

Perioperative Outcomes of Robotic and Laparoscopic Surgery in Patients with Severe Obesity

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Conflict of Interest

I have no potential conflict of interest to report



BACKGROUND

- **There are a number of challenges to conventional laparoscopy in performing surgery on patients with severe obesity including limited motion of instruments due to a thick abdominal wall, hepatomegaly, and increased intra-abdominal adiposity with limited workplace.**
- **The robotic system helps to overcome these barriers and may have clinical benefits to laparoscopy in operating on patients with severe obesity.**



OBJECTIVES

- ***To determine* the effects of robotic (ROB) versus laparoscopic (LAP) bariatric metabolic surgery on operative outcomes of patients with a BMI >50**
- ***To compare* these outcomes to those of patients with a BMI ≤40.**

METHODS

Patient Population:

- 116 totally robotic (ROB) and 119 laparoscopic (LAP)
- Surgery Procedure: 115 RYGB, 120 SG
- BMI Groups: **BMI >50** (av 55.1, n=133) and **BMI ≤40** (av 37.9, n=102)

Measurements:

- Patient characteristics
- Operative (OP) times
- Length of hospital stay (LOS)
- Peri- and postop (30-d) complications, readmits, reops, mortality

RESULTS CHARACTERISTICS

Measure	>50 LAP (n=67)	>50 ROB (n=66)	≤40 LAP (n=52)	≤40 ROB (n=50)
Age (y)	42.7 ± 1.5	44.4 ± 1.3		
Wt (kg)	153.1 ± 2.7	154.0 ± 2.8		
BMI (kg/m ²)	54.7 ± 0.5	55.5 ± 0.6		
Gender (F/M)	51 F 16 M	50 F 16 M		
Co- morbidity (no.)	2.81 ± 0.21	2.96 ± 0.18		

