use. Participants' self-efficacy in response to pain had the greatest influence on pain and satisfaction (partial  $R^2 = 0.384$ ). One-third of patients used no opioid. A further third used a small number of pills for 1 or 2 days. One-quarter completed their limited opioid prescription. Overall, 80% of opioid-na participants consumed 12 opioid pills or less, and the office refill request rate was low (12%).

**Conclusion:** Postoperative prescription recommendations for fracture patients should be informed by examining how patients consume analgesics. For those deemed suitable for outpatient surgery, prescription opioids can be limited to 12 or fewer pills of tramadol for breakthrough pain without any discernible negative impact on reported pain intensity or satisfaction with pain relief.