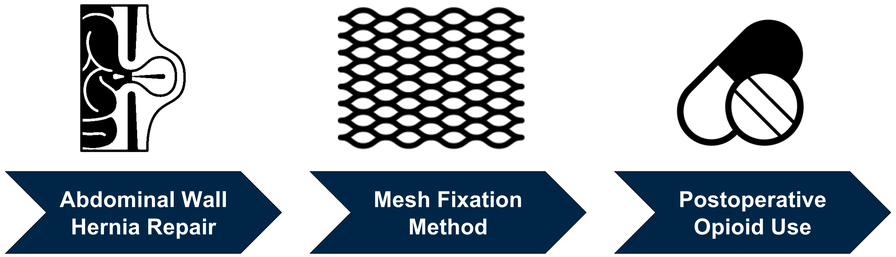
Association of Mesh Fixation Method on Postoperative Opioid Use in Abdominal Wall Hernia Repairs

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Introduction

The association of mesh fixation and pain following abdominal wall hernia repairs remains highly controversial. With such wide variety in surgical approach, a goal of mitigating postoperative pain is often used to justify intraoperative decisions. However, despite hernia repairs being extremely common, there is little evidence to indicate how various surgical techniques and intraoperative factors contribute to postoperative pain and opioid use. Therefore, the aim of this study was to evaluate the association of mesh fixation method with prolonged opioid use and return to normal daily function.



Methods

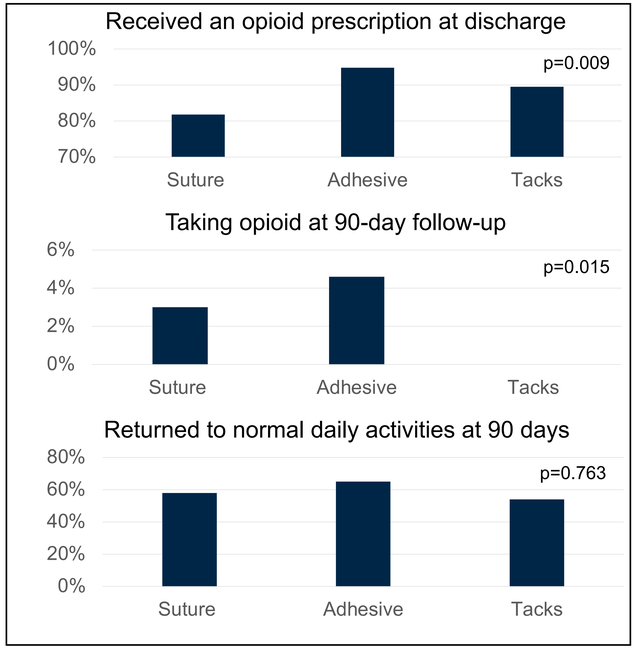
- **Data source:** Michigan Surgical Quality Collaborative – Core Optimization Hernia Registry, a payer-funded quality improvement program that captures nuanced perioperative and intraoperative elements from 70 hospitals across Michigan
- **Study design:** retrospective review of patients who underwent elective abdominal wall hernia repair from 2020 to 2022
- **Independent variable:** mesh fixation method
- **Outcome variables:** opioid prescription at discharge, return to normal function, continued opioid use within 90 days of surgery
- **Analysis:** descriptive statistics and univariate analyses were used to identify associations between mesh fixation method and the outcome variables of interest

Results

Cohort Characteristics by Mesh Fixation Method

	Suture	*Adhesive*	*Tacks*	p-value
	n=5181	*n=468*	*n=651*	
Female Sex	41	43.8	45.6	0.05
Median Age	56	57	56	0.36
Median BMI	32.1	31.1	32.3	0.01
Race				
White	83.4	81.2	74.8	<0.001
Black	11.7	12	14.4	
Other	9.4	6.84	10.8	
ASA Class				
I	4.4	3.2	5.4	0.26
II	48.5	51.5	50.2	
III	45	43.6	43.3	
IV	2.1	1.7	1.1	
Comorbidities				
Smoker	19.4	23.9	18.1	0.04
Diabetes	16.7	13.3	9.9	0.13
COPD	7.1	5.3	6	0.25
OSA	41.1	39.3	41.3	0.74
CHF	0.19	0	0	0.34
HTN	49.6	51.3	47.3	0.39
Chronic Steroids	3.5	3.4	2.2	0.21
Surgical Approach				
Open	63.4	25	12.9	<0.001
Laparoscopic	4.8	42.1	77.9	
Robotic	31.9	32.9	9.2	
Myofascial Release	7.7	12.2	1.7	<0.001

Outcomes



Conclusions

- Most patients received an opioid prescription in the acute postoperative period, but patients with suture fixation were least likely to receive an opioid prescription
- At 90-day follow-up, patients with adhesive fixation were most likely continue an opioid prescription
- Further research is needed to elucidate how mesh characteristics and other intraoperative modifiable factors contribute to postoperative pain and recovery