

## Prone Positioning During ECMO for ARDS



There is sufficient evidence to show that prone positioning improves oxygenation and respiratory mechanics and is also associated with lower mortality in patients with moderate to severe ARDS. However, some patients can develop refractory hypoxaemia and hypercapnia that could require the use of venovenous extracorporeal membrane oxygenation (VV-ECMO) support and need to be cared for in a supine position. Hence, the physiologic and outcome benefit of routine prone positioning during VV-ECMO remains unclear.

In this systematic review, the researchers evaluated the outcome benefits of prone positioning for patients with ARDS who were treated with VV-ECMO. The primary outcome of interest was cumulative survival, while secondary outcomes included the length of stay in the ICU and ECMO duration. Researchers also studied any changes in arterial blood gas values, ventilator mechanics and complication rates.

Twelve relevant studies, which included 640 patients met the inclusion criteria, of which 11 studies were included in the final analysis.

Findings show that cumulative survival in patients that underwent prone positioning was 57%. Patients that underwent prone positioning had longer ICU length of stay and ECMO duration. After prone positioning, patients had a higher PaO<sub>2</sub>/FiO<sub>2</sub> ratio, lower PaCO<sub>2</sub> and reduced ventilator driving pressure. No major complications were reported.

These findings suggest that prone positioning during VV-ECMO appears to be a safe strategy with a cumulative survival of 57%. However, it may result in longer ECMO runs and ICU length of stay. There is still a need for more evidence from appropriately randomized clinical trials to further clarify the use and adoption of prone positioning on VV-ECMO.

Source: [Critical Care](#)

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