



UMB News

COVID-19 Stem Cell Treatment Tested at UMB

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Researchers at the [University of Maryland School of Medicine \(UMSOM\)](#) have begun testing an experimental stem cell therapy developed by Mesoblast Limited to treat hospitalized COVID-19 patients with moderate to severe acute respiratory distress syndrome (ARDS) who are on ventilators to help them breathe.

The trial, which is being conducted at the University of Maryland Medical Center (UMMC) and additional sites across the U.S., will involve a total of 300 patients randomized to receive either the drug remestemcel-L or a placebo in addition to the recommended standard of care to manage severe COVID-19 infections. The first patient in this national trial was treated at UMMC.

The research, funded by Mesoblast, an Australian regenerative medicine company, is designed to determine whether the drug reduces the risk of death within 30 days after the onset of treatment and whether it reduces the number of days from a ventilator to recovery.

"This stem cell therapy is a potential new therapy in our treatment arsenal to battle COVID-19," said [Sunjay Kaushal, MD, PhD](#), UMSOM professor of surgery and chief of the University of Maryland Congenital Heart Disease Outreach Program. "There is an urgent need to find new life-saving therapies for our sickest COVID-19 patients who are suffering from ARDS and require ventilators. We are eager to see whether remestemcel-L can reduce mortality in these patients."

Remestemcel-L is an experimental stem cell therapy developed for various inflammatory conditions, and it is believed to reduce inflammation by reducing the production of pro-inflammatory chemicals called cytokines. COVID-19 patients often become very ill from an escalated immune response, referred to as a cytokine storm, creating high levels of inflammation that can be fatal.

The trial will include other hospitals in the University of Maryland Medical System (UMMS) that have COVID-19 patients who meet the criteria. "As we extend the reach of this study to other UMMS hospitals, we affirm our commitment as an academic health system to explore all avenues to improve the health of the people we serve," said [Mohan Suntha, MD, MBA](#), president and chief executive officer of UMMS. "Our hope is that research efforts like this and others we are pursuing in the midst of a novel coronavirus pandemic will help save lives."

Enrollment is expected to be complete within three to four months, with interim analyses planned that could result in stopping the trial early if the drug appears to be working well or not working at all. Potential adverse effects of the treatment include rejection of the cells by the body and other immune system reactions.

"The University of Maryland School of Medicine continues to take the lead in researching innovative new therapies including stem cell therapies, and we are part of an urgent national mission to provide potentially lifesaving options to patients," said UMSOM Dean [E. Albert Reece, MD, PhD, MBA](#), who is also executive vice president for medical affairs at [University of Maryland, Baltimore](#), and the John Z. and Akiko K. Bowers Distinguished Professor at UMSOM. "Our faculty

are engaged in a myriad of research efforts to identify and test innovative techniques to help in the fight against this horrible pandemic.”



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