

Man survives 48 hours without lungs: An unprecedented medical miracle.

Doctors have successfully sustained a patient's life for 48 hours without lungs using an artificial lung system before a successful double transplant, opening up new hope for patients with severe ARDS.

Humans cannot live without lungs. Yet a patient of Dr. Ankit Bharat (USA) managed to do so for 48 hours.

In a study published in the scientific journal *Med* (published by Cell Press), surgeons described how they completely removed two severely infected lungs from a patient, then sustained him with a custom-designed 'artificial lung' system until a suitable donor lung could be found. The research team suggests this method could become a lifeline for patients at risk of dying while awaiting organ transplantation.

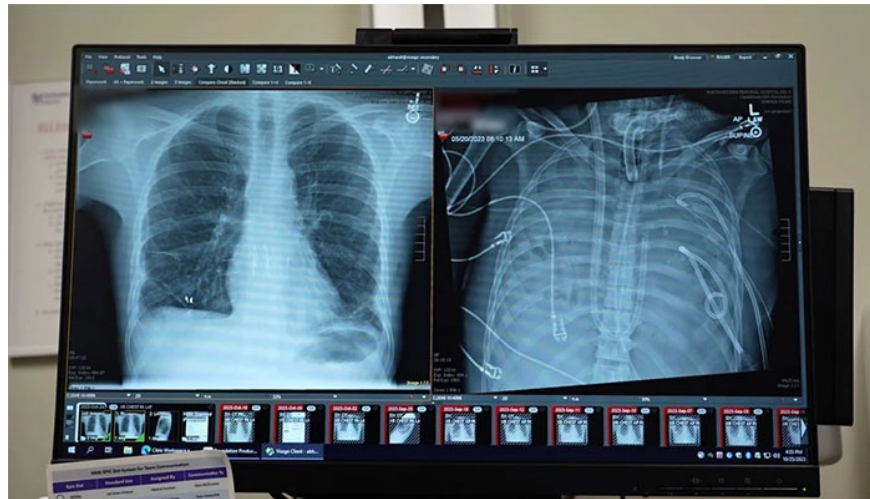
According to Dr. Bharat, a thoracic surgeon at Northwestern University and lead author of the study, the patient's condition upon admission was extremely critical. His heart had stopped beating upon arrival, forcing doctors to perform cardiopulmonary resuscitation (CPR). He explained that when the infection is so severe that it causes lung tissue to 'disintegrate,' the damage becomes irreversible – and that is often when the patient dies.

severe ARDS and multiple organ failure

The patient was a 33-year-old man suffering from acute respiratory distress syndrome (ARDS) – a severe inflammatory and infectious condition that causes fluid buildup and loss of lung function. The illness began with influenza and rapidly worsened due to bacterial pneumonia.

As his lungs failed, his heart and kidneys also began to fail. Doctors concluded that a double lung transplant was his only realistic chance of survival. However, his condition was too unstable to proceed with the transplant immediately. His body needed time to recover before accepting the new organs.

Bharat emphasized that the heart and lungs are closely interconnected. When the lungs are gone, the question becomes how to keep the patient alive.

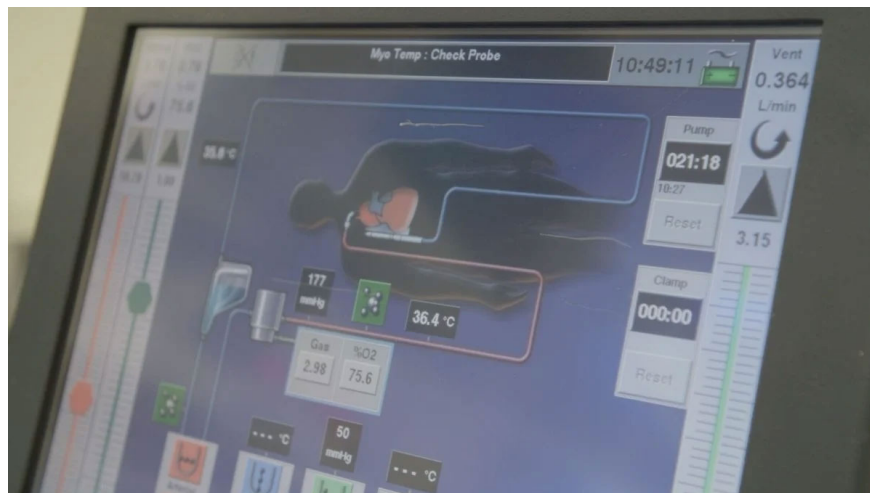


A 'bridge' using artificial lungs.

To buy time while waiting for a transplant, the team of doctors developed a temporary system that could perform the vital functions of the lungs. This device delivers oxygen to the blood, removes carbon dioxide, and supports circulation, helping the heart continue to pump blood efficiently even though the body no longer has lungs.

After the two infected lungs were removed, the patient's condition began to improve significantly. Blood pressure stabilized, other organs gradually regained function, and the infection was brought under control. Two days later, the team found a suitable donor lung and successfully performed the double transplant.

More than two years after the surgery, the patient has returned to a normal life with stable lung function.



Typically, lung transplantation is primarily indicated for chronic diseases such as interstitial lung disease or cystic fibrosis. With severe ARDS, the traditional approach is to continue respiratory support and wait for the lungs to recover on their own. However, in this case, that was not possible.

In-depth analysis of the removed lungs revealed severe fibrosis and a high degree of immune damage. Molecular tests confirmed that the damage had exceeded the lungs' ability to heal naturally.

According to Bharat, this is the first time medicine has presented molecular-level biological evidence showing that some ARDS patients require double lung transplants to survive.

Currently, only a few specialized hospitals have the capacity and resources to perform this complex procedure. Bharat hopes that in the future, more standardized equipment will be available to help sustain the lives of patients with terminal lung failure while awaiting organ donation.

He also shared that in practice, many young patients die every week because no one considers lung transplantation as an option. With severe lung damage due to respiratory viruses or acute infections, even in emergency situations, lung transplantation can still be a life-saving solution.

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