

Postoperative Enhanced Recovery After Surgery (ERAS) Protocol Implementation

Michael Levan, DNP, CRNA, APRN and Ken Wofford, PhD, CRNA

PROBLEM STATEMENT

- Approximately 136 people die every day in the United States related to substance abuse
- More than 10% of veterans seeking care meet substance abuse disorder criteria
- Important to reduce/eliminate the need for postoperative opioids which prevents substance use disorders in veterans, especially those with a prior history of mental illness

PROJECT PURPOSE

- Initiate a postoperative Enhanced Recovery After Surgery (ERAS) protocol to decrease exposure to opioids and lower LOS
- **AIM:** Provide guidance for preventing and managing pain
- **Clinical question:** Will a postoperative ERAS protocol for veteran open urologic surgical patients improve LOS and decrease pain scores compared to current practice over a four-month period?

MODEL/NURSING THEORY

- ERAS protocols models Kurt Lewin's nursing theory in that unfreezing, movement, and refreezing occur
- **Unfreezing stage:** key stakeholders are educated on current data regarding current pain scores and LOS
- **Movement stage:** incorporate ERAS protocol
- **Refreezing stage:** reinforce ERAS protocol and share outcomes

METHODS

- **Population:** Veteran patients scheduled for open urologic surgery
- **Setting:** Large, urban VHA hospital
- **Intervention:** ERAS Protocol (Figure 1)
- **Measures:**
 - **Hospital Length of Stay (LOS)** reviewing the EMR counting days from surgery date to discharge
 - **Pain Scores** assessed with the numeric pain rating scale (NRS) on PACU admission and discharge (Figure 2)

Figure 1. ERAS Protocol

Intervention	Practice Options
IV Fluid Therapy	<ul style="list-style-type: none"> ➤ Avoid salt and water overload ➤ Goal directed fluid therapy ➤ Recommended fluid rate & duration ➤ Consider isotonic buffered solution ➤ Allow PO intake in place of IVF
PONV Prevention	<ul style="list-style-type: none"> ➤ Continue PONV treatment
Catheter Maintenance	<ul style="list-style-type: none"> ➤ Early foley removal
Early Oral Nutrition	<ul style="list-style-type: none"> ➤ No routine nasogastric tube (NGT) ➤ Advance diet as tolerated ➤ Clear liquid diet
Non-opioid Oral Analgesics	<ul style="list-style-type: none"> ➤ Schedule non-opiates when appropriate ➤ No opioid/Acetaminophen combo drugs ➤ Toradol/Ibuprofen ➤ Acetaminophen ➤ Cox Inhibitors ➤ Gabapentinoids ➤ Muscle relaxants ➤ Tramadol
Stimulation of Gut Mobility	<ul style="list-style-type: none"> ➤ Decrease postoperative fasting period ➤ Gum chewing ➤ Limit opioid administration ➤ Eliminate NGT utilization

