Get Your ERAS Moving: Implementation of an ERAS protocol for urologic surgery patients

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PROBLEM STATEMENT
- Patients who receive open urologic surgery at a local VHA hospital demonstrated a greater than average length of stay (LOS) of seven days or more due to uncontrolled pain and other complications
- Uncontrolled pain leads to inappropriate opioid prescribing and potential for opioid abuse
- Persistent opioid use after major surgeries is 6.5%

PROJECT PURPOSE
- Mean hospital length of stay can be decreased by 1/3 when using a **comprehensive** Enhanced Recovery after Surgery (ERAS) protocol compared to standard care
- Determine whether the implementation of an **intraoperative** ERAS protocol for open urologic surgery patients will decrease postoperative pain scores, postoperative nausea and vomiting (PONV), hospital LOS
- **Clinical Question:** For patients undergoing open urologic surgery at a large urban veterans' hospital, will the implementation of an **intraoperative** anesthesia ERAS protocol decrease postoperative pain scores and PONV in PACU and hospital LOS compared with postoperative pain scores, PONV and hospital LOS for patients receiving conventional anesthesia care within four months post-protocol implementation?

MODEL/NURSING THEORY
- QI model
  - Model for Improvement
- Lewin's Change Theory
  - Unfreezing, change and refreezing

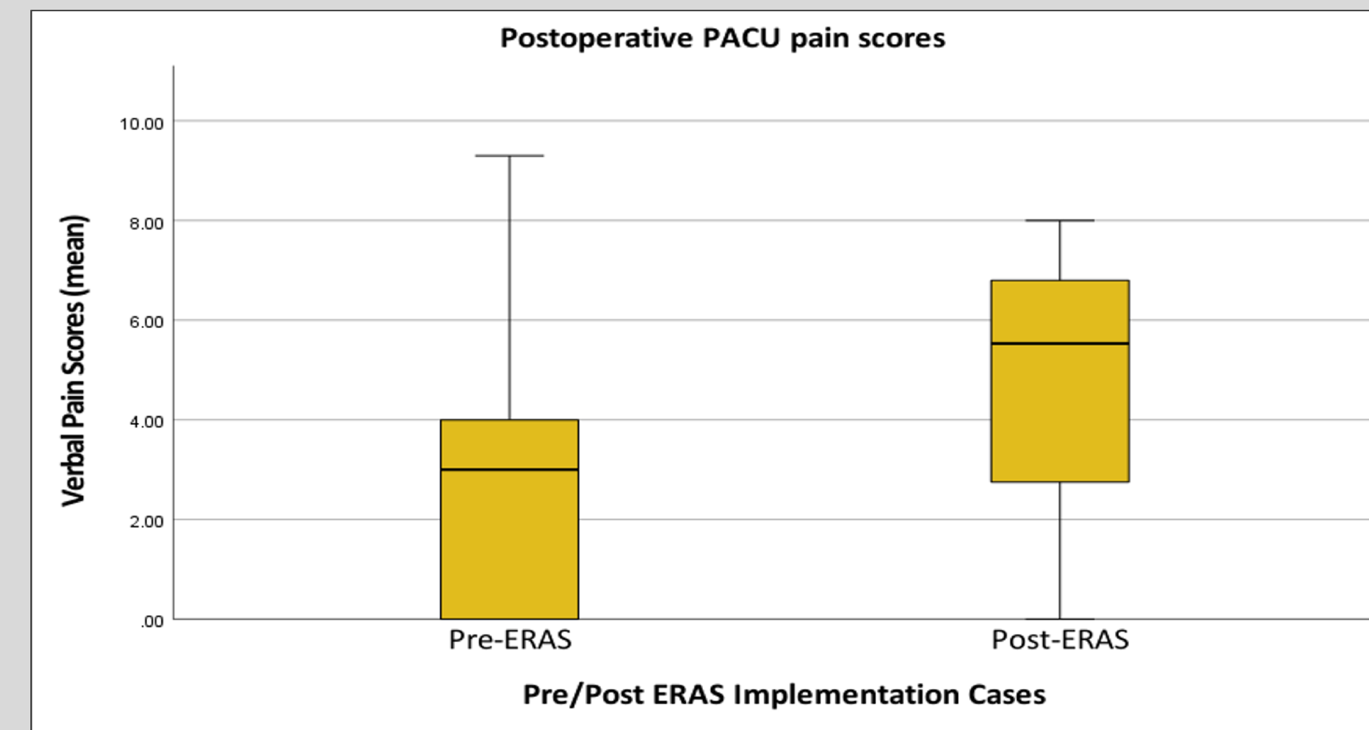
METHODS
- **Participants**
- Adults ages 18 and older scheduled for open urologic surgery
- Types of surgery: Open cystectomy, prostatectomy, cysto-prostatectomy, radical and/or partial nephrectomy
- Exclusion criteria: History of chronic pain and/or receive chronic opioid analgesics, spinal cord injury, and patients directly admitted to the surgical intensive care unit postoperatively

