

The Effect of Eliminating Preemptive Intraoperative Opioids on Discharge Times For Lower Extremity Arthroplasties

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Introduction

-Rapid discharges for lower extremity arthroplasties are difficult due to uncontrolled pain, nausea, vomiting, somnolence, etc. (many of these caused by opioids)
-No established protocols to guide administration of perioperative opioid use in lower extremity arthroplasties

OBJECTIVE:

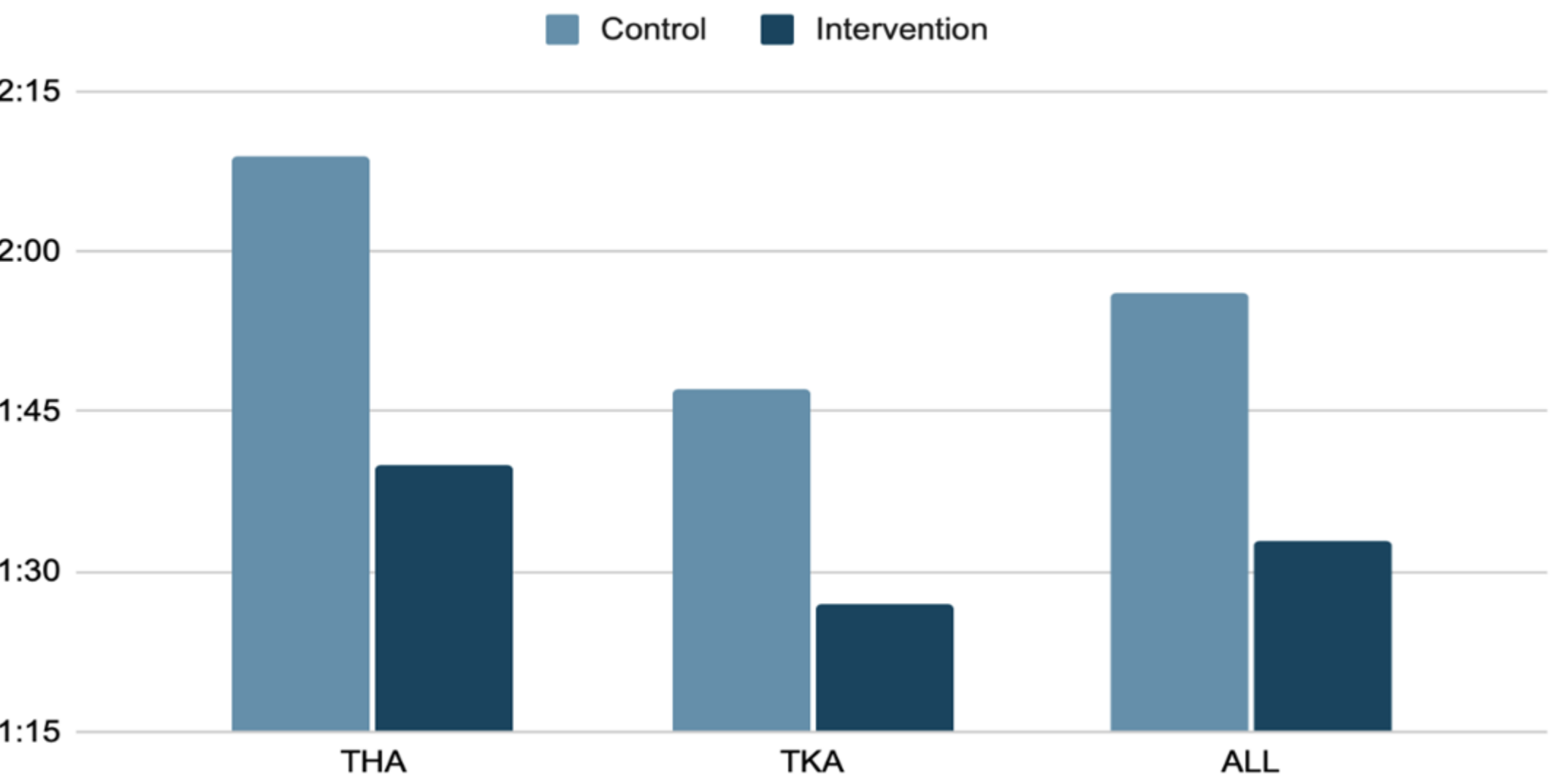
- Establish a perioperative protocol for total hip and total knee arthroplasties to minimize use of opioid medications and decrease phase 1 and phase 2 recovery discharge times

