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Title: *Acute Pain Management for Patients with an Opioid Dependence Disorder Receiving Buprenorphine or Methadone Compared to Patients After Orthopedic Surgery*

Abstract

Purpose Medications used for substance use disorder can complicate how well a patient's acute pain is controlled. This study will evaluate acute pain scores and medications used in patients being treated for substance use disorder and compare that to pain management after orthopedic surgery in patients without substance use disorder.

Methods This institutional review board approved the single center retrospective study that assessed pain management between patients being treated for substance use disorder and compared them to a control group of patients without substance use disorder that underwent orthopedic surgery. Patients included had to be admitted for at least 48 hours and receive at least one opioid medication. Patients with substance use disorder could be admitted for any reason, while the orthopedic surgeries used for the control arm consisted of total knee arthroplasty or hip arthroplasty. Hospice patients receiving opioid medication for end of life care were excluded from the study. Primary endpoints were average pains scores and morphine milligram equivalents over the first 48 hours. Secondary endpoint was the average morphine milligram equivalents prescribed upon discharge.

Results Total of the 60 patients were enrolled, 30 patients had history of substance use disorder and 30 patients had orthopedic surgery with no history of substance use disorder. Average morphine milligram equivalents between the groups was not significantly different (139.9 vs 96.6, p=0.889). Average pain scores between the groups were significantly different (7.96 vs 5.94, p=0.002).

Conclusions Patients with substance use disorder are not given a statistically different amount of morphine milligram equivalents for acute pain and have higher pain scores than patients without substance use disorder. This study had a small population size, and further studies are needed to confirm this result.