

## Introduction

Managing pain in the emergency setting has become more complex given we are in the midst of an opioid crisis. Lidocaine has proven to be an effective alternative to decrease pain in those presenting with renal colic. Intravenous lidocaine, when compared with intravenous morphine, was found to reduce renal colic pain faster and had a greater reduction in pain scores.<sup>1</sup>

Trinity Health has adopted the Alternatives to Opioid Use in Emergency Care (ALTO) guidelines to treat common causes of ED visits using non-opioid options. The ALTO pathway for renal colic includes using lidocaine, ketorolac, IV fluids and/or acetaminophen as first line treatment.

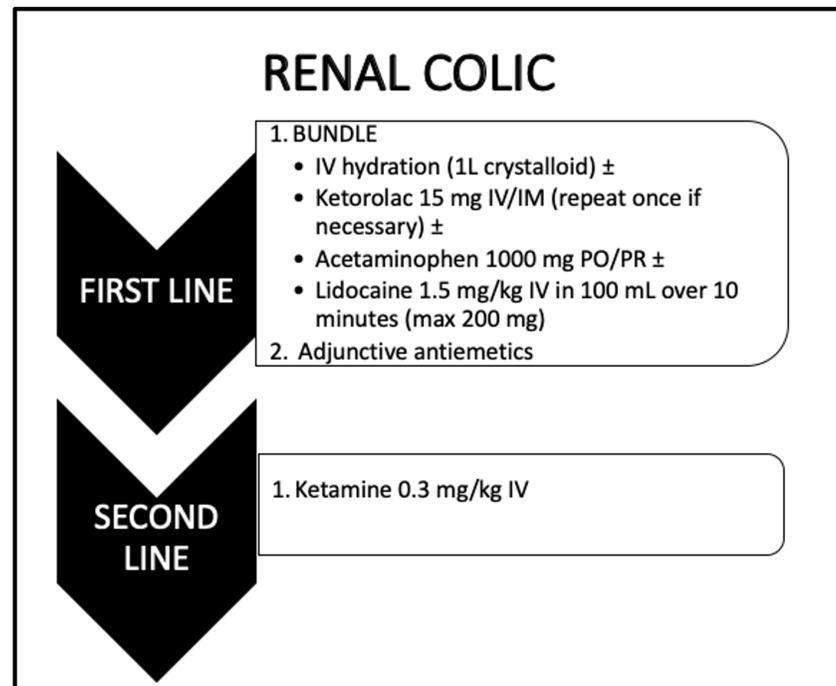
## Objective

**Evaluate if the ALTO pathway was followed and whether patients received opioids either in conjunction with IV lidocaine or as rescue analgesia**

## Methods

- This quality improvement project reviewed IV lidocaine orders for ED patients presenting with renal colic from 1/1/19 to 12/31/19
- Concomitant use of acetaminophen, ketorolac and IV fluids was also assessed to determine complete pathway use
- Other data collected included lidocaine dose given, documented pain scores, the use of opioids, the time opioids were ordered compared to the pathway, the order of medications given, opioid naivety and nursing notes

## ALTO Pathway for Renal Colic



## Results

n=19

Pathway followed	n (%)
IVF used	19 (100%)
Ketorolac used	17 (89%)
Tylenol used	4 (21%)
<b>Opioids used</b>	<b>15 (79%)</b>
Concurrently	4 (21%)
Prior to lidocaine	7 (37%)
After lidocaine	4 (21%)

## Discussion

- Opioids were used 79% of the time demonstrating low pathway adherence
- In the 21% of the patients that received the first line therapy bundle, no opioids were given indicating full pathway use provides adequate pain control
- In 37% of patients, opioids were given before lidocaine was administered which did not allow for determination of the efficacy of the pathway
- 21% of patients were given opioids after receiving lidocaine suggesting inadequate pain control
  - Not all of these patients were given ketorolac ± acetaminophen before opioids
- Limitations include:
  - No prompt for nursing to document pain scores when administering IV lidocaine
  - Low pain score documentation made it difficult to assess the full efficacy of IV lidocaine in treating renal colic pain
  - Due to lack of documented pain scores, it was difficult to tell if opioids were given as rescue analgesia

## Future Direction

- Educate nursing on the importance of documenting a pain score before and after administration of IV lidocaine and opioids
  - To improve pain score documentation, a prompt for nursing to document a pain score can be implemented within the EMAR
- Educate ED providers on the importance of following the ALTO pathway to spare opioid use

## References

1. Soleimanpour H, Hassanzadeh K, Vaezi H, et al. Effectiveness of intravenous lidocaine versus intravenous morphine for patients with renal colic in the emergency department. *BMC Urology* 2012 12:13.

**Disclosure:** Authors of the presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation: Kaitlin Farley: nothing to disclose; Isabella Reynolds: nothing to disclose;