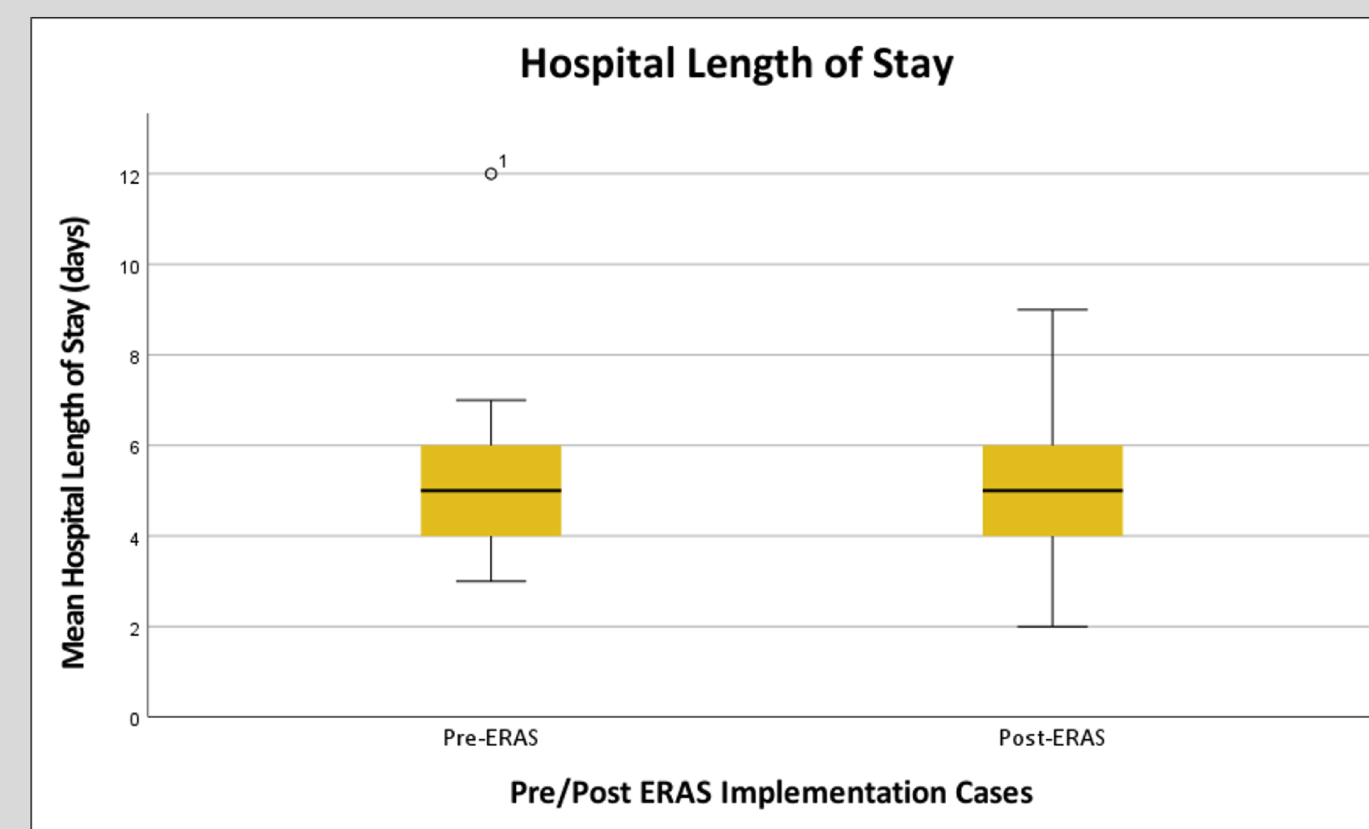
- **Setting**
- Operating room and PACU in a large, urban VHA hospital

