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### Culture Change in Post Operative Cardiac Surgical Pain Management

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# Culture Change in Post Operative Cardiac Surgical Pain Management

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## Abstract

- Current evidence-based practice supports use of multimodal analgesia and complementary therapies for acute post operative pain management.
- The Agency for Healthcare Research and Quality (AHRQ) (2019) has identified combating the opioid epidemic with better data, better research, better pain management, and better addiction prevention, treatment and recovery as an active key focus area.
- 8.1% of privately insured post operative coronary bypass surgical patients become new persistent opioid users (Clement et al., 2019).
- Additional risks of opioids include ileus, nausea and vomiting, and urinary retention (de Boer et al., 2017).
- Poorly controlled pain can lead to tachycardia, hypertension, increased circulating catecholamines, depressed mood, loss of appetite, poor mobility, poor pulmonary toileting compliance (Dai et al., 2020).

## Introduction

- Evaluate the current state of situational awareness of Morphine Milligram Equivalence (MME) and nursing knowledge of MME in the Heart and Vascular Critical Care Unit and Post-Op Telemetry Unit.
- Evaluate nursing staff use of complementary pain management strategies (guided imagery, music, M-technique, breathing techniques).
- Provide a tool in the electronic health record to calculate and graph MME provided in real-time.
- Provide education on complementary therapies, MME and the MME tool to nursing staff.
- Identify if nursing staff had an improvement in understanding of complementary therapies, MME and the MME tool.
- Identify if the total MME provided to patient's post intervention decreased while maintaining adequate pain control.

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## Methodology

- Obtain buy in of key stakeholders across disciplines involved
- Work with IT partners on fine tuning of MME application prior to go-live
- Provide Pre-Intervention Survey to nursing staff
- Creation of a menu of complementary techniques for patients
- Education of nursing staff on complementary techniques, MME and novel MME application in EHR
- Creation of educational videos for virtual training platform due to Covid-19 restriction
- Small group education in person to supplement videos
- Educational handouts and badge tags distributed

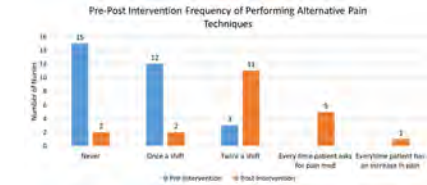
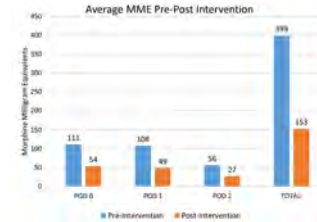
### QR Codes to Education



- Four-week intervention period during which nursing staff utilize complementary pain management strategies and go live of MME application within the EHR for awareness of opioid utilization
- Post Survey to nursing staff to assess intervention
- Collection and analysis of data from nurse survey and total MME received by patients pre and post intervention



## Results



- MME data collection of 15 CABG, CABG/Valve or Valve patients in sequence of surgery pre and 15 post intervention suggests significant decrease in MME provided post-operatively after the intervention
- Pain scores with adequate relief noted

**Pre-Intervention** survey of 31 nurse respondents concludes 1 of the 31 reported knowing what MME was, with 84% having no or slight situational awareness of MME their patients received.

**Post Intervention** survey of 21 respondents all reported knowing what MME is and how to calculate them, 80% reported moderate to high situational awareness with the MME app. Reported limitation to performing complementary techniques was lack of time during a shift.

## Conclusion

- Average daily and total stay MME's were significantly lower in the post-intervention patients.
- Nursing survey concludes increase in nursing situational awareness, knowledge of MME and use of complementary therapies post intervention.
- Limitation to this project includes a simultaneous change in practice with approval of IV Acetaminophen for use in post-op cardiac surgical patients that may have impacted MME data.