

# EVLP

## A BRIEF GUIDE

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**Why is it needed? 01**



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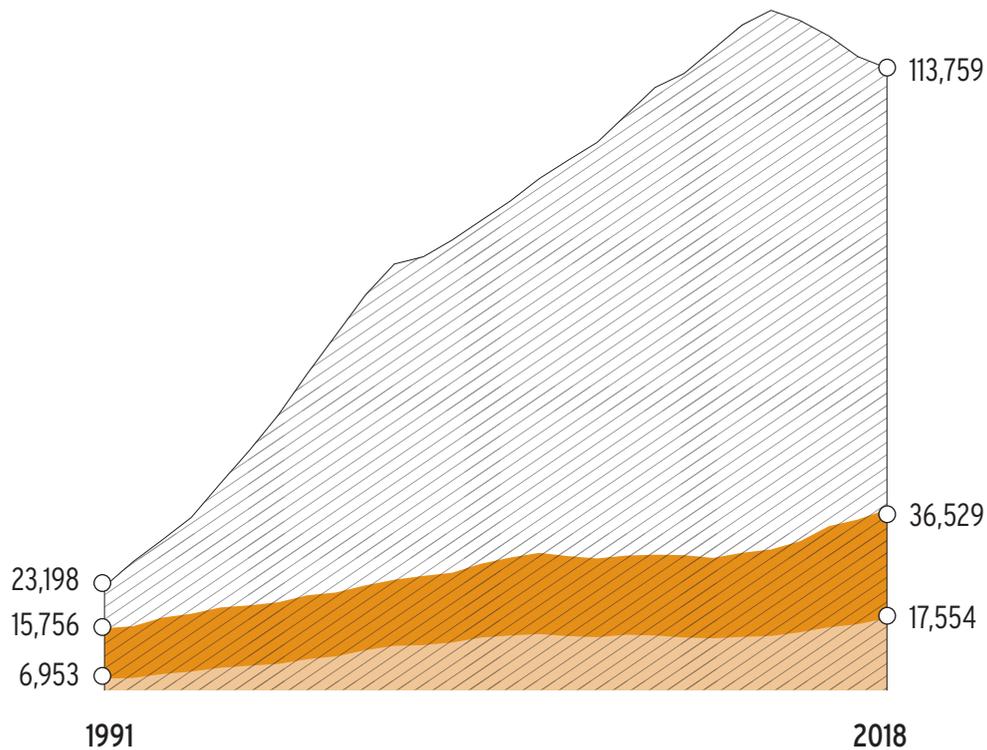
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The more you know about practices for lung transplantation, the greater position you are in to be your own advocate and make informed decisions. Staying informed will also help you better communicate with your healthcare providers so you can work together to choose the best treatment options for you.

Your healthcare providers are your best source of information about lung transplantation, but this brochure is intended to help you understand the basics.

## THERE IS A SHORTAGE OF ORGANS THAT MEET "IDEAL" SPECIFICATIONS

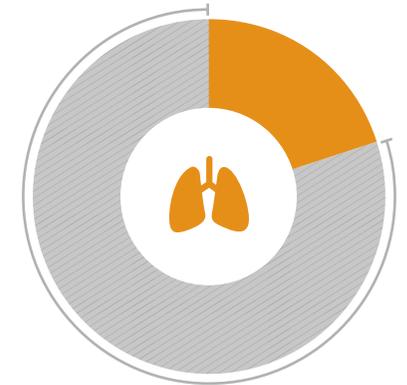
Historically, the number of people on the waiting list continues to be much larger than the number of donors. Though this number continues to rise, many donor organs are still discarded because they are considered unacceptable.



▨ Waiting list    ■ Transplants    ■ Donors

### COMPARED TO OTHER TRANSPLANTED ORGANS

**ONLY 20%** OF AVAILABLE DONOR LUNGS ARE USED FOR TRANSPLANTATION\*



**80%** ARE REJECTED  
 Yet, it is estimated that 40% of the discarded lungs are still usable

### In comparison:



**70%-80%** of available donor kidneys are used for transplantation



**75%** of available donor livers are used for transplantation



**30%** of available donor hearts are used for transplantation

\*Each year this percentage is increasing due to technological advancements

## WHY ARE ONLY 20% OF DONOR LUNGS USED?

### LUNGS ARE VULNERABLE AND MAY BECOME DAMAGED

Lungs may become damaged as a result of the donor's death due to many factors, including:

ISCHEMIA

ABSENT OR INSUFFICIENT BLOOD SUPPLY TO LUNGS

EDEMA

EXCESS FLUID IN THE LUNGS

PNEUMONIA

INFLAMMATION OF THE LUNGS CAUSED BY INFECTION

TRAUMA

DIRECT INJURY TO THE LUNGS

### ONLY A LIMITED NUMBER OF ORGAN DONORS MEET LUNG ACCEPTANCE CRITERIA

Below are some of the characteristics of an ideal donor:



YOUNG DONORS



NO SIGNIFICANT MEDICAL HISTORY



MINIMAL SMOKING HISTORY



ROBUST LUNG FUNCTION

DONOR MEDICAL HISTORY

CONDITION OF DONOR LUNGS

LOGISTICAL CHALLENGES

ORGAN MATCHING

### REASONS FOR LOW UTILIZATION OF DONOR LUNGS

### LUNGS HAVE SHORT PRESERVATION AND TRANSPORT TIMES

#### LUNG PRESERVATION TIME



Donated lungs have a short preservation time (the time between lung removal and transplantation) to remain viable. This limits the distance they can be transported for transplantation.