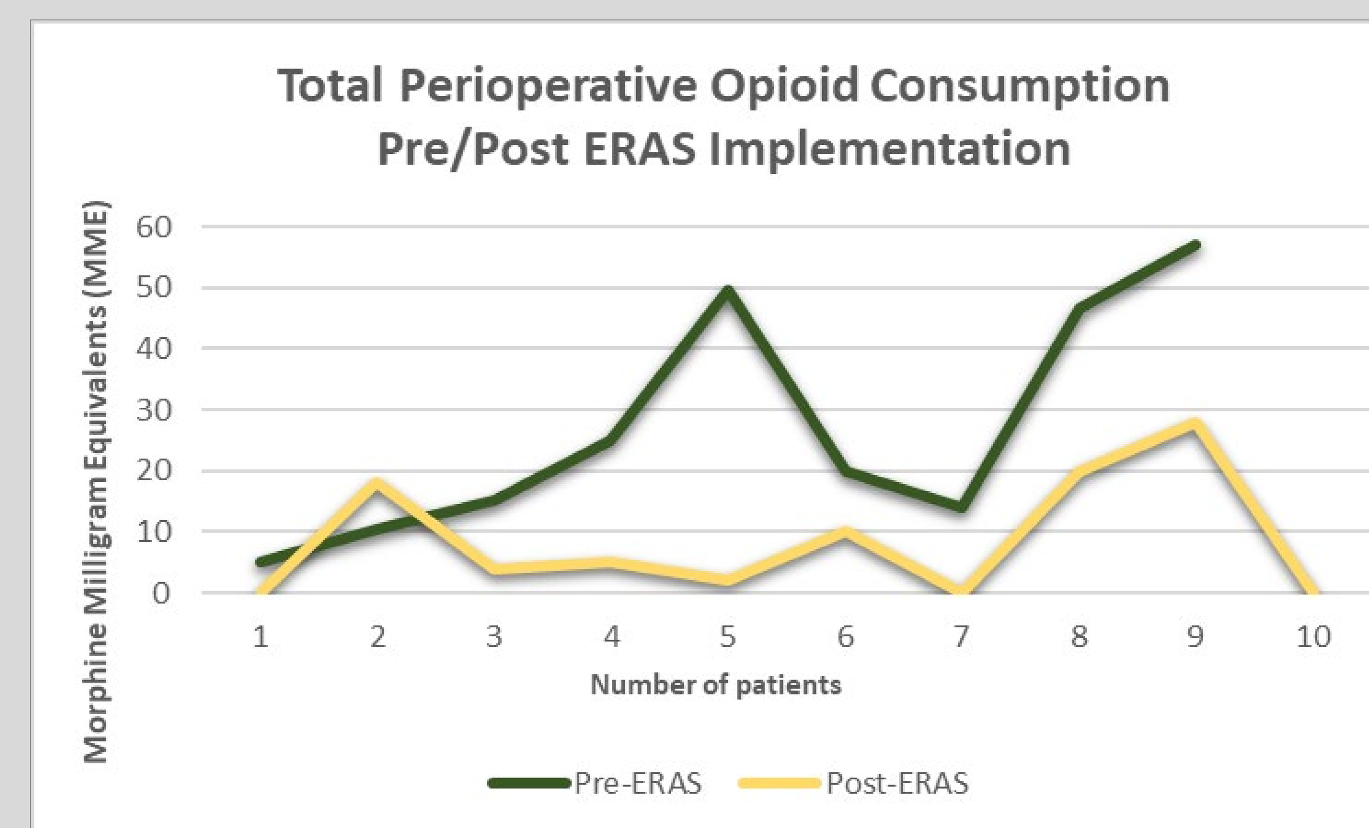
- **Instruments/Tools**
- Numeric rating scale (NRS), the numeric version of the visual analog scale (VAS) to measure pain scores
- Positive PONV identified when rescue antiemetics administered in PACU
- Hospital LOS measured by subtracting the admission date from the discharge date per JC guidelines

- **Intervention and Data Collection**
- Retrospective chart review of open urologic surgery cases four months prior to protocol implementation
  - Data/Outcomes measured: Anesthesia technique (ERAS vs. no ERAS protocol), PONV in PACU, verbal postoperative pain scores in PACU, and hospital LOS
  - Secondary outcome: Perioperative opioid consumption compared pre/post ERAS
- Development of an **intraoperative** ERAS protocol containing guidelines for total intravenous anesthesia (TIVA), opioid-sparing techniques, patient warming goals, PONV prophylaxis, goal-directed fluid therapy, hemodynamic management and PACU order instructions to minimize opioids postoperatively
- Inservice for the GU, Anesthesia and PACU departments
  - ERAS resource team created to assist anesthesia providers with setup and adherence to protocol
- Implementation of the intraoperative ERAS protocol for a 4-month time period

RESULTS







No antiemetics administered in PACU Pre/Post ERAS

DISCUSSION
- Implementation of an **intraoperative** ERAS protocol for open urologic surgery did not produce a statistically significant decrease in pain scores and hospital LOS ($p=0.278$, $p=0.720$)
- Secondary outcome: Utilization of an **intraoperative** ERAS protocol demonstrated a statistically significant decrease in perioperative opioid consumption by **65%** ($p=.017$)
- Results of this project indicate that a **comprehensive** ERAS protocol is superior to an **intraoperative** protocol

IMPLICATIONS FOR ADVANCED PRACTICE NURSING
- Anesthesia practice is evolving as more providers strive to administer opioid-free/sparing anesthesia to improve patient outcomes
- Surgeon satisfaction with postoperative outcomes after the **intraoperative** protocol implementation creates the potential for protocol expansion to other surgical services and development of a **comprehensive** ERAS protocol

SUSTAINABILITY
- Facility has committed to implementing preoperative and postoperative ERAS protocols to evaluate the outcomes of a comprehensive ERAS protocol for open urologic surgery
- Interdisciplinary collaboration with nursing, surgery, and dietary ensures compliance and sustainability
- Continued audit of ERAS surgery records
- Development of an ERAS standing order set

REFERENCES

Implementation of an intraoperative ERAS protocol did not demonstrate a statistically significant reduction in PACU pain scores, PONV and hospital LOS when compared to standard anesthesia care

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