Figure 2. NRS for Pain Scale

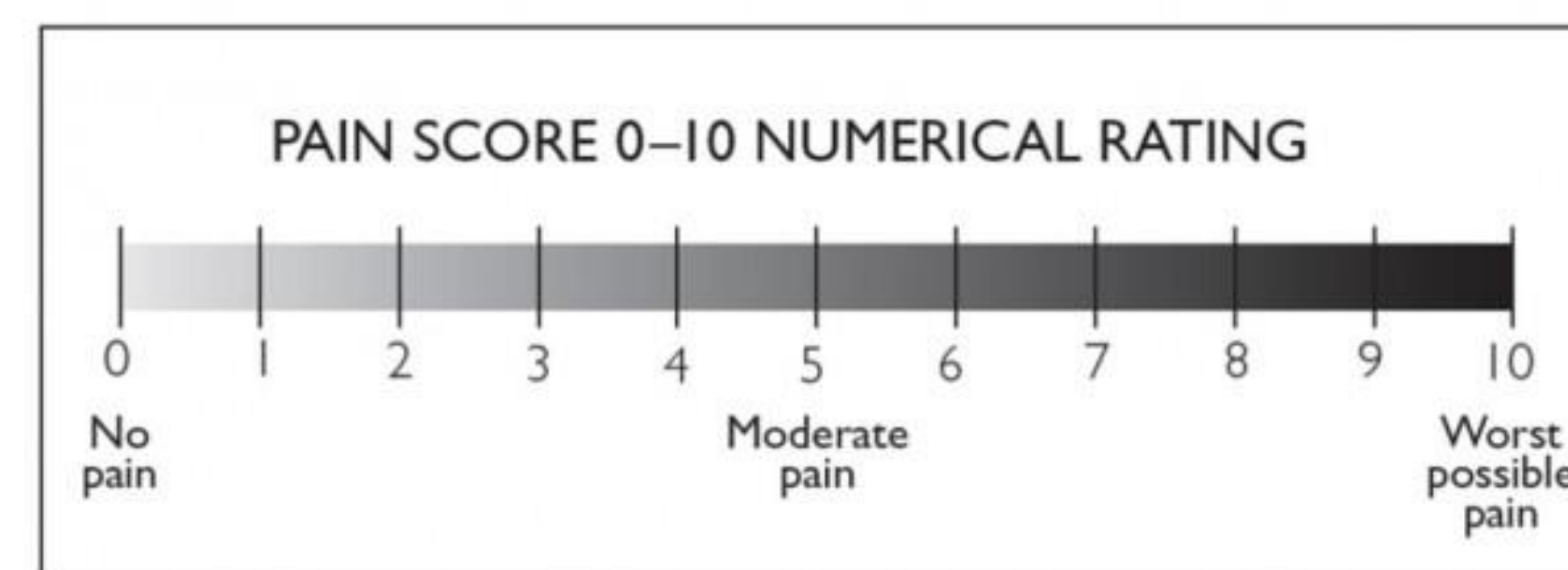


Figure 3. Hospital length of stay (N = 21)

