A Systematized Review: Perioperative Opioid Dose And Subsequent Opioid Use Disorder Among Opioid Naïve Patients After Surgery

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BACKGROUND

- Opioids prescribed after surgery can contribute to new persistent opioid use (NPOU) in opioid-naïve patients
- Few literature reviews assess the relationship between opioid dose exposure and risk of developing NPOU or other opioid disorders
- **Objective: This review assesses the relationship between opioid dose exposure, measured in morphine milligram equivalents (MME) and subsequent NPOU or other opioid disorder development**

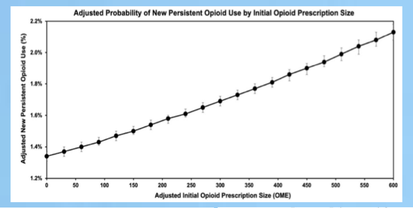
METHODS

- Databases searched: PubMed, Embase, CINAHL, Web of Science, ClinicalTrials.Gov, Cochrane
- Time frame: 1/1/2016-Present
- Title/abstract and full text screening with Rayyan program
- Backwards citation search to add additional studies
- Full-text data extraction with variables collected in a table of evidence
- Qualitative data synthesis done following SWiM guidelines
- Quantitative data matrices were used to organize and synthesize data
- QUIPS tool used to assess bias

16/18 papers found that higher perioperative opioid dose was associated with increased risk of new persistent opioid use or disorder

7/18 papers found a dose-dependent relationship: increased MME was associated with incremental increases in risk of NPOU

No universal threshold found



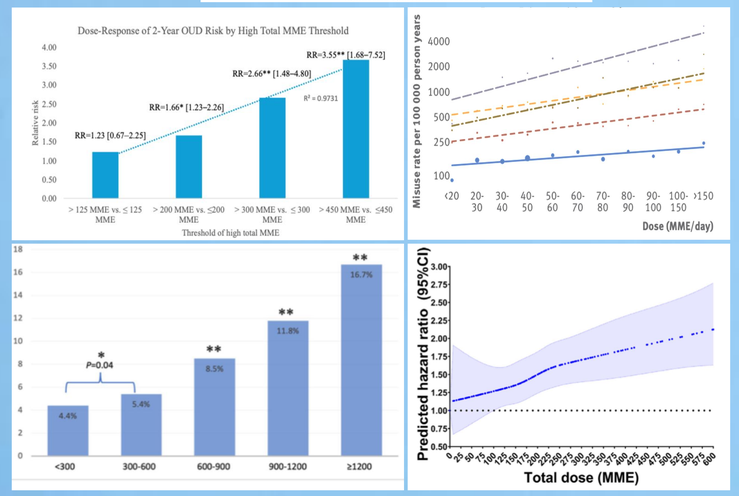


Figure 1 shows the combined graphs from 5 of the 7 papers that found a dose-dependent relationship between perioperative MME (total or daily) and development of prolonged opioid use or adverse opioid-related events

SCAN FOR MORE INFORMATION

DISCUSSION

- The findings of this review indicate the importance of limiting perioperative opioid dose when applicable
- Appropriate MME threshold exposure likely differs depending on surgery type, patient factors, and more
- Future reviews could investigate more prospective studies, RCTs, or more homogenous studies
- Limitations include:
  - Heterogeneity between studies
  - Largely retrospective cohort studies
  - Opioid prescription refills used as proxy for NPOU

CONCLUSIONS

- Most of the studies support a positive correlation between MME exposure and prolonged opioid use
- **Providers should be cautious when prescribing opioids for post-surgical pain management**
  - **Prescribe minimal dose needed**
  - **Consider alternative non-opioid analgesics**
  - **Avoid rapid escalation in dose**
- Future prospective and randomized studies are needed to further support these findings