∞ BMI ≤40 vs. >50 p<0.05



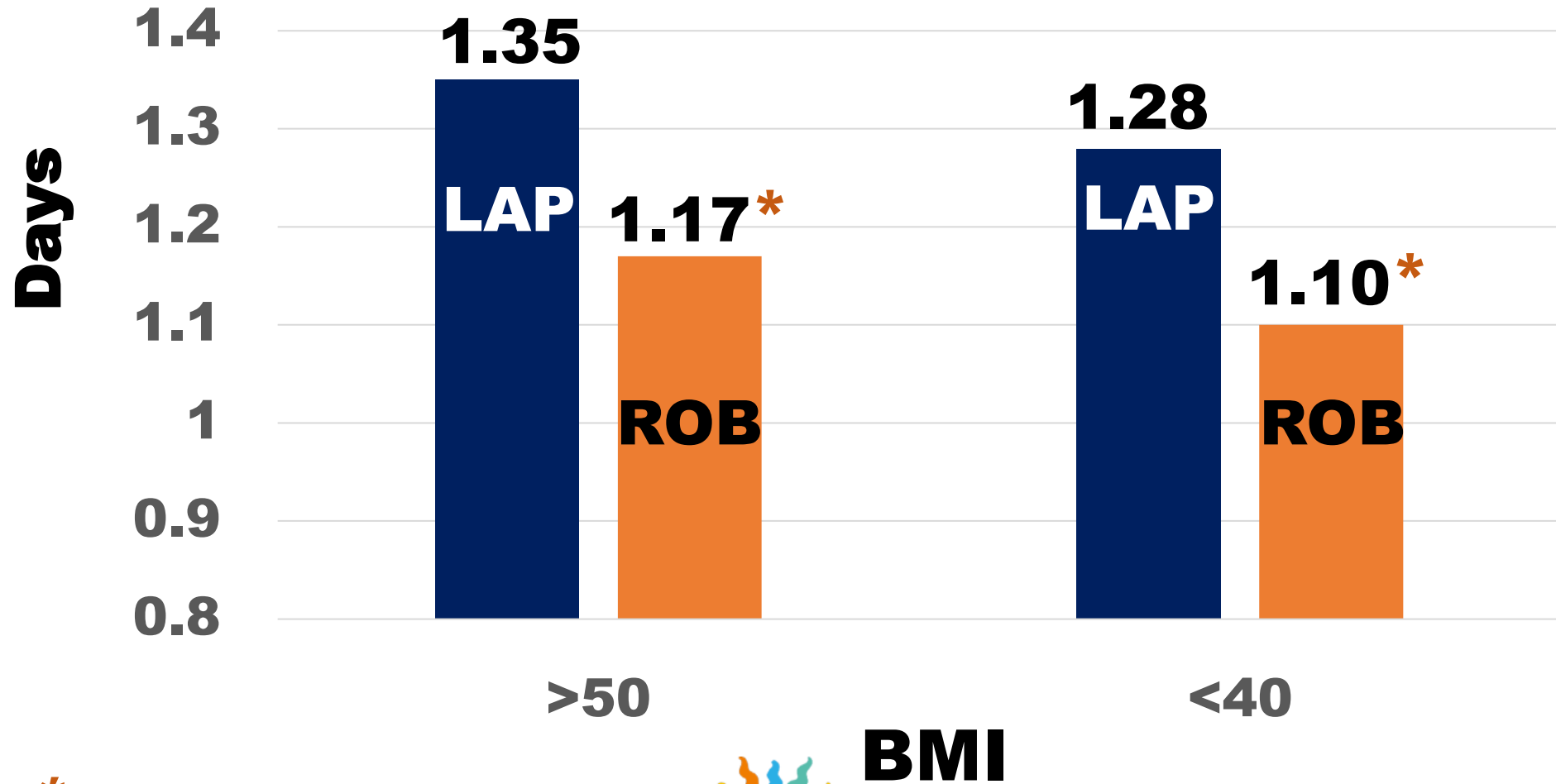
* p<0.05 LAP vs. ROB

RESULTS OUTCOMES

Outcomes	>50 LAP (n=67)	>50 ROB (n=66)	≤40 LAP (n=52)	≤40 ROB (n=50)
OP Time (min)	89.03 ± 4.57	81.46 ± 3.92	73.87 [∞] ± 4.59	72.68 ± 3.94

