

The James A. Rand Young Investigator's Award

## **Large Opioid Prescriptions are Unnecessary After Total Joint Arthroplasty: A Randomized Controlled Trial<sup>◇</sup>**

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**Introduction:** Opioids are an important component of multimodal analgesia, but improper utilization places patients at risk for overdose and addiction. The purpose of this randomized controlled trial is to determine whether the quantity of opioid pills prescribed at discharge is associated with the amount of opioids consumed or unused by patients after total hip (THA) and knee (TKA) arthroplasty.

**Methods:** 304 Opioid naïve patients undergoing THA or TKA were randomized to receive a prescription for either 30 or 90 5mg oxycodone immediate release (OxyIR) tablets at discharge. All patients received acetaminophen, meloxicam, tramadol, and gabapentin perioperatively. Daily opioid consumption (morphine equivalent dose, MED), number of unused OxyIR pills, and pain scores were calculated for 30 days after discharge with a patient-completed medication diary. Number of OxyIR refills and total MED received were recorded for 90 days postoperatively. Power analysis determined that 141 patients per group were necessary to detect a 25% reduction in means in opiate consumption between groups. Statistical analysis involved t-test, rank sum, and chi-squared tests with alpha=0.05.

**Results:** 161 Patients were randomized to receive 30 tablets and 143 to receive 90. In the first 30 days after discharge, the median number of unused OxyIR tablets was 15 in the 30 group versus 73 in the 90 group ( $p<0.0001$ ). Within 90 days of discharge, 26.7% of the 30 group and 10.5% of the 90 group requested a refill ( $p<0.001$ ), leading to a mean of 777.1 MED versus 1089.7 prescribed ( $p<0.0001$ ). There was no difference between groups in mean MED consumed and pain scores within the first 30 days. Baseline demographics and outcome scores were similar between groups suggesting appropriate randomization.

**Conclusions:** Prescribing a smaller number of opioids at the time of surgery is associated with equivalent pain scores and opioid consumption, yet a significant reduction in unused narcotics.

◇ The FDA has not approved gabapentin for acute postoperative pain.