

MEDICAL BREAKTHROUGHS **RESEARCH SUMMARY**

TOPIC: **PRESERVING LUNGS OUTSIDE THE BODY!**
REPORT: **MB #4720**

BACKGROUND: There are nearly 2,000 people who receive a lung transplant each year in the U.S. There are four types of transplants that doctors perform: single lung, double lung, bilateral sequential, which is a double lung surgery at the same time and a heart-lung transplant which comes when the heart and lungs are from the same donor. Pulmonary hypertension, heart disease, pulmonary fibrosis and chronic obstructive pulmonary disease are all conditions that could lead to a lung transplant, but they do not require a transplant. For those with lung cancer, healthcare providers do not advise a lung transplant.

(Source: <https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/lung-transplant> <https://www.uofmhealth.org/conditions-treatments/transplant/adult-lung-transplant>)

PREPARING: Doctors may conduct numerous tests, like a chest x-ray, CT scan, pulmonary function test, coronary artery catheterization, and cardiac stress test. If patients have significant heart, liver or kidney disease, cancer, ongoing infections or are continually smoking, they will not receive a lung transplant. Patients are placed on the list based on their lung allocation score, which tries to predict how long a patient is likely to live without a lung transplant and how long they may live after receiving the transplant. Higher scores are considered first when lungs are available. Those who receive a transplant will need to go on a cardiopulmonary bypass during the surgery, which means the blood is pumped and enriched with oxygen by a machine rather than by the heart and lungs.

(Source: <https://www.webmd.com/lung/lung-transplant-surgery#3>)

NEW PROCEDURE: The first breathing lung transplants occurred in 2012 by UCLA Health. Normally, lungs are transplanted through ambulance, helicopter or airplane. The lungs are removed and placed in three sterile bags on ice which is kept between 0 and 4 degrees. But they do not always make it; some of the lungs may have deteriorated since the tests were performed as there is only a six-hour window. The Organ Care System eliminates that window and can even improve the lungs that are in transit because of the temperature they are held at. They want to take this procedure and move it to heart donors as well.

(Source: <https://www.uclahealth.org/transplants/lung/breathing-lung-transplant> <https://utswmed.org/medblog/lung-transplant-journey/>)

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com