[∞]BMI ≤40 vs. >50 p<0.05

RESULTS LOS



* $p < 0.001$



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RYGB OUTCOMES

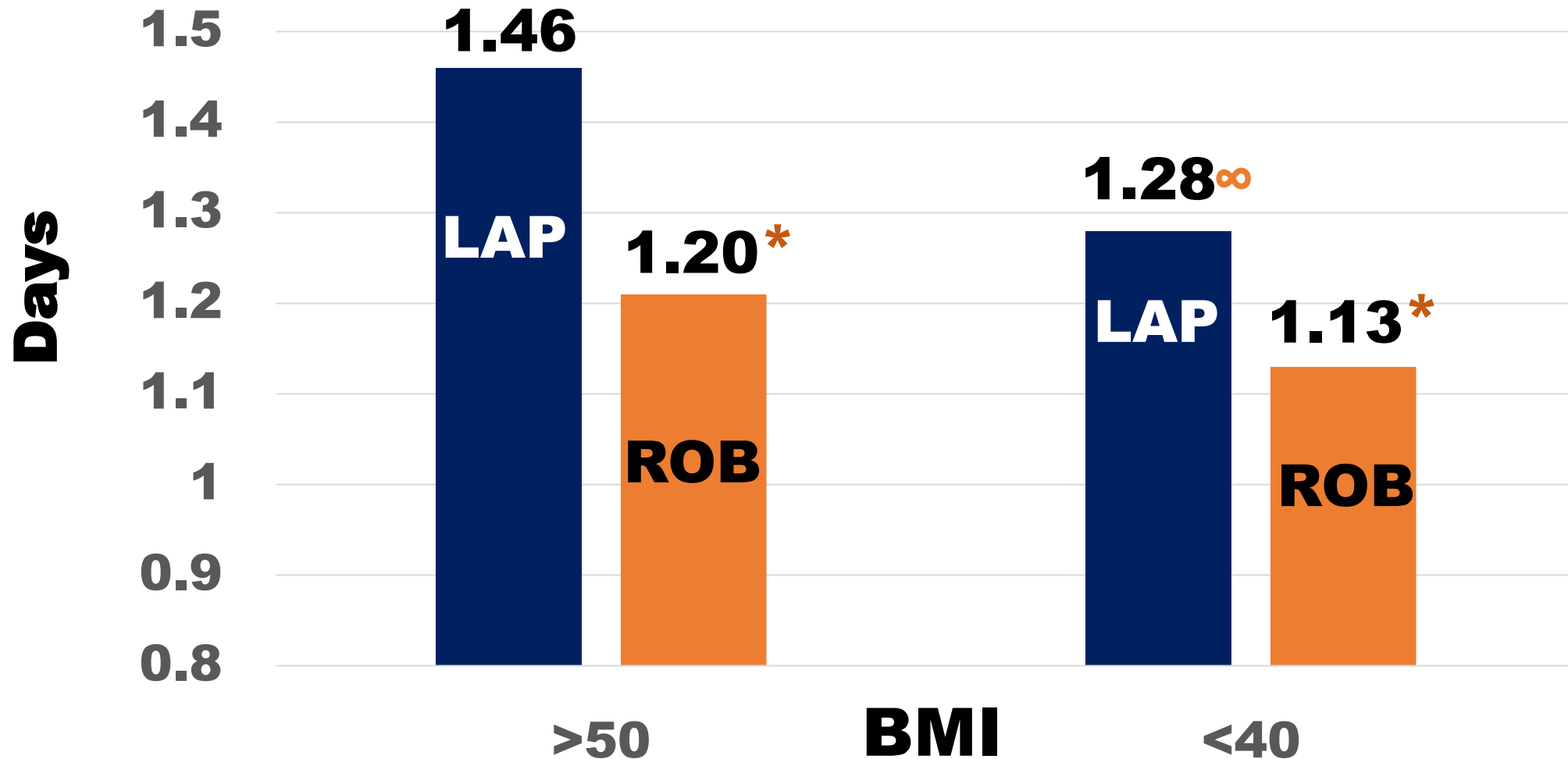
Outcomes	>50 LAP (n=31)	>50 ROB (n=37)	≤40 LAP (n=19)	≤40 ROB (n=28)
OP Time (min)	122.7* ± 4.1	105.2 ± 2.8	111.5* [∞] ± 3.6	93.9 [∞] ± 3.0

