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.

### 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

### RESULTS

<table>
<thead>
<tr>
<th>Strategies for liberation</th>
<th>Criteria to define readiness</th>
<th>Conducting liberation trials</th>
<th>Criteria of decannulation</th>
<th>Parameters to predict decannulation outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterogenous practice</td>
<td>Subjective evidence of lung improvement</td>
<td>Procedures to reduce ECMO support and stop gas flow</td>
<td>Heterogenous practice</td>
<td>Definition of successful decannulation or failure</td>
</tr>
<tr>
<td>Overall: ECMO liberation prioritized over mechanical ventilator (MV) liberation</td>
<td>Heterogenous selection of ventilatory parameters like Cilley test, PetCO₂/(\text{PaCO}_2) ratio, etc</td>
<td>• Clinician-guided</td>
<td>• Survival &gt;48 h</td>
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<tr>
<td>Transplant considerations: MV liberation prioritized over ECMO</td>
<td>• Overall: ECMO liberation prioritized over MV liberation</td>
<td>• Standardized liberation trials</td>
<td>• Composite endpoints: recannulation, increased ventilatory or hemodynamic support within 48 h</td>
<td></td>
</tr>
</tbody>
</table>

1. Two-step liberation
2. Fixed reduction in ECMO

MV during liberation from ECMO lacks standardization

Definition of successful decannulation or failure

Survival >48 h

- Composite endpoints: recannulation, increased ventilatory or hemodynamic support within 48 h

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

- Heterogenous practice
- Definition of successful decannulation or failure