

# Ketamine Infusions for Pain Control in Acute Care: persistent opioid use analysis in medical vs surgical patient population

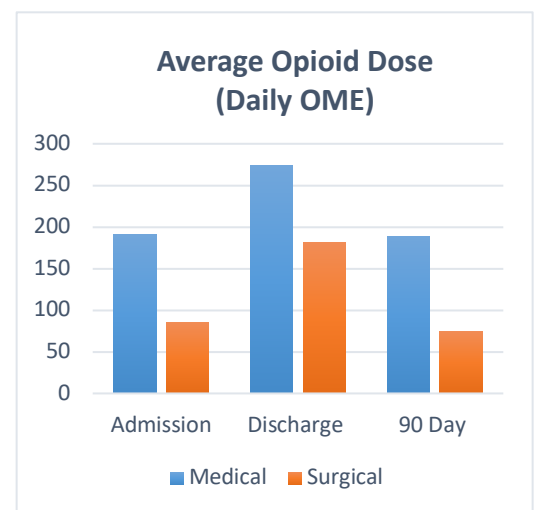
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**Introduction:** The Opioid crisis has prompted the medical community to seek the use of non-opioid modalities to treat pain. Recent consensus guidelines on the use of IV ketamine in patients with acute pain support the use of these infusions for the treatment of their pain in acute care settings<sup>1</sup>. Studies on opioid sparing properties of ketamine infusions received during surgeries, for pain control in emergency departments, and during hospitalization for patients with vaso-occlusive crisis have shown promise<sup>2-4</sup>. At Duke University we have extensive use of Ketamine infusions for acute and acute on chronic pain on inpatient floors. We conducted a retrospective review of Ketamine infusions used to treat the pain during inpatient stays.

**Methods:** All adult patients who received ketamine infusion for pain from Jan-Dec 2017 were evaluated. 510 unique patients (both medical and surgical) were identified. The surgical group was defined as having any type of surgery in the OR, while procedures, such as tracheostomy placement or exchange, preformed bedside were not considered surgical admissions. 394 of 510 patients were classified as surgical and 116 of 510 patients as medical. Ketamine infusions were given to achieve desired level of pain control or until intolerable side effects necessitated to stop infusion. The decision to use Ketamine infusions was made by Acute Pain Service or Critical Care attending, and were managed in accordance with institutional guidelines. Persistent opioid use at discharge and 3 months was derived from available electronic medical records. The daily dose of opioids was calculated by using maximum prescribed daily dose, and reported in Oral Morphine Milligram Equivalent (MME).

**Results:** The average MME on admission for the medical group was 191.3 while the surgical group was 86.7. On discharge, the medical group average MME is 274 and the surgical group is 181.4. At 90-days after discharge, the average MME for the medical group is 188.8 and 75.4 for the surgical group. The medical group had a 30.2% increase in average MME from admission to discharge, and a 1.3% decrease in average MME at 90-days after discharge. The surgical group had a 52.2% increase in average MME from admission to discharge, however, they had a 13% decrease from admission to 90-days after discharge.

**Conclusion:** Our retrospective review of Ketamine infusions for pain control elucidated persistent use of opioids at and after discharge in both medical and surgical patient groups. The opioid use among the medical patients was significantly higher than the surgical group. While there is an expected increase in pain medications, particularly opioids, during the postoperative period, the significant increase in opioids on discharge in the medical group in unexpected. At 90 days after discharge, the surgical group did have a greater decrease in baseline opioid use, whereas the medical group was close to baseline opioid use.



## References:

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