



## Long-acting Opioid Use Independently Predicts Perioperative Complication in Total Joint Arthroplasty

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**Introduction:** Chronic opioid therapy is an increasingly utilized modality for treatment of osteoarthritis-associated pain despite multiple associated risks. The purpose of this study was to evaluate the effect of pre-operative opioid use on early post-operative outcomes following total joint arthroplasty (TJA). We hypothesize increased risk of complications associated with pre-operative opioid use, especially with long-acting opioids (LAO).

**Methods:** We retrospectively analyzed all patients who underwent primary TJA performed at a single institution. Patients were matched by age, gender, and procedure into 3 groups stratified by pre-operative opioid use (non-user, short-acting (e.g. Vicodin), long-acting (e.g. Oxycontin). Clinical outcomes assessed include length of stay, total in-hospital opioid use, distance walked postoperatively, and complications or revisions within 30 days.

**Results:** 174 patients were identified as matches (106 total hip, 68 total knee; mean age 60 +/-8.1 years). Comparing non-users, short-acting, and long-acting opioid users respectively, mean total mg of morphine equivalents administered in hospital was significantly higher (46mg vs 102mg vs 366mg;  $p<0.001$ ), 90 day complication rates were significantly increased (5.2% vs 19.0% vs 25.9%;  $p=0.01$ ), mean distance walked by post-operative day 1 was significantly lower (170ft vs 121ft vs 58.9ft;  $p<0.001$ ), and discharge to facility was significantly more likely (12.1% vs 27.5% vs 53.4%;  $p<0.001$ ). Length of stay was on average 1.2 days and 1.6 days longer for short-acting and long-acting opioid users respectively ( $p=0.005$ ). Compared to nonusers, preoperative LAO use was an independent risk factor in multivariate analysis in predicting discharge to facility (OR: 6.74, CI: [2.39,19.03],  $p<0.001$ ) and complication (OR: 6.15, CI: [1.46,25.95],  $p=0.013$ ).

**Conclusion:** Opioid use prior to primary total joint arthroplasty significantly increases peri-operative opioid use, complications, and length of stay. Alternative non-opioid pain management or earlier referral to orthopaedic surgeons may decrease the prevalence of preoperative opioid dependence and mitigate associated adverse perioperative outcomes.