**THERAPY MODULE**  
*Ketamine vs. Morphine for Analgesia in the Emergency Department*  
*A Randomized Controlled Trial*

**Objectives:**

After this therapy unit learning module, the student will be able to:

1. Recognize the key questions to evaluate the risk of bias in a randomized controlled trial.
2. Interpret the clinical significance of confidence intervals.
3. Describe the process for deciding on how to apply study results to clinical practice.

**Assignment:**

1. Read the attached scenario.
2. Read the attached guidelines for reading an article concerning therapy.
3. Critically appraise the attached article using the accompanying worksheet.
4. Describe how you would address the question regarding the patient’s management taking into account your review of the article.

**Clinical Scenario:**

The United States is in the midst of an opioid epidemic. According to the Center for Disease Control and Prevention, opioids (including prescription opioids) killed more than 42,000 people in 2016, more than any year on record. 40% of all opioid overdose deaths involve a prescription opioid.

You are working in a busy urban emergency department that has recently started a campaign to decrease its use of narcotic pain medicine for patients presenting for acute abdominal pain. One consideration suggested by your department chair was to begin using Ketamine as a first line agent for patients presenting with acute abdominal pain to your emergency department, as a recently quality review revealed that 95% of patients presenting to your department receive a narcotic pain medicine as a first line agent. The next patient you sign up for is a 35-year-old male with a chief complaint of abdominal pain that began one day prior to presentation. He has no past medical or surgical history, occasionally drinks alcohol, and has no allergies. His physical exam is significant for right lower quadrant tenderness that radiates to his right flank. He reports his pain as 7 out of 10 on a numeric pain rating scale.

As you return to the physician charting room to enter your laboratory orders and diagnostic imaging, you consider whether this patient would benefit from Ketamine to control his pain. You decide to explore the evidence comparing Ketamine to Morphine for patients presenting to the emergency department with acute abdominal pain.
PICO Question

**Population:** Emergency Department patients with acute abdominal pain  
**Intervention:** IV Ketamine  
**Comparison:** IV Morphine  
**Outcome:** Decrease in pain on a numeric rating scale, need for rescue analgesia, side effects

**Search Strategy:**

Since this is a therapy question, you first turn to the Cochrane Database of Systematic reviews and find no high-quality trials that compare Ketamine for Morphine since 1990. You recognize that you will need to look further and conduct a PUBMED Clinical Query (narrow/specific) for therapy using the search term “ketamine vs morphine for acute abdominal pain” and find 1 randomized trial addressing this question.

**Enclosed Materials:**


3. Worksheet for evaluating an article on therapy.