

Drug trial that could improve respiratory recovery from COVID-19 now underway

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Credit: AI-generated image ([disclaimer](#))

A clinical trial has commenced this week to test whether a drug called Almitrine can help people who are seriously ill with COVID-19 to recover from the disease.

Patients suffering from COVID-19 pneumonia often develop very low

levels of oxygen, called hypoxia, in the [arterial blood](#) supplying the body. Researchers from the University of Oxford hypothesize that the underlying problem is that the virus disrupts a normal process in the lungs called hypoxic pulmonary vasoconstriction, which diverts blood away from the diseased, non-functional parts of the [lung](#) and towards the parts of the lung that are still working properly. If the lungs are prevented from diverting blood to better-oxygenated lung segments, then this can cause the profound hypoxia from which patients with COVID-19 may die. The supportive therapy in hospitals aims to prevent this by using supplementary oxygen and ventilators to support breathing.

Almitrine bismesylate, a drug first developed in France, has been successful in treating [acute respiratory distress syndrome](#) by constricting the blood vessels in regions of the lung where the oxygen is low. Researchers say Almitrine could have the same effect in COVID-19 patients, with the potential to help restore the natural protective process in the lungs and increase oxygen levels in the arterial blood. The trial team hopes that administering this drug to COVID-19 patients will consequently reduce the amount of other respiratory support the patient needs.

According to the lead researcher Professor Peter Robbins, "The primary idea behind [medical treatment](#) is that it is supportive—its aim is to keep people alive while they make their recovery from the disease. In a way, you can view the potential support from Almitrine as extending people's individual runway to make a recovery from the disease. The idea behind our trial is to enhance the supportive treatment—extend people's runway."

The clinical trial commenced this week at the Royal Berkshire NHS Foundation Trust in Reading. Almitrine will be administered orally over a seven-day period to determine whether it is effective in reducing the need for other forms of ventilatory support.

Professor Robbins said, "I am pleased about our decision to use oral, rather than intravenous, almitrine for the trial. This lower tech approach could also be used in low- and middle-income countries which maybe have no, or insufficient, infrastructure to provide oxygen. As an oral drug, it really does have the potential to extend the runway to recovery for many people."

Clinicians aim to recruit in the region of 116 patients in total across three centers, starting with the first center, the Royal Berkshire Hospital, this week. The second and third centers will be the Oxford University Hospitals' John Radcliffe Hospital and University Hospital of Wales, Cardiff. The trial is expected to run for approximately 4 months.

Nicky Lloyd, Acting CEO of the Royal Berkshire NHS Foundation Trust, said, "This trial offers a great opportunity to supplement our increasing understanding of COVID-19 and meet the need for new, cost-effective treatments. The Royal Berkshire Hospital is a research-active [hospital](#), which is well-placed to improve care and outcomes for our patients by taking part in collaborative research studies."

Dr. Nick Talbot, Chief Investigator for the overall trial across the three sites, added, "If Almitrine proves beneficial for our patients, we think it would represent a really important new approach in the management of COVID-19."

Provided by University of Oxford

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