New Persistent Opioid Use among Opioid-Naïve Patients following Total Joint Arthroplasty: Is there a Safe Quantity of Perioperative Opioids to Prescribe?

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INTRODUCTION:
Higher initial opioid dosing increases the risk of extended postoperative opioid use following total joint arthroplasty (TJA), but the safe number of opioids to prescribe for opioid-naïve patients is not known. The purpose of this study was to examine the relationship between perioperative opioid use and the risk of new persistent opioid use among opioid-naïve patients after total knee (TKA) and hip arthroplasty (THA).

METHODS:
In this retrospective cohort study, opioid-naïve patients who underwent primary TJA between 2018 and 2019 were identified within a large national commercial-claims insurance database. Patients with continuous enrollment for ≥12 months prior to and ≥6 months following surgery were included. Multivariate analyses adjusted for demographics, procedure, comorbidities, and surgical setting were performed to determine the association between perioperative morphine milligram equivalents (MME) and the risk of new persistent opioid use (opioid use >3 months postoperatively).

RESULTS:
Overall, 22,310 opioid-naïve patients (57.5% TKA) were included and 8.1% developed new persistent opioid use. Compared to patients who received <300 MME, patients who received ≥600 MME demonstrated a significant increase in the conversion rate from opioid-naïve to new persistent opioid use (4.4% vs. 8.5%, \( P < 0.001 \)). Multivariate regression analysis demonstrated a dose dependent association between perioperative opioid use and new persistent opioid use among patients who received ≥600 MME (\( P < 0.001 \)).

DISCUSSION AND CONCLUSION:
We found a dose dependent association between perioperative MME and the odds of developing new persistent opioid use among opioid-naïve patients following TJA. We recommend prescribing less than 600 MME (80 pills of 5mg Oxycodone) during the perioperative period to reduce the risk of new persistent opioid use.