

The University of Vermont  
Medical Center



**“ Postoperative  
Opioids  
Unnecessary for  
Most Patients  
Following Elective  
Colectomy ”**



## The University of Vermont Medical Center Postoperative Opioids Unnecessary for Most Patients Following Elective Colectomy

*Sarah Kelso-O'Brien, MD - Cook County Health*

*McKenna L. Schimmel, MD - Mayo Clinic*

*Peter W. Callas, PhD, MS - University of Vermont*

*Lisa A. Smith, RN - University of Vermont Medical Center*

*Jeremy Dressler, MD - University of Vermont Medical Center*

*Krista Evans, MD, FACS, FASCRS - University of Vermont Medical Center*

*Jesse Moore, MD FASCRS FACS - University of Vermont*

*Peter Cataldo, MD UVM*

**Purpose/Background:** Postoperative opioid prescribing is a leading cause of narcotic addiction. As such, it is imperative that surgeons attempt to minimize the amount of opioid analgesia prescribed after surgery. Studies have demonstrated that several minimally invasive and outpatient surgeries can be performed without postoperative opioids. No study has evaluated the feasibility of avoiding postoperative opioids after elective colectomy. This study hypothesized that patients enrolled in an enhanced recovery protocol after surgery (ERAS) that incorporates multimodal pain management may be able to avoid all postoperative opioids while maintaining satisfactory pain control.

**Methods/Interventions:** In this opt-in pilot study of 25 patients undergoing elective colectomy, patients were given the institutional standard ERAS pre-emptive analgesia (including intrathecal morphine), followed by a postoperative ERAS protocol with a multimodal pain regimen that included scheduled acetaminophen, gabapentin, 1% lidocaine dermal patches, and **cold therapy with an ice pack abdominal wrap**, as well as PRN methocarbamol. Rescue opioids were available as needed. Pain scores were recorded on the 10-point Visual Analog Pain Scale by nursing while hospitalized and via a home journal for 3 weeks after discharge. The primary outcome was the rate of patients successfully completing an opioid-free postoperative course. Secondary outcomes included patterns regarding the timing, amount, and reason for opioids provided, as well as patient satisfaction with pain control using a 10-point Likert scale. All outcomes are reported using descriptive statistics.

**Results/Outcomes:** Of the 25 patients who enrolled in the study protocol, 18 patients, or 72% (95% confidence interval, 51-90%), successfully completed an opioid-free postoperative course. Pain scores of these patients averaged 0.91 (range 0-7) in the hospital and 1.14 (range 0-7) after discharge. Mean pain control satisfaction scores for patients who took no opioids were 9.82 during hospitalization and 9.72 post-discharge. Of the 7 patients requiring opioids within the postoperative period, surgical pain within the first 5 postsurgical days was the cause for 6 of the patients. The seventh patient had back pain unrelated to surgery that required opioids on POD#14. The 6 patients with post-surgical pain required an average of 4 opioid doses (range 1-10) with a mean total usage of 36.5 (range 4-130) morphine milligram equivalents (MMEs). Their mean pain scores during hospitalization were 3.42 (range 0-10), and after discharge were 3.11 (range 0-10). Despite increased pain levels, these patients' mean pain control satisfaction scores during hospitalization and post-discharge were 8.83 and 9.00 respectively.



**Conclusion/Discussion:** Nineteen of 25 (76%) patients successfully recovered from elective colectomy without needing opioids for postsurgical pain. Patients that required opioids took 10 or fewer doses and were on an opioid-free regimen within 5 postoperative days. Despite a difference in pain scores, all patients were overall satisfied with pain control. Widespread implementation of an ERAS protocol that includes pre-emptive analgesia, intrathecal morphine, and a multimodal postoperative pain regimen is feasible, well-tolerated, and nearly eliminates the need to prescribe opioids after elective colectomy.

	Opioid-Free (N=18)	Opioid Users (N=6)*
<i>Demographics</i>		
Mean Age (Range)	66 (46-89)	62 (53-71)
% Male	61.1	16.7
Mean BMI (Range)	27.2 (18.9-35.7)	26.4 (21.1-31.5)
Mean ASA Score (Range)	2.4 (1-4)	2.2 (2-3)
<i>Surgical Approach</i>		
Open (N)	0	2
Laparoscopic (N)	17	4
Robotic (N)	1	0
<i>Procedure</i>		
Right Hemicolectomy (N)	10	3
Sigmoidectomy (N)	5	1
Low anterior resection (N)	3	2
<i>Mean Pain Scores</i>		
Hospitalization (Range)	0.91 (0-7)	3.42 (0-10)
Post-Discharge (Range)	1.14 (0-7)	3.11 (0-10)
<i>Mean Pain Control Satisfaction Scores</i>		
Hospitalization	9.82	8.83
Post-Discharge	9.72	9.00

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# Postoperative Opioids Unnecessary for Most Patients Following Elective Colectomy

#ASCRS24

Sarah Kelso-O'Brien, MD; McKenna Schimmel, MD; Peter Callas, PhD, MS; Lisa Smith, RN; Jeremy Dressler, MD; Krista Evans, MD; Jesse Moore, MD; Peter Cataldo, MD

**Hypothesis:** Patients enrolled in an ERAS pathway with a multimodal pain regimen can avoid using postoperative opioids while maintaining adequate pain control.

### Methods

o Pilot study of 25 elective colectomy patients

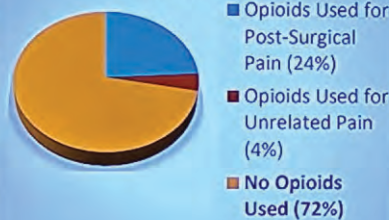
**STANDARD PRE-OP PROTOCOL:** acetaminophen, gabapentin, ITM, dexamethasone, granisetron

**INTRAOPERATIVE ANESTHESIA:** lidocaine drip, local anesthesia; ketamine promoted, but remainder per anesthesiologist discretion

**POSTOPERATIVE MULTIMODAL REGIMEN:** scheduled acetaminophen, gabapentin, methocarbamol, 5% lidocaine patches, and an abdominal ice wrap; \*rescue hydromorphone PRN

### Results

**Figure 1: Postoperative Opioid Use**



Opioid use for post-surgical pain:

- Average # doses: 4 (range 1-10)
- Mean MMEs required: 36.5 (range 4-130)
- All were opioid-free by POD#5

**Table 1: Comparison of Opioid-Free Patients and Patients who Used Opioids (\*Post-Surgical Pain Only)**

	Opioid-Free, N=18	Opioids Used, N=6*
<i>Mean Pain Score on a 0-to-10 Pain Scale (Range)</i>		
Hospitalization	0.91 (0-7)	3.42 (0-10)
Post-Discharge	1.14 (0-7)	3.11 (0-10)
<i>Mean Pain Control Satisfaction on a 10-point Likert Scale</i>		
Hospitalization	9.82	8.83
Post-Discharge	9.72	9.00

### Conclusion:

**Opioid-free elective colectomy is possible in a vast majority of patients.** Use of this opioid-free ERAS regimen is 1) feasible, 2) well-tolerated, and 3) would reduce opioid prescribing.