[∞]BMI ≤40 vs. >50 p<0.05



*p<0.05 LAP vs. ROB

RYGB LOS



* $p < 0.05$ LAP vs ROB

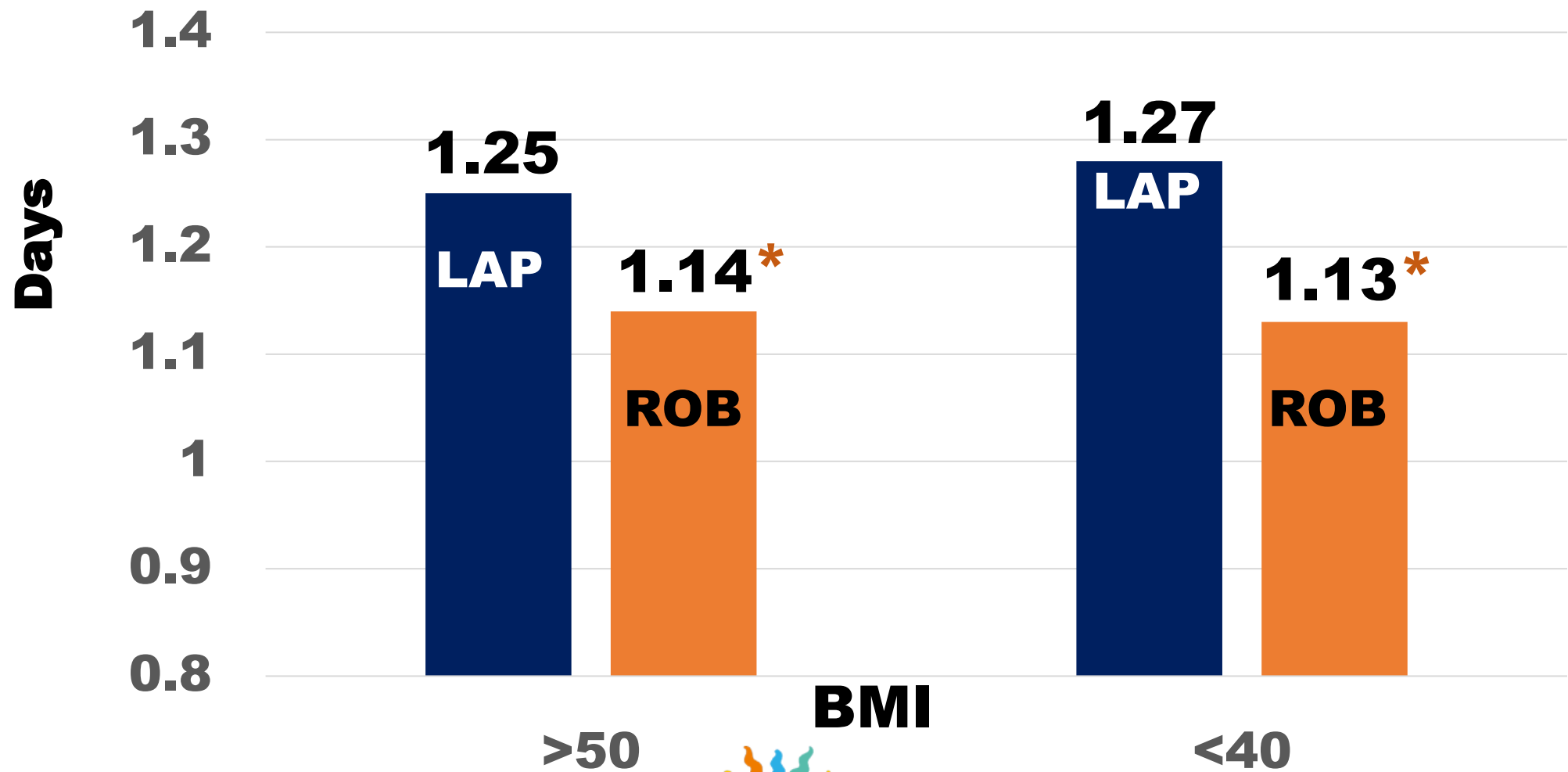


∞ $p < 0.05$ BMI >50 vs. BMI <40

SG OUTCOMES

Outcomes	>50 LAP (n=36)	>50 ROB (n=29)	≤40 LAP (n=33)	≤40 ROB (n=22)
OP Time (min)	60.0 ± 3.9	51.0 ± 3.0	52.2 ± 2.9	45.6 ± 2.2
Re-admits (%)	8.3% (3)	3.4% (1)	9.0% (3)	0% (0)
Re-ops (#)	0	0	1	0
Complications (%)	5.5% (2)	0%	6.0% (2)	0%

SG LOS



* $p < 0.05$ LAP vs ROB



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CONCLUSIONS

1. The ROB system has clinical benefits over LAP for patients with very severe obesity (BMI>50) and their leaner cohort (BMI≤40) including:

- **Fewer and less severe complications**
- **Reduced LOS**
- **For the RYGB, shorter OP times**

**2. ROB surgery outcomes of BMI >50 patients
= ROB outcomes of BMI ≤40
> LAP outcomes of BMI ≤40**