Methods

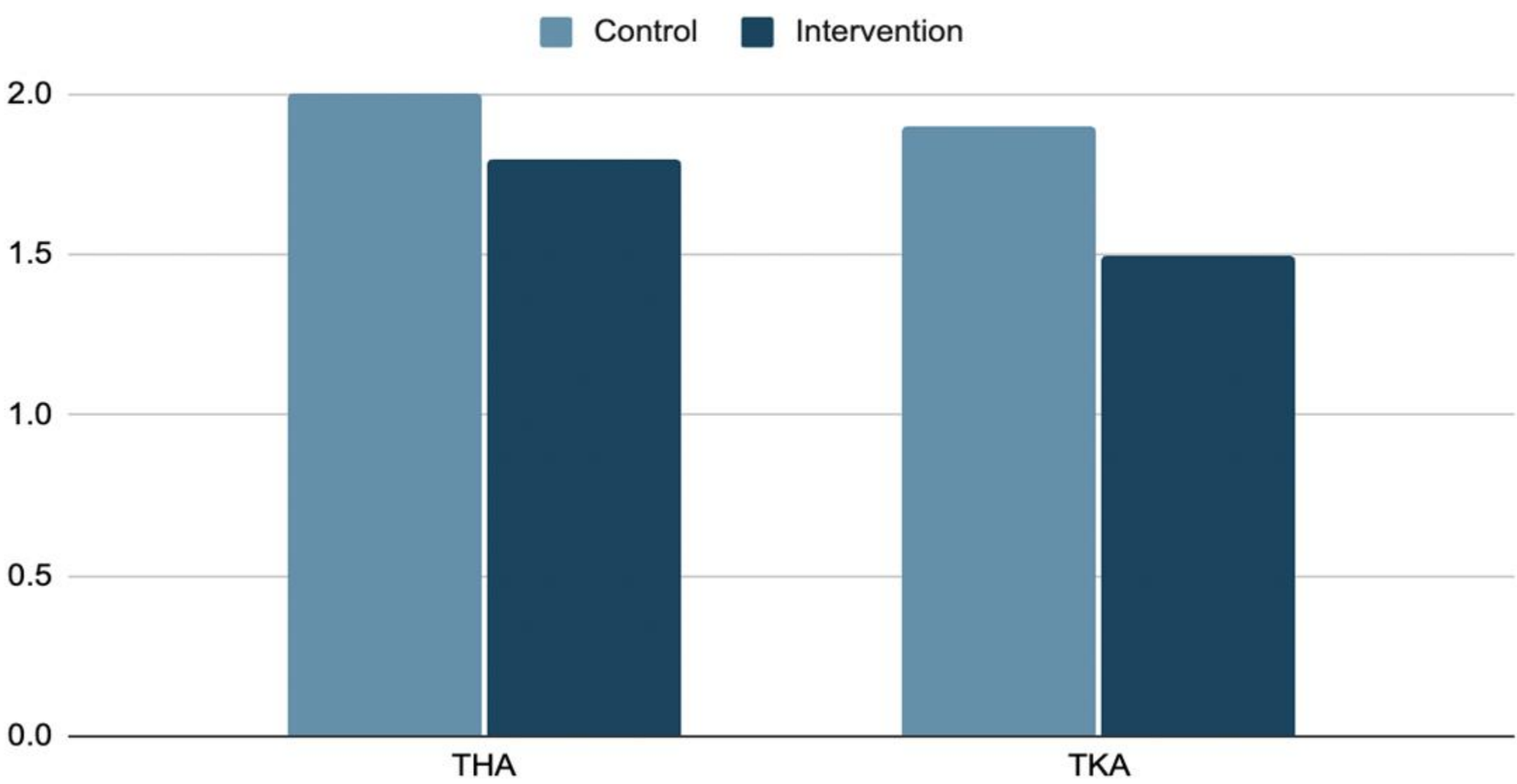
-Single center study
-557 patients over a 4 month span
-If no contraindication, patients underwent spinal anesthesia as the primary anesthetic and received tylenol, celebrex and regional anesthesia (PENG nerve block for THA and adductor canal, genicular and IPACK for TKA) in preoperative area
-284 patients in control group who received intraoperative opioids at the discretion of anesthesia provider in OR
-272 patients in intervention group only received intraoperative opioids if spinal anesthetic wore off (min dose opioid used)
-Both groups in PACU had opioid medications titrated to patients' needs.
-Outcomes include phase 1 and 2 discharge times, opioid doses received perioperatively and pain scores

