What Is the Current State of the Evidence in Liberation From VV-ECMO?



STUDY DESIGN

- Systematic review of publications on liberation from venovenous extracorporeal membrane oxygenation (VV-ECMO)
- Included randomized controlled trials, observational trials, narrative reviews, guidelines, editorials, and commentaries
- 1,467 citations screened; 39 key publications included—data summarized based on five main topics

RESULIS				
Strategies for liberation	Criteria to define readiness	Conducting liberation trials	Criteria of decannulation	Parameters to predict decannulation outcomes
 Heterogenous practice Overall: ECMO liberation prioritized over mechanical ventilator (MV) liberation Transplant considerations: MV liberation prioritized over ECMO 	 Subjective evidence of lung improvement Heterogenous selection of ventilatory parameters like Cilley test, PetCO₂/ PaCO₂ ratio, etc 	Procedures to reduce ECMO support and stop gas flow • Clinician-guided • Standardized liberation trials 1. Two-step liberation 2. Fixed reduction in ECMO MV during liberation from ECMO lacks standardization	 Heterogenous practice Clinical response to liberation trial Level of respiratory support required at trial termination Patient's tolerance to continued ECMO 	Definition of successful decannulation or failure • Survival >48 h • Composite endpoints: recannulation, increased ventilatory or hemodynamic support within 48 h

Practices on liberation from VV-ECMO are heterogenous and strongly influenced by clinician preference. Additional research on liberation thresholds is needed to define optimal liberation strategies and close existing knowledge gaps in essential topics on liberation from VV-ECMO.

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RESULTS