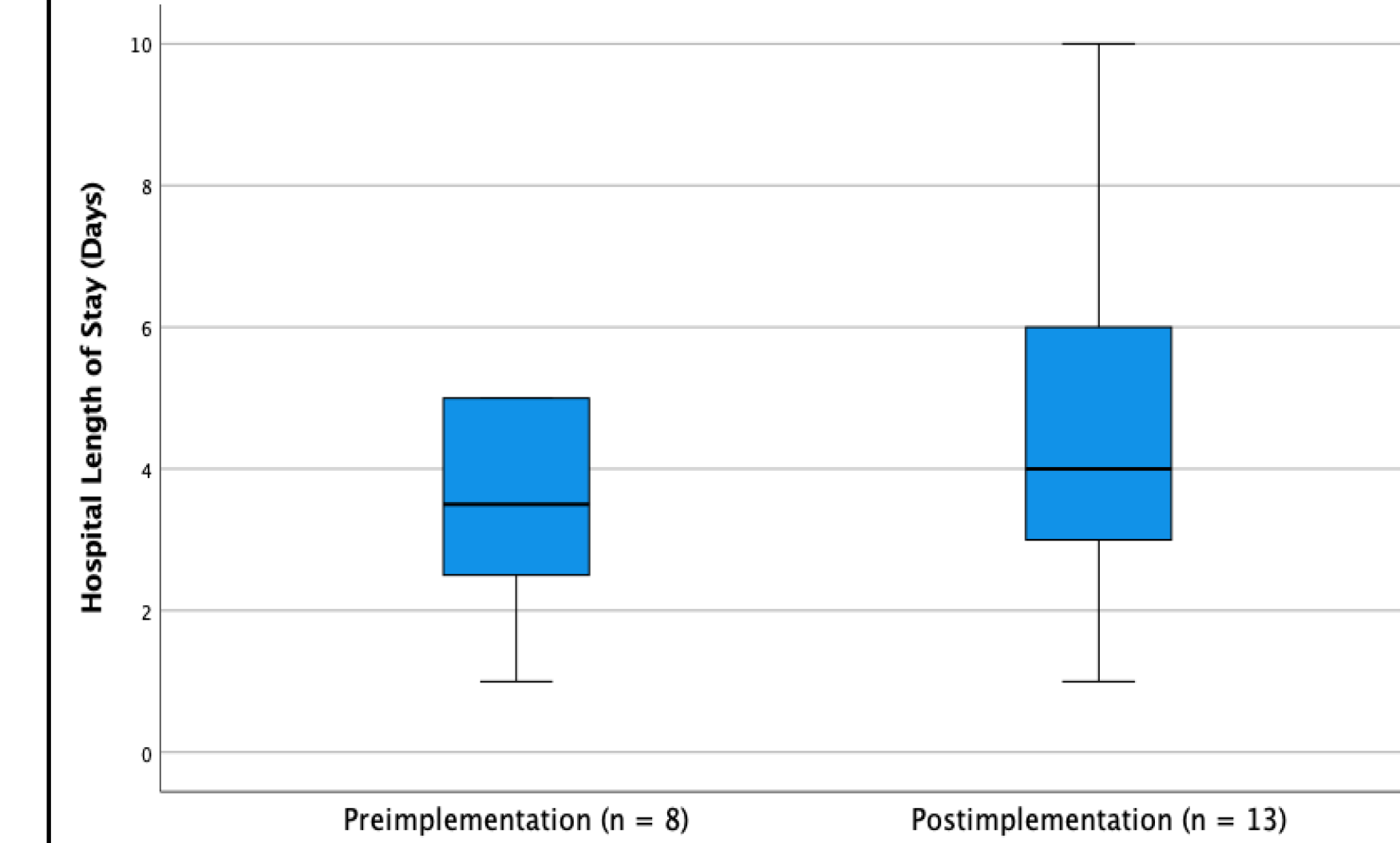


Figure 4. Hospital LOS after omitting outliers (N=18)

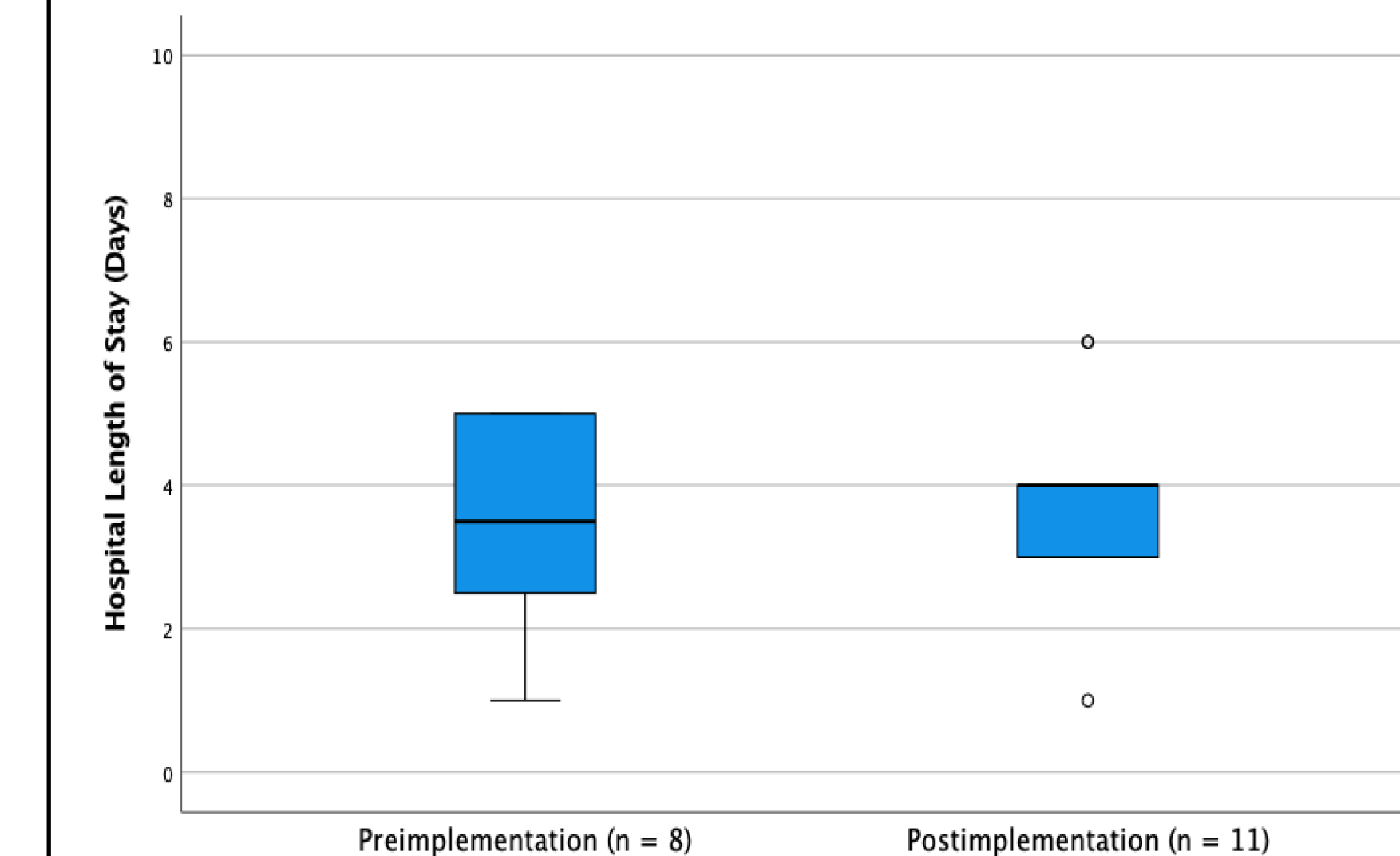


Figure 5. NRS for Pain Score on PACU Admission (N=21)

