

## **Initial Prescription Size Does Not Predict the Likelihood of Opioid Refill After Total Knee and Hip Arthroplasty**

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**INTRODUCTION:** Although opioid prescribing after surgery has decreased considerably in recent years, orthopedic surgeons continue to prescribe more opioids than many other specialties. This may partially stem from concern that patients will require prescription refills, thereby inconveniencing patients and burdening providers and staff. The present study was designed to test the hypothesis that there is no association between the number of pills prescribed and the likelihood of refill after total knee arthroplasty (TKA) and total hip arthroplasty (THA).

**METHODS:** We analyzed claims data from Clinformatics Data Mart (OptumInsight, Eden Prairie, MN) weighted to the U.S. privately insured population aged 18-64 and supplemented with national Medicare claims data for patients aged 65-75. Opioid-naïve patients between ages 18 and 75 who underwent elective primary THA and TKA between January 2015 and November 2019 were included. The primary outcome was refill of any prescription opioid medication within 30 postoperative days, and the primary predictor variable was the total opioids prescribed in the initial discharge prescription measured in oral morphine equivalents (OMEs). Logistic regression was used to estimate the likelihood of refill given a particular prescription size while adjusting for patient's age, gender, comorbidities, and year of service.

**RESULTS:** A total of 120,889 opioid-naïve patients were included (76,900 TKA, 43,989 THA). The 30-day refill rate was 59.6% for patients who underwent TKA and 26.1% for patients who underwent THA. Adjusted odds of refill decreased by 0.02 for every 10 tablets of 5 mg oxycodone increased among THA cohort (OR = 0.98, 95% CI 0.97 – 0.99), and decreased by 0.03 for the TKA cohort (OR=0.97; 95% CI 0.97 – 0.98).

**DISCUSSION AND CONCLUSION:** Opioid refill occurs in most patients after TKA and is common after THA. Despite concerns of providers, however, smaller initial prescriptions were not associated with a clinically meaningful increase in the likelihood of refill. Although many patients receive an opioid refill after TKA and THA, these data suggest that surgeons can provide smaller initial prescriptions without concern for increased refill requests.