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Evaluation of a perioperative multi-modal analgesia approach in regards to enhanced recovery after surgery

Lima Memorial Health System, Lima, Ohio

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BACKGROUND:

- Opioid misuse and abuse continue to be a perpetual issue across the United States.
- Throughout surgical suites across the nation, pain management regimens are starting to adopt opioid sparing regimens to combat the current opioid dependency crisis.
- According to American Pain Society, Multi Modal Analgesia (MMA) uses a variety of analgesics that target different mechanisms of action in the peripheral and central nervous system.¹
 - Acetaminophen
 - Non-Steroidal Anti-inflammatory Drugs
 - Skeletal Muscle Relaxants
 - Gabapentinoids
 - Opioids
 - Regional nerve blocks with local anesthetics
- The benefit of MMA has been shown to decrease the need for post operative parenteral analgesia, to decrease the instances of gastrointestinal dysfunction and to decrease the average length of stay of surgical patients.²
- At Lima Memorial Health System (LMHS), the average number of inpatient and outpatient surgeries as well as average length of stay for these patients are shown in the chart below.

	Surgeries per day	Length of Stay
Total	19	2.71 days

PURPOSE:

- Due to potency variation between routes of administration and types of surgical procedures, this study will assess the impact on morphine equivalent doses (MED) scores in an acute care hospital setting to evaluate whether there is a significant decrease in the amount of post-operative narcotics used.

HYPOTHESIS:

- The implementation of a pre-operative MMA protocol will decrease post-operative MED scores, improve pain scores, and decrease length of stay.

METHODS:

Design: Historical controlled, single site, interventional study.

Duration: 8-12 weeks

Sample:

Inclusion	Exclusion
Adult (≥ 18 years old)	Minors
Inpatient surgeries at LMHS	Pregnant
Outpatient surgeries at LMHS	Nursing Mothers
	Emergent surgeries

Intervention:

- Pharmacist driven order set utilizing evidence-based medicine.
 - Order set simplified to incorporate recommendations from the American Society of Anesthesiologists.³
 - Ex: Switched from celecoxib to meloxicam to incorporate better cyclooxygenase-2 activity.
- Education of departments involved in the prescribing, dispensing and administration of the MMA order set.
- Retrospective review of charts of patients who received pre-operative intravenous acetaminophen and/or liposomal bupivacaine.

Outcomes:

Primary Outcomes • MED scores recorded 24 hours post-operatively

Secondary Outcomes • Pain scores recorded 24 hours post-operatively
• Length of stay for surgical patients

LIMA MEMORIAL (SETTING):

Affiliate: ProMedica (Toledo, OH)

Model type: Non-profit Acute Care Community Hospital

Electronic Health Record: Meditech

Total Beds: 329

Average Daily Census: 100

Level II Trauma Center



TIMELINE:



DATA ANALYSIS:

- Information will be de-identified prior to analysis.
- Data will be tracked and collected via the electronic medical record.
- Narcotics will be converted to MED to allow for comparability.
- The collected data will be input and analyzed by SPSS.

RESULTS:

- Research ongoing
- Results will be presented at the Ohio Pharmacy Residency Conference in May 2020

DISCLOSURES:

Authors of this 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:

Seth Wollenhaupt:	Nothing to disclose
Jeremy Ebert:	Nothing to disclose
Karen Kier:	Nothing to disclose

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