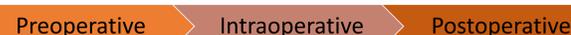


BACKGROUND

- Enhanced Recovery After Surgery (ERAS) protocols are multimodal perioperative care pathways designed to achieve early recovery in patients by maintaining preoperative organ function and reducing the profound stress response following surgery.¹
- ERAS protocols contain several phases :



- The care focuses on counseling preoperatively, optimizing nutrition, standardizing analgesia to limit opioid use, minimizing electrolyte and fluid imbalance, promoting early ambulation and feeding.^{1,2}
- Evidence suggests that implementation of ERAS protocols for elective colorectal surgery and total knee replacement may reduce hospital length of stay from 6 days to 3 days and overall perioperative morbidity (an absolute mean reduction of 10%) compared to standard care protocols.^{3,4}
- Although implementation of ERAS protocol in colorectal surgery and total knee replacement has seen favorable outcomes, the clinical significance comparing to traditional surgical practice is still unclear.⁴

OBJECTIVES

- The objective of this study is to evaluate the effect of ERAS protocol utilization on hospital length of stay and other patient outcomes in colorectal surgery and total knee replacement.

METHODS

Study design:

- Single-center, retrospective chart review of patients who underwent colorectal surgery or total knee replacement at Boca Raton Regional Hospital between December 1, 2019 through March 31, 2021

Inclusion Criteria :

- Individuals ≥ 18 years old
- Underwent colorectal surgery or total knee replacement
- Able to communicate, particularly the ability to express and understand an informed consent in the ERAS group

Exclusion Criteria :

- Pregnancy or lactating female patients
- Refusal to sign consent in the ERAS group
- Individuals in the ERAS group who were not able to complete the ERAS protocol for any reason

Primary outcomes:

- Duration of hospital length of stay defined as the total number of days spent in the hospital from the surgery date until the discharge date
- PACU length of stay (days)

Secondary outcomes:

- Post-operative pain scores (on scale 0-10)
- Comparison in post-operative opioid exposure and opioid use (expressed in morphine equivalent units)
- Hospital readmission with surgical or opioid related complications

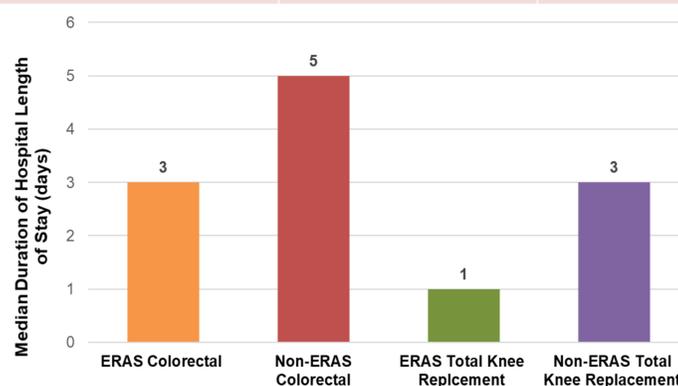
RESULTS

Colorectal Surgery Patients, N=100

Characteristics	ERAS Group n=50	Non-ERAS Group n=50
Age, (range)	71 (30-90)	69 (38-99)
Colectomy, n (%)	38 (76)	33 (66)
Colostomy with resection, n (%)	7 (14)	9 (18)

Total Knee Replacement, N=100

Characteristics	ERAS Group n=50	Non-ERAS Group n=50
Age, (range)	70 (43-87)	72 (52-89)
Right Knee, n (%)	29 (58)	27 (54)
Left Knee, n (%)	21(42)	23(46)



Secondary Outcomes: Colorectal Surgery

Outcomes	ERAS group	Non-ERAS group
PACU length of stay in minutes, median, (range)	143 (13-814)	96 (52-596)* <small>*16 patients did not have recorded PACU time</small>
Postoperative pain score, median, (on scale 0-10)	0	3
Opioid exposure, n (%)	19 (38)	46 (92)
Opioid use in morphine equivalent units in mg, median, (range)	8 (2-187)	96 (38-596)
Hospital readmission within 30 days, n (%)	2 (4)	5 (10)

Secondary Outcomes: Total Knee Replacement

Outcomes	ERAS group	Non-ERAS group
PACU length of stay in minutes, median, (range)	85 (44-379)	90 (46-380)* <small>*3 patients did not have recorded PACU time</small>
Postoperative pain score, median, (on scale 0-10)	0	0
Opioid exposure, n (%)	42 (84)	47 (94)
Opioid use in morphine equivalent units in mg, median, (range)	56 (4-255)	90 (46-380)
Hospital readmission within 30 days, n (%)	4(8)	5 (10)

CONCLUSION

- Patients who underwent colorectal surgery and total knee replacement surgery with the implementation of the ERAS protocol had a significantly lower median duration of hospital length of stay.
- The ERAS protocol patients for both surgery disciplines had a significantly lower amount of opioid exposure and opioid use.

LIMITATIONS

- Single-center study
- Limited baseline patient demographics
- Not all patients had recorded PACU time in non-ERAS group
- Inconsistent postoperative pain score documentation

DISCUSSION

- Patients who underwent procedures using ERAS protocol had a significantly lower median duration of hospital length of stay which was statistically and clinically significant with cost-saving implications.
- The possible basis of cost savings was a decrease of primary cost per hospital day length of stay, cost per emergency department visit for readmission, and cost per hospital day of readmission length of stay.
- Median PACU length of stay was higher in the ERAS colorectal surgery group compared to the non-ERAS possibly due to limited availability of recorded PACU time in the non-ERAS colorectal surgery group patients.
- The finding in this study agreed with other literature that the implementation of ERAS protocol with multimodal analgesia approach significantly reduces opioid use.
- The possible reasoning for this study is unable to compare the statistical difference in hospital readmission between those two groups is due to the smaller sample size.

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DISCLOSURES

- All authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have direct or indirect interest in the subject matter of this presentation
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