Common maximum adult organ preservation times

#### KIDNEY



#### LIVER



#### HEART



### INABILITY TO FIND RECIPIENT

Factors that affect the allocation of every donated organ include:



BLOOD TYPE



SIZE



TIME LIMITATIONS



DISTANCE FROM DONOR HOSPITAL

## HOW DOES EVLP HELP?

There are important factors that are taken into consideration when assessing donor lungs. These include donor medical history, lung condition, logistical challenges, and the process of matching donor lungs with a recipient. Each of these factors plays a vital role in deciding if donor lungs may be used in standard transplantation.

When transplant physicians assess donor lungs, they review donor medical history in detail. In cases where the medical history and lung function test results indicate damage to lungs, they are considered not acceptable.

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EVLP, ex vivo lung perfusion, is a process applied to donor lungs outside of the donor's body. The process takes place prior to transplant and uses a device to help evaluate lungs.

During EVLP, which takes several hours, lungs are continuously assessed. If the lung is deemed suitable by a transplant physician after EVLP, the lungs are transplanted into a waiting patient.



EVLP gives the transplant team a second look to decide whether lungs can be used in transplantation.



EVLP allows the transplant team to prolong the time that lungs are outside the donor body so they can be evaluated.

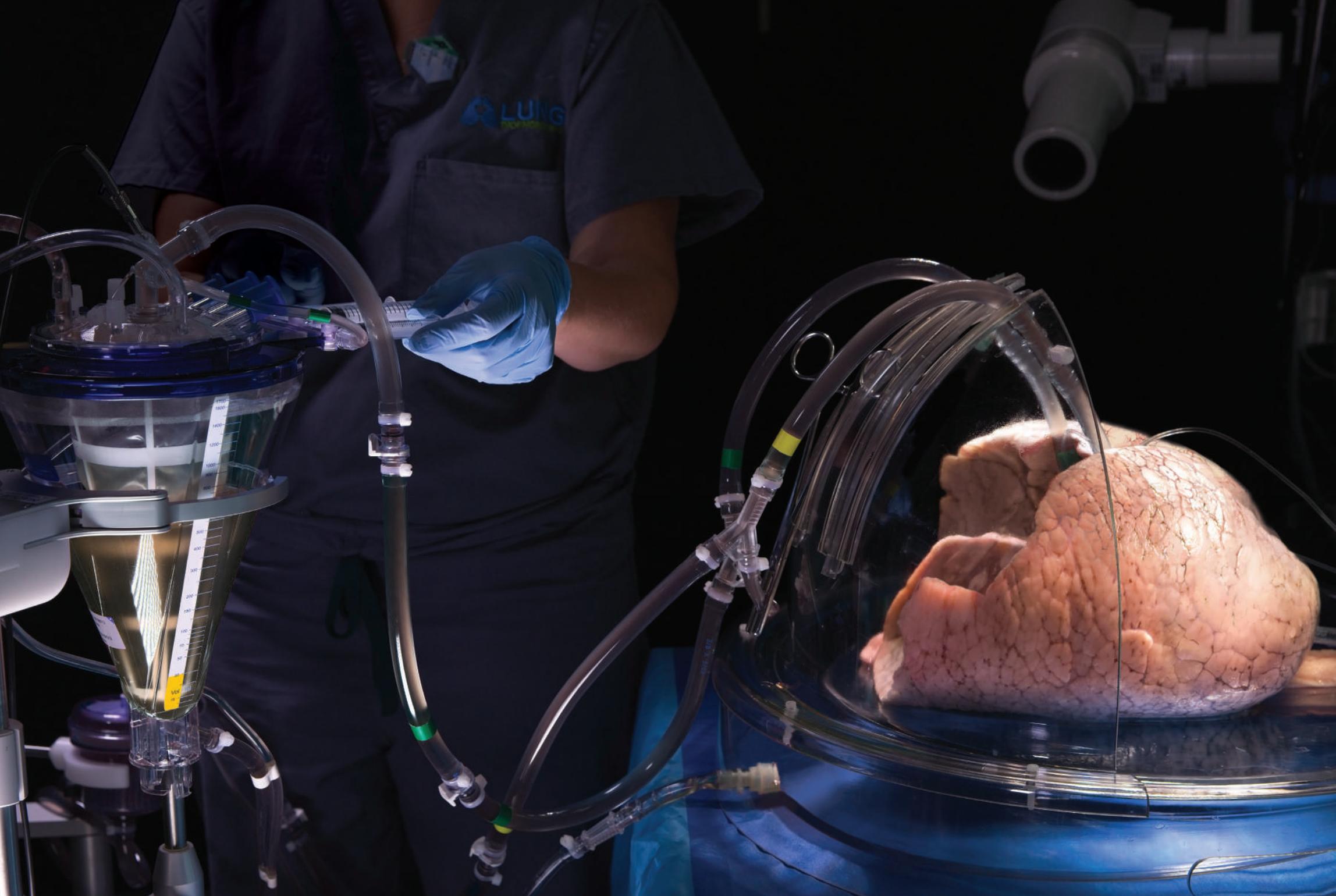


The EVLP system attempts to mimic the functionality of the body. The donor lungs are attached to a ventilator, pump, and filters. The lungs are maintained at normal body temperature and perfused.



EVLP makes it possible for organs to be transported over greater distances. This may help hospitals in procuring lungs from donors that are farther away.

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