

# Return Rates For Opioid Versus Non-Opioid Management Of Abdominal Pain In The Emergency Department

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## Study Objectives:

Patients with abdominal pain comprise a large percentage of patients presenting to the emergency department (ED) and management of these patients can be challenging, especially when no indication for admission is identified. While opioids are often administered in the ED for this group of patients, research suggests this practice may contribute to long-term opioid use in some of these patients without significant long-term benefit with regard to symptom management. This study seeks to assess the association between the use of opioids for management of abdominal pain in the ED and return ED visits within 30 days for patients discharged from the ED at initial presentation.

## Study Methods:

We conducted a retrospective, multi-center observational study of adult patients presenting to and eventually discharged from 21 EDs with a chief concern of abdominal pain between November 2018 and April 2020. The patients were then sorted by the types of medication administered in the ED. The proportion of return visits to the ED within 30 days for patients who received any form of opioid analgesic was analyzed in relation to a reference group consisting of patients who only received acetaminophen, nonsteroidal anti-inflammatory drugs (NSAIDs), or a combination of both. Data were analyzed through the use of logistic regression models in order to calculate the odds ratios (ORs) and 95% confidence intervals (CIs).

## Results:

Of the 4,745 patients who presented to and were eventually discharged from the ED with abdominal pain, the mean age was 46 years (SD 19.2), and 63.2% were female; 78.1% were White, 8.0% Black, 5.6% Hispanic, 2.4% Asian/Pacific Islander, 0.4% Native American, and 5.4% other. Of these patients, 1,304 (27.5%) received opioids while 1,101 (23.2%) only received either acetaminophen, NSAIDs, or both. Of the patients in the opioid group, 287 (22.0%) returned to the ED for abdominal pain within 30 days, compared to 162 (14.7%) of those in the reference group (OR 1.57 [1.27-1.95], p-value <0.001).

## Conclusion:

Among patients presenting to the ED with abdominal pain, those given opioids were more likely to return to the ED within 30 days as compared to those given only acetaminophen and/or NSAIDs. While it is possible that patients who were in more severe pain received opioids and were therefore more likely to return to the ED, we believe this limitation is minimized by the fact that our study only included patients who were discharged from the ED, thus excluding any patients who had findings or symptoms significant enough to warrant admission. Our findings suggest that ED physicians should strongly consider the use of nonopioid analgesics as first line therapy for undifferentiated abdominal pain in the ED, especially in patients for whom discharge is anticipated, based on the association with lower return rates. Larger prospective studies are needed to further assess this association.