Figures

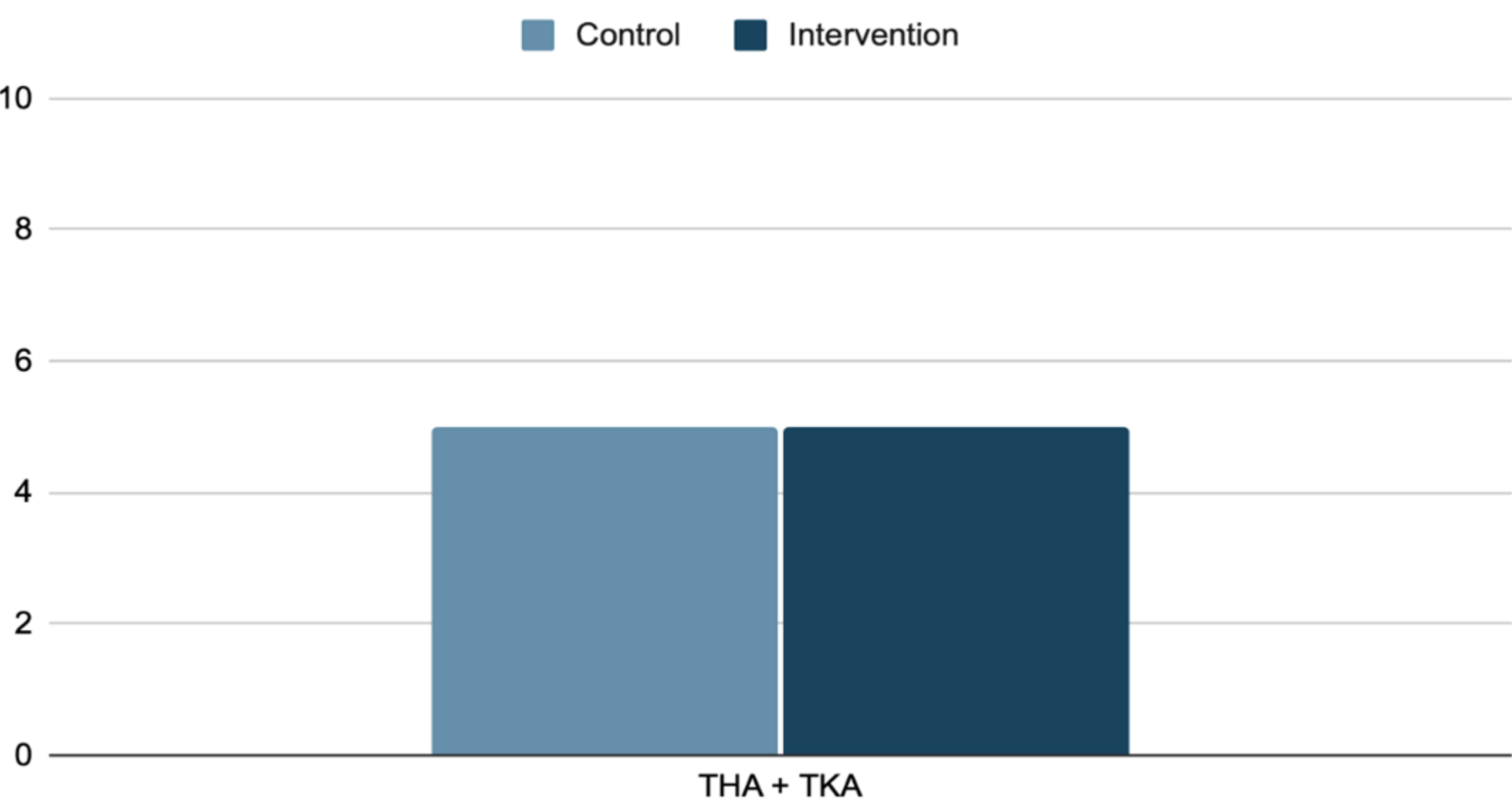
Phase 2 Length of Stay



Phase 1 and 2 Opioid Doses Administered



Average Pain Score in PACU



Results

-Significant reduction in recovery time between the two groups, with the intervention group having a reduction of 26 minutes (1:56 h vs. 1:33 h)
-75% reduction in patients that stayed in the recovery unit for over 4 hours in the intervention group (11 vs. 45)
-No increase in amount of opioid doses administered in PACU or increase in PACU pain scores in intervention group
-45 opioid free patients for total operation compared to 92 opioid free patients in intervention group

Discussion

-Our study demonstrates that administering preemptive intraoperative opioids can prolong PACU discharge times in patients undergoing lower extremity arthroplasties
-Additionally, since there was no increase in opioids administered in PACU and pain scores were the same for all patients in the study, it brings into question whether there is any utility in giving intraoperative opioids to these patients
-Future directions of study includes developing a protocol for THA and TKA patients for optimal opioid administration in PACU

References:
1) Hannon, C. P., Fillingham, Y. A., Nam, D., Courtney, P. M., Curtin, B. M., Vigdorchik, J. M., ... & Sterling, R. S. (2020). Opioids in total joint arthroplasty: the clinical practice guidelines of the American association of Hip and knee Surgeons, American society of regional anesthesia and pain medicine, American Academy of orthopaedic Surgeons, Hip society, and knee society. *The Journal of Arthroplasty*, 35(10), 2709-2714.
2) Goplen, C. M., Verbeek, W., Kang, S. H., Jones, C. A., Voaklander, D. C., Churchill, T. A., & Beaupre, L. A. (2019). Preoperative opioid use is associated with worse patient outcomes after total joint arthroplasty: a systematic review and meta-analysis. *BMC Musculoskeletal Disorders*, 20(1), 234.
3) Halawi, M. J., Grant, S. A., & Bolognesi, M. P. (2015). Multimodal analgesia for total joint arthroplasty. *Orthopedics*, 38(7), e616-e625.