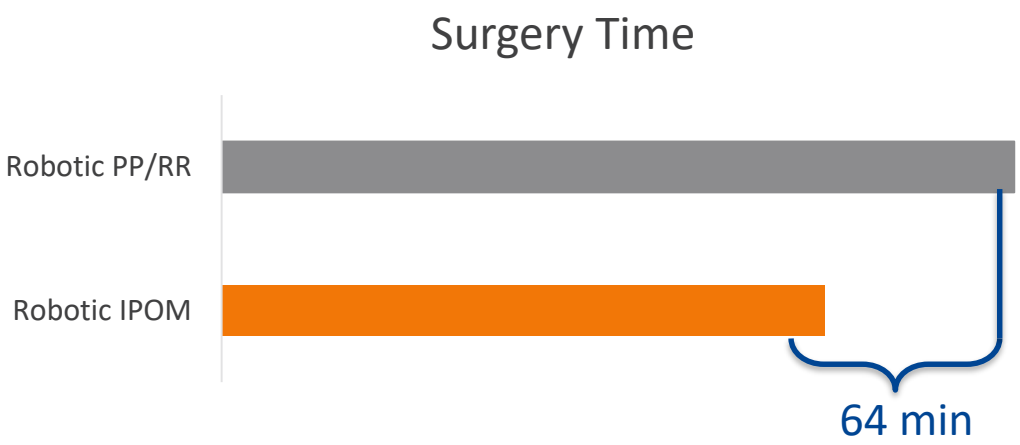
Ventral Hernia Repair

Robotic IPOM is significantly faster than Robotic Preperitoneal/RetroRectus (PP/RR) ($P<0.001$)[1]

- A retrospective Premier Healthcare Database analysis shows that the robotic IPOM repair with absorbable barrier mesh was associated with **18% reduction** in mean surgery time compared to robotic PP/RR repair using flat mesh ($P=0.001$)



Poster Reference. Presented as a poster at the HEOR conference:
Tripodi, D. et al. "A Retrospective analysis of robotic intraperitoneal onlay mesh incisional hernia repair versus robotic preperitoneal/retrorectus incisional hernia repair in the hospital setting."

A Retrospective Premier Healthcare Database Analysis

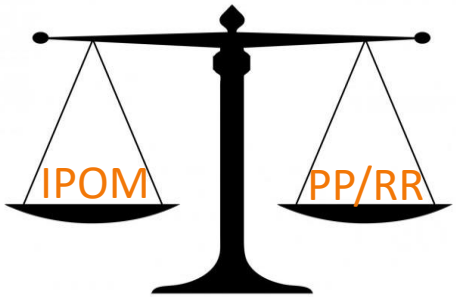
Limitations

Some limitations that should be considered when interpreting our data include:

- Data represents raw discharges rather than national projections. Results may not be generalizable to nationwide utilization and outcomes trends.
- Procedure time may be inconsistently reported.
- Possible coding errors may bias results.
- This was a retrospective study of administrative data, which lacked patient-level clinical data.
- There is limited information on why IPOM or PP/RR incisional hernia repair was chosen

Robotic IPOM has equivalent clinical outcome

- An extensive literature review supported that IPOM mesh placement has EQUIVALENT overall clinical outcome as PP/RR mesh placement[1]

