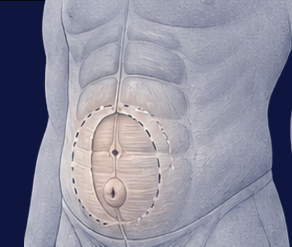


Impact of Obesity in the Healthcare Utilisation of Elective Ventral Hernia Repairs: A Retrospective Study at a Metropolitan Hospital

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1 Introduction

- Ventral hernia repair (VHR) is a common operation (~36,800/year) with substantial economic burden¹⁻².
- Obesity is a well-established risk factor for worse postoperative outcomes post-VHR (wound complications, longer stay, higher costs)³⁻⁶.
- However, current literature reveals a heterogeneity whether obesity independently drives poor outcomes or is merely a marker of greater hernia complexity⁷⁻⁸.

Objectives

- Primary objective:** To analyse the independent impact of obesity on healthcare utilisation post-VHR.
- Secondary objective:** To explore other factors beyond obesity that impact healthcare utilisation post-VHR.

2 Methods



Design

- Retrospective observational cohort study at a university-affiliated metropolitan hospital, Melbourne (Jan 2024 - Dec 2025).



Outcomes

- Total Operative Time (gamma regression, MR)
- Length of Stay (LOS) (negative binomial, IRR)
- Clavien Dindo Scale (CDS)



Covariates

- Obesity class, Sex, ASA Class, Hernia defect size, Surgical approach, Diabetes Mellitus

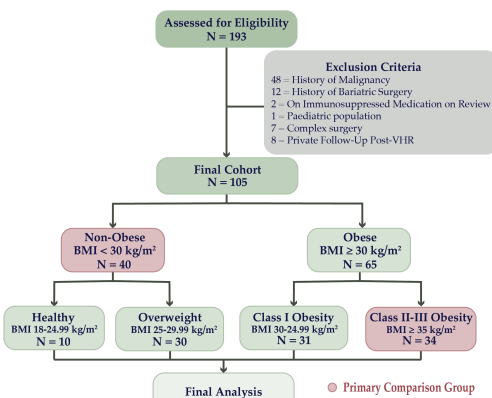


Figure 1. Patient Flow Diagram

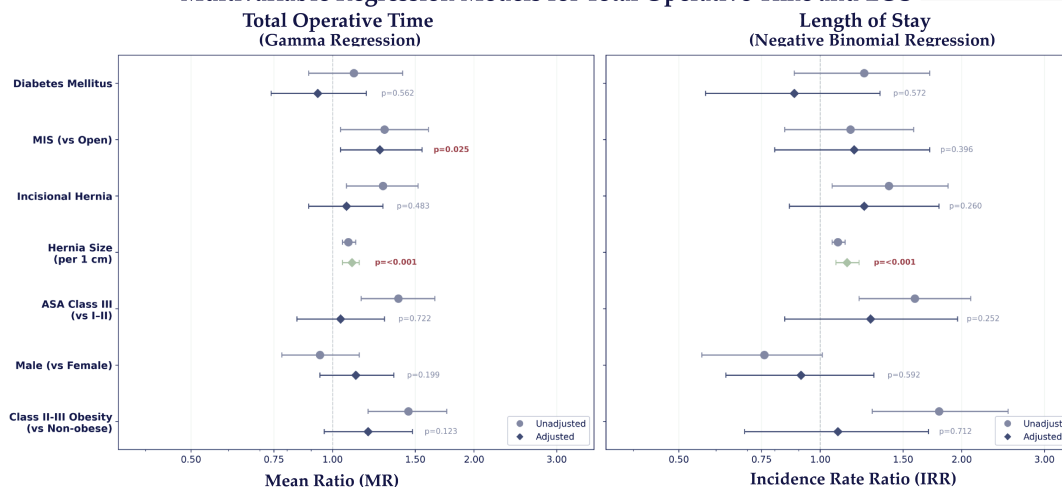
3 Results

Patient Demographics

	Non-Obese (BMI < 30)	Class II-III Obesity (BMI ≥ 35)	p-value
Median age (IQR), yrs	49 (39-59)	51 (41-61)	0.34
Female, n (%)	19 (48%)	25 (74%)	0.042*
Hernia Defect Size (IQR), cm	2.0 (1.5-3.0)	3.0 (2.0-4.5)	0.002*
ASA Class III, n (%)	5 (13%)	23 (68%)	< 0.001*
≥ 2 Comorbidities	12 (30%)	21 (62%)	0.002*
OSA, n (%)	1 (2.5%)	10 (29%)	0.004*

* Statistically significant (p < 0.05)

Multivariable Regression Models for Total Operative Time and LOS



★ Key finding: Hernia size was the strongest independent predictor for total operative time and LOS



Secondary Comparison: Class II-III vs Class I

- Baseline**
- There was no statistical difference in age, sex, or comorbidity burden between Class II-III and Class I patients

Multivariable Analysis

- After adjusting for hernia size, Class II-III obesity had a borderline increase in LOS (IRR 1.41, 95% CI 1.00-1.99, p = 0.050), but not for total operative time (MR 1.17, 95% CI 0.95-1.45, p = 0.13).

Bottom line

- These findings suggests a **threshold effect**, where resource utilisation increases disproportionately once BMI ≥ 35 kg/m²

References

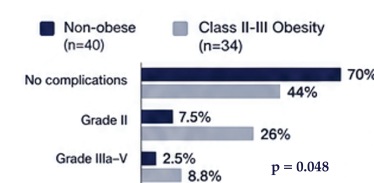
- References used can be found in this link: <https://shorturl.at/Fwe86>. Or can be found upon scanning this QR code.



3 Results

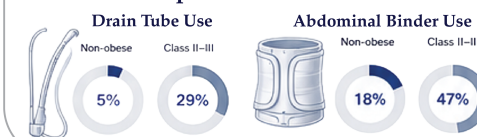
Complication Severity

Clavien Dindo Score



★ Class II-III Obesity was associated with significantly higher complication severity

Postoperative Resource Use



4 Conclusion

- Healthcare utilisation after elective VHR is driven primarily by hernia-specific factors, with hernia defect size as the strongest independent predictor.
- Class II-III obesity was linked to longer operative time, longer LOS, and greater complication severity on univariate analysis, but these effects were mediated by greater hernia complexity.
- Clinically, Class II-III patients require more postoperative resources (e.g. drain tube, abdominal binder)
- Obesity alone should not preclude elective VHR. Preoperative risk stratification should integrate hernia defect size, ASA class, and anticipated postoperative resources.

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- The author declare no conflict of interest related to this study.