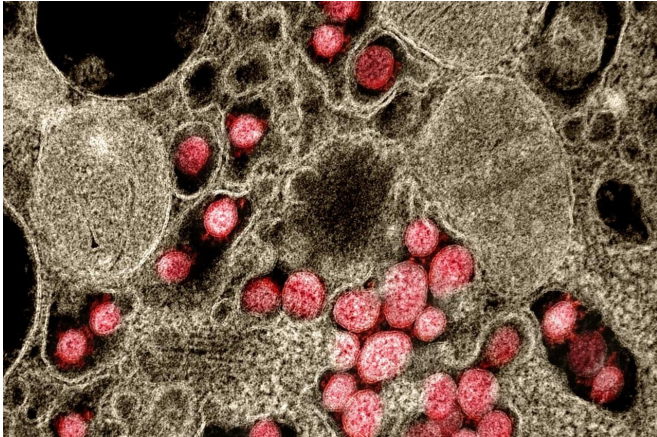


# Study finds similar long-term outcomes for mechanically-ventilated COVID-19 patients

30 April 2021



Transmission electron micrograph of SARS-CoV-2 virus particles isolated from a patient. Credit: NIAID

A new study, presented today at the AATS 101st Annual Meeting, found that severely ill COVID-19 patients treated with ECMO did not suffer worse long-term outcomes than other mechanically-ventilated patients. The multidisciplinary team included cardio thoracic surgeons, critical care doctors, medical staff at long-term care facilities, physical therapists and other specialists, and followed patients at five academic centers: University of Colorado; University of Virginia; University of Kentucky; Johns Hopkins University; and Vanderbilt University.

Survivors of critical illness are at high risk for long-term physical, psychological, and cognitive deficits. Extracorporeal membrane oxygenation (ECMO) shows promising survival benefit for select patients with COVID-19. However, its impact on long-term recovery was unknown. The study measured physical, psychological, and cognitive deficits in 46 patients who were cannulated for ECMO compared to a control group of 262 mechanically ventilated patients who did not receive ECMO.

The multi-disciplinary team conducted a retrospective analysis of mechanically ventilated patients with COVID-19 admitted between March and May 2020. Data were available for all mechanically ventilated patients from three sites, while all five sites provided ECMO patient data. Survivors had access to a multi-disciplinary post-intensive care unit recovery clinic for long-term care. Physical, psychological, and cognitive deficits were measured using validated instruments during follow up. Patient characteristics and long-term outcomes were compared based on ECMO status.

The study found no significant difference in survival at discharge (69.6 percent ECMO vs. 69.9 percent non-ECMO.) Of the 215 survivors across both groups, 93.9 percent were residing at home, 16.1 percent had returned to work or usual activity and 26.2 percent were still using supplemental oxygen; these rates did not differ significantly based on ECMO status. Rates of physical, psychological and cognitive deficits did not differ significantly.

"The initial guidance for ECMO in COVID was helpful and saved a lot of lives, and not to their detriment, which is very encouraging," explained Dr. Jessica Rove, Assistant Professor, Cardiothoracic Surgery at University of Colorado Anschutz Medical Campus, and Section Chief, Cardiac Surgery, Rocky Mountain Regional VA Medical Center. "This multidisciplinary collaboration is committed to examining long-term outcomes beyond survival, and early results look promising. This may help to further refine who should receive ECMO and may increase the rate of positive outcomes."

Further research will continue to follow patients and measure outcomes over the longer term. Dr. Lauren Taylor, fellow at University of Colorado Anschutz Medical Campus explained, "It is exciting that we now have the long term outcomes of these patients and that they are so promising. Further study of these patients over the long term can help

to further refine who we are canulating for ECMO, leading to better outcomes for all."

**More information:** "Long-term Recovery of COVID-19 Survivors is Not Negatively Impacted by ECMO: A Multicenter Study from the ORACLE Group," Presented by Lauren J. Taylor, April 30, 2021 at the AATS 101st Annual Meeting.

Provided by American Association for Thoracic Surgery

APA citation: Study finds similar long-term outcomes for mechanically-ventilated COVID-19 patients (2021, April 30) retrieved 24 May 2021 from <https://medicalxpress.com/news/2021-04-similar-long-term-outcomes-mechanically-ventilated-covid-.html>

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