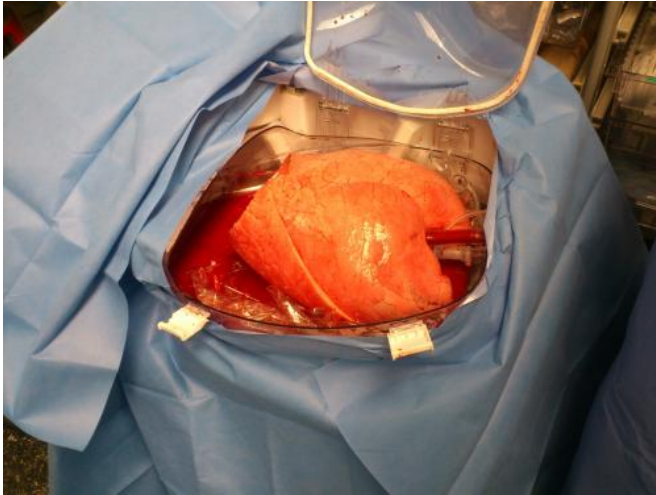


World first: Lungs awaiting transplant preserved 11 hours outside body

16 October 2013



The OCS LUNG machine continually flushes and oxygenates donor lungs at room temperature.

The multidisciplinary transplant team at University Hospitals Leuven successfully preserved a set of donor lungs for over eleven hours with the help of a machine, the longest period ever reported. The lengthy preservation time was necessary because the patient needed a liver transplant immediately prior to the lung transplant. The patient has since left the hospital and is in good health.

The patient, who suffered from chronic lung failure, developed sudden acute [liver](#) problems and went into a coma. The only surgical option for a patient with a terminal lung disease and a terminal liver disease is a combined lung and liver [transplant](#).

But such double transplants pose a serious timing problem, says Dr. Dirk Van Raemdonck, who helped perform the surgery: "Normally, the lung transplant is carried out before the [liver transplant](#). A donor lung typically can only be preserved outside the body for a maximum of ten hours. And a [lung transplant](#) can only be successful if the liver

is still working properly. That is why we needed to transplant the liver before the lungs for this patient. To keep the [donor lungs](#) in good shape long enough after removal from the donor and prior to transplantation, our medical team used a new preservation technique."

World first

The lungs were not put on ice as they usually are, but were preserved using a machine (OCS LUNG) that provided continual flushing and oxygen at room temperature. Dr. Van Raemdonck: "The machine enabled us to keep the lungs outside the body for more than eleven hours with no negative effects, the longest period ever reported – a world first."

The new technique enables doctors to preserve lungs outside the body longer. The machine also provides an analysis of lung quality and can even improve lung function in anticipation of the transplant. A similar machine already exists for kidneys and results show that older kidneys preserved using that machine functioned better immediately after transplantation than kidneys preserved on ice did.

Currently, however, the new technique is not being reimbursed by insurance providers. The technique is being used only in special cases. Costs for this transplantation were covered entirely by University Hospitals Leuven and the maker of the machine.

The combined [lung](#) and liver transplant was performed last July by University Hospitals Leuven's multidisciplinary transplant team, which includes specialists in hepatology, abdominal transplant surgery, pneumology and thoracic surgery.

Provided by KU Leuven

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