

**Department of Surgery**  
**2026 Research Day**  
**6<sup>th</sup> May 2026 (Wednesday) | 7 am – Noon | MART Auditorium**

**Title:**

Measuring the effectiveness of pre-operative selection guidelines, and compliance with such, on VV-ECMO outcomes

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**Background:**

Veno-venous extracorporeal membrane oxygenation (VV-ECMO) is used to treat respiratory failure refractory to other medical interventions but is associated with significant morbidity and mortality. Patient selection at this institution is informed by institutional guidelines that vets candidacy based on predefined contraindications. The objective of this study is to evaluate the efficacy of these guidelines and determine if compliance effects outcomes.

**Methods:**

A retrospective review of patients who received VV-ECMO between January 1, 2011 and December 31, 2025 was conducted. Compliance with guidelines was operationalized to include patients who had 0/12 listed contraindications prior to VV-ECMO cannulation, and non-compliance included any patient with  $\geq 1/12$ . The primary outcome was in-patient mortality. Additional analysis was performed to investigate the association between individual contraindication and mortality.

**Results (or Preliminary Results):**

Forty-three patients were included in the study with median age of 47 years and median ventilator time prior to cannulation of 37.5 hours. Average mortality across all patients was 67.4% and total compliance with guidelines was 46.5%. There was no significant difference in mortality between compliant (66.7%) and non-compliant (73.9%) groups,  $p=0.331$ . Additionally, none of the 12 contraindications that comprise the patient selection guidelines were significantly associated with in-patient mortality after VV-ECMO.

**Conclusions (or Preliminary Conclusions):**

Compliance with patient selection guidelines for VV-ECMO candidacy was low and mortality was significantly higher than national average. There was no significant association between mortality and compliance with patient selection guidelines nor the contraindications that comprise the institution's guidelines. Based on these data, the criteria that comprise patient selection for VV-ECMO at this institution should be revisited.