

Preliminary results from the SUPERHERO Study – Standardizing Use of Pain medication to Eliminate post-Robotic Hernia Repair Opioids: a prospective cohort study
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KEY MESSAGE

Robotic-assisted abdominal wall reconstruction is associated with significantly lower postoperative opioid consumption, shorter hospital stays, and comparable pain control compared with open surgery, suggesting it may help reduce opioid use in surgical patients.

INTRODUCTION

- Canada is facing a growing opioid misuse crisis, partly driven by physician prescribing practices, with surgeons contributing significantly to postoperative opioid exposure.
- Because abdominal wall reconstruction is traditionally associated with high opioid requirements, robotic-assisted techniques may offer a strategy to reduce postoperative narcotic use and improve pain management.

STUDY OBJECTIVE

- The aim of this prospective cohort study is to evaluate the impact of robotic-assisted abdominal wall reconstruction in reducing opioid consumption.

METHODS

Study Design

- Prospective study of patients undergoing elective abdominal wall reconstruction who were enrolled into either a robotic-assisted or open surgery group.

Outcomes

- Primary outcomes: total inpatient opioid consumption and opioids prescribed at discharge.
- Secondary outcomes: pain scores, patient satisfaction, and postoperative opioid disposal.

RESULTS

Table 1. Patient and surgical characteristics

	Robotic Approach (n=32)	Open Approach (n=19)	p-value
Age	61 (53-68)	66 (55-74)	0.258
Sex (M/F)	18/14	12/7	0.563
Charlson Comorbidity Index (CCI)	2.0 (1.0-3.0)	2.5 (1.0-4.0)	0.731
Number of repairs at same site	0.0 (0.0-1.0)	1 (0.0-3.0)	0.069
Total Length/Height (cm)	12.1 ± 4.6	14.5 ± 5.7	0.191
Total Width (cm)	8.3 ± 3.5	14.9 ± 7.8	0.008*
No component separation	2	1	0.998
Rives-Stoppa repair	27	4	0.001*
TAR x1 component separation	1	5	0.029*
TAR x2 component separation	2	9	0.001*
Conversion to open	0	N/A	N/A
Uncontrolled bowel entry	2	0	0.520

Table 2. Primary and secondary outcomes

	Robotic Approach (n=32)	Open Approach (n=19)	p-value
Total opioid use in hospital (OME)	34.6 ± 65.9	304 ± 470	0.002*
Opioid use POD 0 (OME)	6.8 ± 14.3	11.0 ± 20.5	0.450
Opioid use POD 1 (OME)	13.2 ± 21.6	34.4 ± 48.9	0.071
Opioid use POD 2 (OME)	26.5 ± 42.9	46.0 ± 56.8	0.202
Opioid use POD 3 (OME)	18.1 ± 15.6	43.9 ± 63.6	0.069
Opioid use POD 4-10 (OME)	0	62.2 ± 92.2	0.001*
Pain score POD 0	3.8 ± 1.9	3.9 ± 2.5	0.877
Pain score POD 1	2.7 ± 2.0	3.6 ± 2.4	0.236
Pain score POD 2	1.5 ± 2.3	3.6 ± 2.1	0.011*
Pain score POD 3	4 ± 1.41	3.1 ± 2.3	0.190
Pain score POD 4-10	3	4.9 ± 2.3	0.184
Length of stay	1.0 (1.0 – 2.0)	5.0 (5.0 – 8.0)	0.001*
Total opioid prescription (OME)	58.9 ± 94.9	149 ± 164	0.039*
Hospital readmission	1	0	0.882
Healthcare utilization for pain Rx	0	0	1
Opioid refill	0	1	0.788



Robotic-Assisted Surgery

↓ Less Opioids



Shorter Hospital Stay



Open Surgery

↑ More Opioids



Longer Hospital Stay

CONCLUSION

- Preliminary data suggest that robotic-assisted abdominal wall reconstruction is associated with reduction in opioid consumption without compromising pain control.
- Robotic surgery, combined with a standardized pain regimen, may help mitigate postoperative opioid use in abdominal wall reconstruction.

Disclosures

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