

## Preperitoneal Ventral Hernia Repair (VHR): Is Robotic Inferior to Open? A Propensity-Matched Analysis

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**Aim:** To compare outcomes of patients undergoing open and robotic VHR in a matched patient population.

### Methods:

- Prospectively maintained hernia database
- Tertiary hernia center in USA
- Preperitoneal only
- 2016-2023
- 1:1 propensity-score matching was performed based on surgery year, BMI, CDC wound class, ASA score, defect size, diabetes, smoking status, primary vs. recurrent repair

### Results:

#### PSM Data

**91 well-matched pairs (all p>0.05):**

**BMI:** 31.0±7.8 vs. 31.4±5.9 kg/m<sup>2</sup>

**Diabetes:** 23.1% vs. 23.1%

**Current smokers:** 1.1% vs. 1.1%

**# comorbidities:** 3.6±2.4 vs. 3.0±2.2

**Primary hernia:** 80.2% vs. 80.2%

**CDC 1/2:** 100% vs. 100%

**ASA III:** 48.9% vs. 48.9%



### Operative Details

**Average defect size:** 43.0±44.9 vs. 35.2±43.6 cm<sup>2</sup>; p=0.291

**Mesh size:** 503.8±440.3 vs. 262.2±177.8 cm<sup>2</sup>; p<0.001

**Synthetic mesh:** 91.2% vs. 100%; p=0.007

**Operative time:** 132.4±70.6 vs. 137.1±75.2 mins; p=0.686

**Operative charges:** \$16,067±11,347 vs. \$36,047±11,472; p<0.001

**Total charges:** \$58,134±33,500 vs. \$72,757±23,748; p<0.001



### Outcomes

**Average length of stay:** 3.7±2.7 vs. 1.6±1.6 days; p<0.001

**Wound complications:** 7.7% vs. 3.3%; P=0.330

**Hernia recurrence:** 0.0% vs. 2.2%; p=0.497

**Reoperation:** 0.0% vs. 1.1%; p>0.999

**30-day readmissions:** 2.2% vs. 6.6%; p=0.278

**Follow-up:** 16.7±23.3 vs. 19.7±21.7 months; p=0.050

### Conclusions:

- Preperitoneal OVHR and RVHR are comparable in terms of wound complications, reoperations, operative time, and hernia recurrence.
- While RVHR was associated with shorter length-of-stay, it resulted in higher charges.