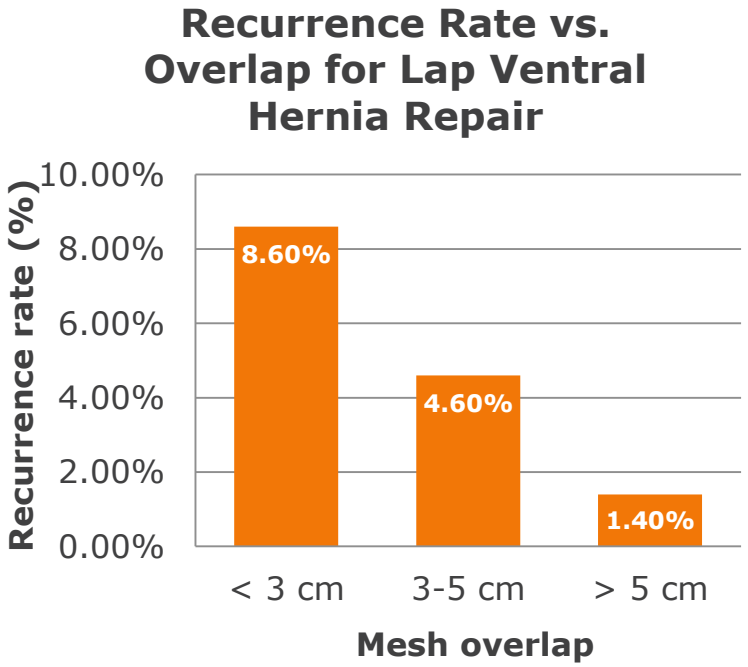


- A retrospective Premier Healthcare Database analysis showed no significant difference in LOS between robotic IPOM and robotic PP/RR repair[2]

1. BD Data on file.
2. Tripodi, D. et al. “A Retrospective analysis of robotic intraperitoneal onlay mesh incisional hernia repair versus robotic preperitoneal/retrorectus incisional hernia repair in the hospital setting.”

Importance of Mesh Overlap[1]

- In laparoscopic procedures, the pooled estimation of risk for recurrence of hernia decreased with increasing area of mesh overlap
  - <3cm, incidence rate 8.6%
  - 3-5cm, incidence rate 4.6%
  - >5cm, incidence rate 1.4%



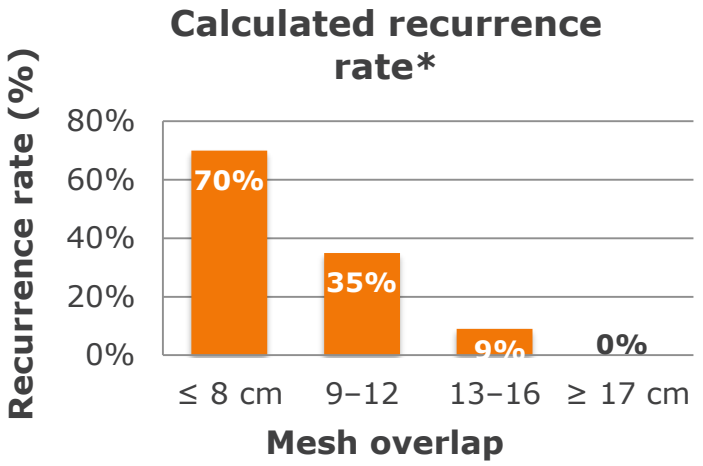
* Total of 95 articles, with 111 study populations were analyzed

1. Karl L, "Proper mesh overlap is a key determinant in hernia recurrence following laparoscopic ventral and incisional hernia repair", *Hernia* 2016, Feb; 20(1): 85-99

Mesh overlap/Mesh to defect ratio (M/D)[1]

- A study by Hauters et al suggests that in ventral hernia repair using a bridging technique, the **M/D ratio** is the most important predictive factor for recurrence.

- If a satisfactory M/D ratio cannot be achieved, other surgical repair should be proposed



* Graph generated by C. R. Bard

Table: Required mesh overlap and diameter for given defects sizes to get a M/D ratio of 13 or 16

Defect diameter (cm)	Size required to get a M/D ratio of 13		Size required to get a M/D ratio of 16	
	Mesh overlap (cm)	Mesh diameter (cm)	Mesh overlap (cm)	Mesh diameter (cm)
2	2.5	7	3	8
3	4	11	4.5	12
4	5	14	6	16
5	6.5	18	7.5	20
6	7.5	21	9	24
7	9	25	10.5	28
8	10.5	29	12	32

1. Hauters, P., Desmet, J., Gherardi, D. et al. Assessment of predictive factors for recurrence in laparoscopic ventral hernia repair using a bridging technique. *Surg Endosc.* (2017) 31: 3656-3663