

## BACKGROUND

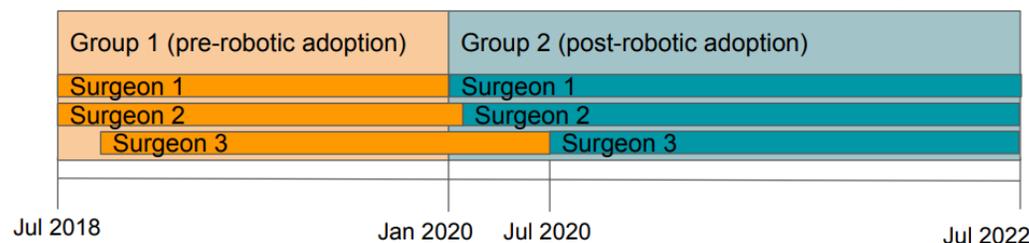
- Shift towards more minimally invasive hernia repairs
- Recent transition from laparoscopic to robotic assisted repairs
- New development: Acute care surgeons adopting robotics

## PURPOSE

To review the impact of adopting a robotic platform in an academic hernia center on operative case mix, efficiency and patient outcomes.

## METHODS

- Quality improvement EHR query conducted over 4-year period
- Adoption of robotics in hernia program over 6 months by 3 ACS surgeons
- Abstracted patient demographics, hernia and operative characteristics, outcomes
- Compared all hernias repairs prior to and after adoption of robotic platform



## RESULTS

	Group 1 n = 159	Group 2 n = 508	p-value
Male sex (%)	100 (62.9)	340 (66.9)	0.349
Age (years ± SE)	57 ± 1.2	57 ± 0.7	0.946
Hernia type (%)	Inguinal	252 (49.6)	0.303
	Umbilical	82 (16.1)	
	Ventral	161 (31.7)	
	Other	13 (2.6)	
Recurrent hernias (%)	43 (27.0)	108 (21.3)	0.128

Table 1. Patient demographics and hernia features

	Group 1 n = 159	Group 2 n = 508	p-value
Time to OR (days ± SE)	46 ± 3.7	57 ± 2.5	0.022
Start Time (hh:mm ± SE)	10:19 ± 00:17	10:43 ± 00:10	0.217
Duration of Surgery (min ± SE)	132 ± 6.9	140 ± 3.2	0.260
Operative Approach (%)	Open	182 (35.8)	< 0.001
	Laparoscopic	67 (42.1)	
	Robotic	0	
Emergency (%)	17 (10.7)	40 (7.9)	0.267

Table 2. Operative characteristics

	Open n = 274	Laparoscopic n = 80	Robotic n = 313	p-value
Time to OR (days ± SE)	59 ± 3.5	40 ± 4.9	55 ± 2.1	0.021
Start Time (hh:mm ± SE)	10:02 ± 00:13	10:28 ± 00:27	11:10 ± 00:12	0.001
Duration of Surgery (min ± SE)	151 ± 6.0	115 ± 6.1	133 ± 2.8	< 0.001
Emergency (%)	24 (8.8)	8 (10.0)	25 (8.0)	0.836

Table 3. Comparison of hernia operations between surgical approaches

## RESULTS (cont)

	Open n = 274	Laparoscopic n = 80	Robotic n = 313	p-value	
Recurrence (%)	9 (3.3)	4 (5.0)	17 (5.4)	0.445	
Complications (%)	56 (20.4)	11 (13.8)	36 (11.5)	0.013	
	Cardiac	2 (0.7)	0		1 (0.3)
	Urinary Tract	1 (0.4)	3 (3.8)		5 (1.6)
	SSI	16 (5.8)	1 (1.3)		3 (1.0)
	Seroma	20 (7.3)	5 (6.3)		13 (4.2)
	Respiratory	2 (0.7)	0		1 (0.3)
	Other	15 (5.5)	2 (2.5)		13 (4.2)
Mortality (%)	3 (1.1)	0	1 (0.3)	0.364	

Table 4. Complications by surgical approach

## CONCLUSIONS

Adoption of a robotic platform by ACS surgeons associated with

- Rapid and significant shift away from both open and laparoscopic hernia repairs
- Relative increase in time to OR
- Fewer complications overall, no difference in recurrence rate