# Elective Versus Non-Elective Robotic Colorectal Surgery – A Deep dive in Cost Analysis and Short Term Outcomes

Ashwini Poola MD [1], Prakash Gatta MD [1], James Sebesta MD [1], Kelly Blair MD [1], Laila Rashidi MD [1]
[1] Multicare Health System, Tacoma WA

## BACKGROUND

- With increased utilization of the robotic surgery, many studies have argued that the platform does not provide clinical benefit over increased cost.
- Current literature focus on the elective clinical scenario with comparison to the standards of open and laparoscopic surgery.
- Few reports assess the utility of the robot in the non-elective (NE) patient.

## AIM

- **To evaluate the cost and short term outcomes of the robotic approach in non-elective colorectal surgery.**

## METHODS

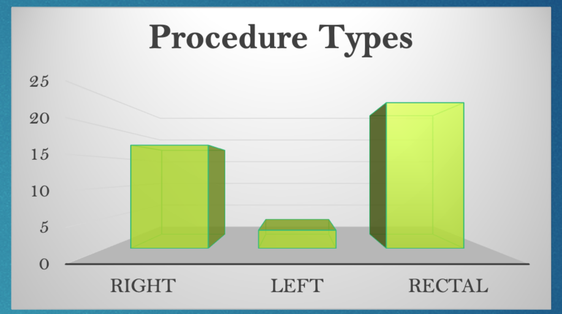
- Single institution
  - Retrospective chart review
  - January 2019 – March 2020
- All robotic colorectal surgeries
  - Inclusion
    - Emergent: < 24 hours
    - Urgent: within 1 week of presentation
  - Exclusion: Elective
- Clinical Outcomes
  - Operative length of time (ORLOT)
  - Hospitalization length of stay (LOS)
  - Readmission rates
  - Complication Rates
- Cost Parameters
  - OR Cost
  - Supplies cost
  - Total Hospitalization cost
- Comparative analysis
  - Nonelective (NECRS) cohort versus elective cohort

## RESULTS

**Eligible**
*Robotic colorectal surgeries*
**N = 182 cases**

**Exclusion**
*Elective*
**N = 148 cases**

**Inclusion**
*Non-elective*
**N = 34 cases**




- Case Demographics : Malignant: 21 (61%)

| | NECRS Cohort (34) | Elective Cohort (148) | p - value |
|---|---|---|---|
| Gender (female) | 20 (45%) | 101 (61%) | 0.061 |
| **Age (year)** | **49 (39-67)** | **61 (48-71)** | **0.03*** |
| BMI (kg/m$^2$) | 28 (24-33) | 29 (24-32) | 0.872 |
| OR Time (minutes) | 152 (122-221) | 150 (108-208) | 0.634 |
| Readmission (30d) | 3 (7%) | 12 (7%) | 0.902 |
| Complication (30d) | 1 (2%) | 6 (4%) | 0.647 |
| **LOS** | **2 (1-3)** | **1.5 (1-2)** | **0.003*** |
| **Average OR cost** | **19,765** | **18,452** | **0.56** |
| **Supplies cost** | **10,860** | **8015** | **0.067** |
| **Total hospitalization cost** | **79,167** | **73,200** | **0.38** |

Median (Interquartile range); N (%)
Continuous variables compared via student t test or Mann-Whitney U. Categorical variables compared via $X^2$ test.

## CONCLUSION

- Robotic surgery is feasible in patients undergoing nonelective colorectal procedures.
- Low risk for adverse events when compared to elective procedures.
- No difference in short term costs when compared to elective cases.

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