

# Study supports use of extracorporeal membrane oxygenation for critically ill patients with obesity

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A National Institutes of Health-supported study suggests that adults with obesity may benefit from the use of [extracorporeal membrane](#)

[oxygenation](#) (ECMO), an advanced form of breathing support, when in intensive care for respiratory failure. ECMO's use was previously questioned for patients with obesity due to the belief that it may complicate treatment.

However, the current findings, which published in the *American Journal of Respiratory and Critical Care Medicine*, show that patients with [obesity](#) who received ECMO for [acute respiratory distress syndrome](#) (ARDS) had lower mortality rates compared to patients with ARDS without obesity who received ECMO.

In this study, researchers retrospectively reviewed data from 790 patients from more than 20 medical centers across 10 countries who received ECMO for ARDS, a critical lung injury. Among these patients, 320 had obesity. They found 24% of patients with obesity died in the intensive care unit compared to 35% of patients without obesity.

The authors couldn't control for all variables among the larger group analysis, including disease severity. However, they conclude the findings support the concept that obesity, a risk factor for ARDS, shouldn't factor into treatment decisions for ECMO.

"We hope that clinicians will consider the data from this study when making bedside decisions for ARDS patients with obesity instead of preemptively withholding this lifesaving therapy," said Darya Rudym, M.D., a study author, pulmonologist, and assistant professor of medicine at NYU Langone Health, New York City.

Previous studies have found similar findings looking at data from patient registries and observational reviews. However, this study is the largest to date to assess ECMO survival outcomes among adults with obesity who have ARDS based on data from prospective studies and [clinical trials](#), which better reflect real world clinical outcomes.

ARDS varies in prevalence but accounts for [10%](#) of [intensive care unit](#) admissions worldwide. In this study, pneumonia was the most common factor leading to severe respiratory illness. Survival rates for ARDS vary, with about half to three-fourths of patients surviving. Survival rates for ECMO, a last resort for treatment, are also variable, but have ranged from about [60%–75%](#).

Data for this review came from 440 patients who received intensive care for ARDS at hospitals in the United States, France, Australia, and Italy between 2012–2017. An additional 350 patients came from the Ventilation Management of Patients with Extracorporeal Membrane Oxygenation for Acute Respiratory Distress Syndrome (LIFEGARDS) study, which took place at 23 [intensive care](#) units in 10 countries.

"The results of this research open up new questions about how obesity affects outcomes in critical illness to inform evidence-based treatment approaches," said James P. Kiley, Ph.D., director of the Division of Lung Diseases at the National Heart, Lung, and Blood Institute (NHLBI).

**More information:** Mortality in patients with obesity and ARDS receiving ECMO: The multicenter ECMOObesity study., *American Journal of Respiratory and Critical Care Medicine* (2023). [DOI: 10.1164/rccm.202212-2293OC](#)

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