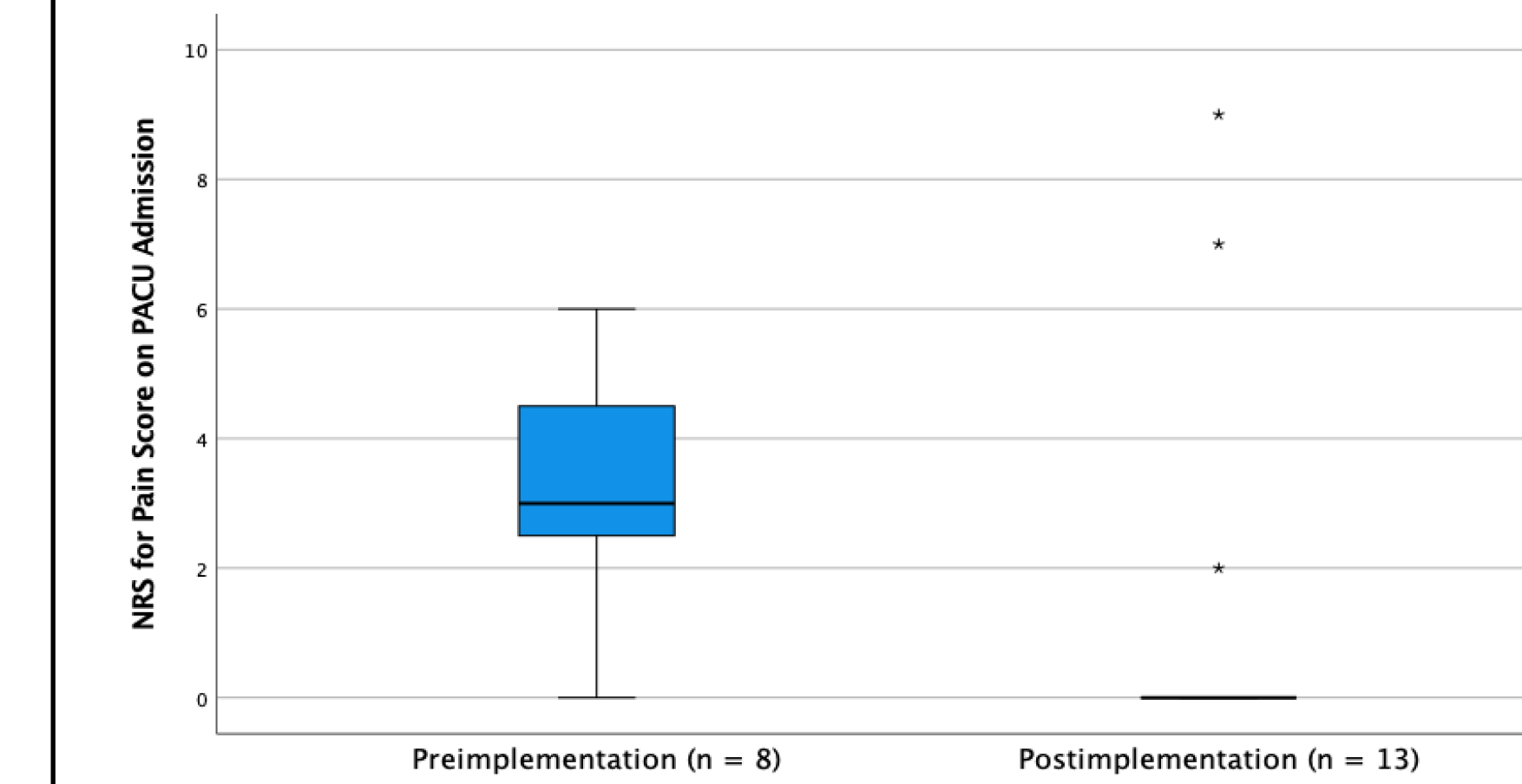
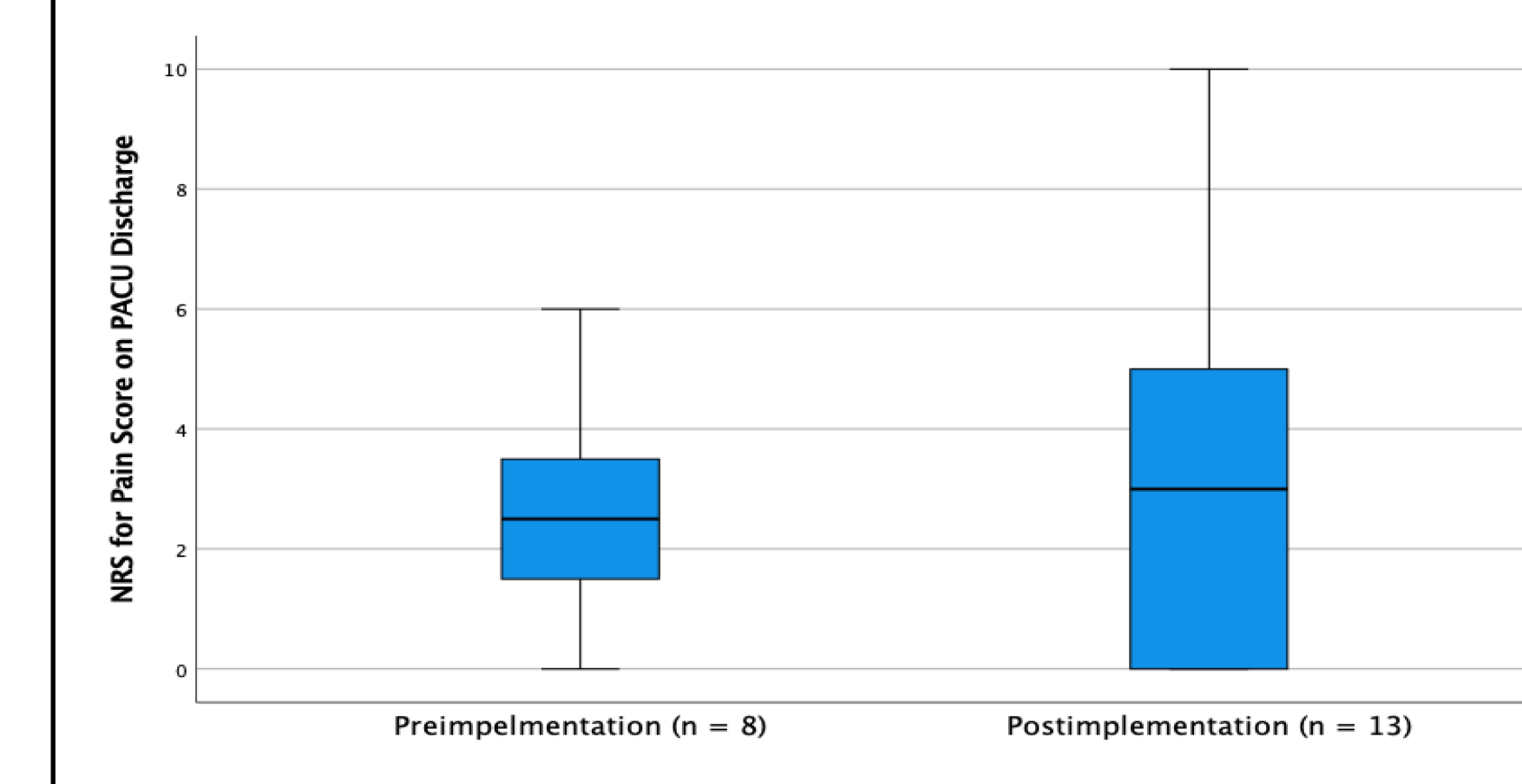


Figure 6. NRS for Pain Score on PACU Discharge (N=21)



RESULTS

- 21 cases total
- Median LOS went from 3.5 to 4, after excluding outlier patients median LOS was 4 (Figures 3 & 4)
 - 2 outlier patients-cardiac & social complications
- NRS score on PACU admission decreased from 3 to 2.5 (Figure 5), while NRS score on PACU discharge increased slightly (Figure 6)

DISCUSSION

- Implementation of ERAS protocol did not significantly decrease hospital LOS or discharge pain scores.
- However, admission of postoperative pain scores were slightly improved-potentially attributed to some type of RA
 - Patients received transversus abdominus plane (TAP) or quadratus lumborum (QL) block.
 - TAP may not appreciate sufficient coverage for pain.

IMPLICATIONS FOR ADVANCE PRACTICE NURSING

- Eliminating challenges this project faced, evidence shows ERAS protocols benefit surgical outcomes
- Future QI projects may be necessary for investigation of quality of provider blocks/block choice

SCAN FOR REFERENCES



Initiation of a comprehensive ERAS protocol in Veterans undergoing open urologic surgery decreased pain on PACU admission but did not decrease pain on PACU discharge or length of stay.