

Prospective Evaluation of Opioid Use After Distal Radius Fracture Surgery: Understanding What Affects Consumption

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Background/Purpose: Postoperative pain management and opioid consumption following distal radius fracture repair surgery (DRF ORIF) may be influenced by a number of variables including fracture type, patient demographics, and anesthetic type. Overprescribing postoperatively potentially introduces excess opioids vulnerable to diversion and abuse. In order to optimize postoperative opioid dosage and better understand opioid consumption following DRF ORIF, a prospective study was undertaken with the hypothesis that opioid consumption would be lower with regional anesthesia, but higher with worsening fracture classification and various patient demographics.

Methods: All patients undergoing DRF ORIF were consecutively enrolled over a 6-month period. Information collected included patient demographics, fracture type, surgical technique, anesthesia type, amount and type of narcotic prescribed, number of pills taken, reason for stopping, and adverse events. Statistical analysis was performed.

Results: A total of 98 patients were eligible for inclusion in the study (average age of 58 years), consisting of 79 females and 19 males. Prior to morphine equivalent conversion, average opioid pill consumption was 15 pills and the average amount prescribed was 29 pills. Anesthesia type consisted of 45 patients with general anesthesia (GEN) and 53 with regional anesthesia (REG) with a single shot peripheral nerve block. The mean amount of opioid consumption calculated via morphine equivalence was 58.5 mg (range, 0-280 mg) for a mean of 4.8 days (range, 0-16 days) after surgery. Opioid consumption in the GEN group was 59.2 compared to 58.5 in the REG group ($P > 0.05$). Opioid consumption based on fracture classification consisted of mean morphine equivalence of 57.7, 60.3, and 62.0 for fractures with AO Class A, B, and C, respectively ($P > 0.05$). Analysis of patient demographics found that there was an inverse relationship between age and opioid use ($P < 0.05$). Similarly, there was a trend toward a higher opioid consumption among self-pay / Medicaid patients ($P > 0.05$).

Conclusion: Patients following DRF ORIF were routinely overprescribed opioids by approximately double than actually consumed postoperatively. Opioid consumption was equivalent irrespective of type of GEN or REG anesthesia. Worsening fracture classification demonstrated a trend toward increasing opioid consumption. In terms of patient demographics, opioid consumption decreased with increasing age. However, patients who were self-pay or had Medicaid were more likely to consume a greater amount of opioids. Surgeons should take these findings into account when prescribing postoperative opioids in order to avoid overprescribing.