# Case Study: OR Lung Decline Resulting in Transplant

***Sam Popa, B.S., HDS-C, CEVS, Richard Pietroski, B.S., MSc***

Lung Bioengineering, United Therapeutics Corporation, Silver Spring, Maryland, USA

## BACKGROUND

- According to Organ Procurement and Transplantation Network (OPTN) data, in 2017, the national lung utilization rate was 23.7%.
- Lungs declined in the donor operating room often have no opportunity for reallocation due to time constraints on the recipient transplant centers and unacceptable cold ischemic times.
- Ex Vivo Lung Perfusion (EVLP) may allow an Organ Procurement Organization (OPO) extended time to allocate lung(s) to a center beyond the time of the deceased donor cross clamp.

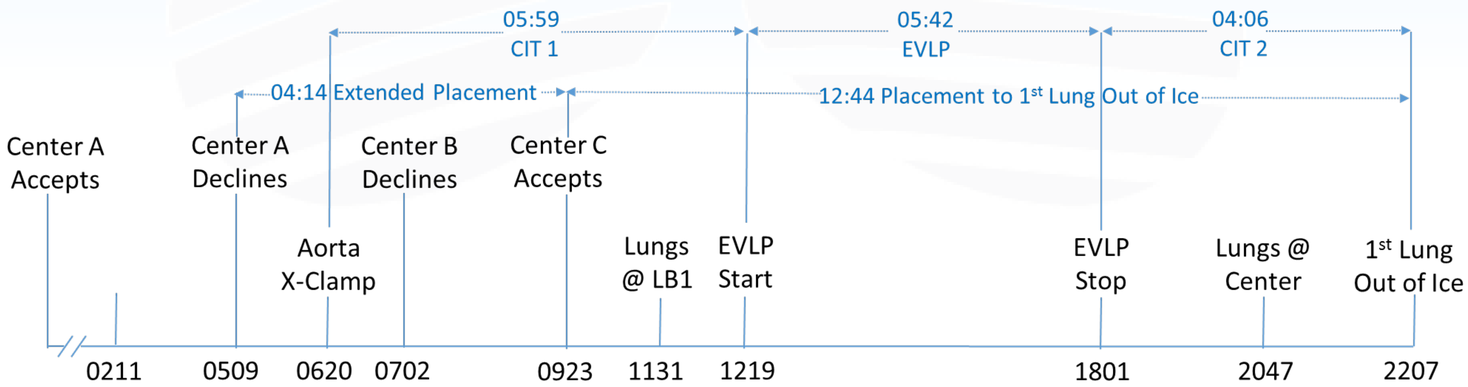
## CASE PROFILE

- A lung transplant center went to the operating room at a donor site with the intention of recovering a bilateral lungs from a brain dead donor for standard of care direct to transplant.
- While in the donor OR, it was discovered that the intended recipient could no longer undergo the scheduled double lung transplant.
- The center did not have any alternate candidates to receive the lungs.

## DISCUSSION

- Since the lung transplant center was enrolled in an EVLP clinical trial (https://clinicaltrials.gov/ct2/show/NCT02234128), the transplant center made the decision to prescribe EVLP for the lungs in order to provide the OPO with additional time to allocate to the other EVLP clinical trial sites.
- Donor aorta cross clamp was delayed by 71 minutes to allow for lung transportation arrangements and the OPO was able to place lungs with a subsequent EVLP clinical trial site while the lungs were en route to a centralized EVLP facility (LB1).
- During EVLP, the accepting transplant center was able to evaluate the lung function and prepare the recipient for transplant.
- The lungs met all clinical trial inclusion criteria for transplant and were sent to the accepting transplant center following EVLP (see Figure 1 for complete timeline).

## FIGURE 1




## SUMMARY

- Access to EVLP allowed the opportunity for lungs declined in donor surgery to still be transplanted.
- This provided the OPO additional time to allocate, and the transplant center with additional time to prepare the recipient and evaluate the lungs.
- In this case, from cross clamp time to beginning of the transplant was 15 hours 47 minutes.

## REFERENCES

- https://optn.transplant.hrsa.gov

## ACKNOWLEGMENT

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## DISCLOSURE

- The EVLP system used to assess the lungs for this report is currently undergoing a clinical investigation in the United States CLINICAL TRIAL PXUS 14-001.
- The system is for Investigational Use Only.
- Sponsored by Lung Bioengineering.