Setting up a Do It Yourself EVLP Program

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The donor pool

UF Lung Transplant Program - Past

UF Lung Transplant Activity

Cases

17 24 14 25 24 15 16 21 25 33 29 36 49 33 34 32 29 36 28 26 11
Majority of cases were single lung transplants
Strong Argument for Expansion of Donor Pool

• Increasing competition for local ideal donor lungs
• Decreasing lung transplant volume
• Very long wait times
• Deaths on the waitlist
Key Elements for EVLP Program

• Administration Support
• OPO buy-in
• Core EVLP Team
• Research Infrastructure
Considerations

- Capital Investment for XPS acquisition
- Inclusion of EVLP costs into organ acquisition budget
- Consideration of 50% conversion rate
- OR needs
## Administration Support

### Considerations
- Capital Investment for XPS acquisition
- Inclusion of EVLP costs into organ acquisition budget
- Consideration of 50% conversion rate
- OR needs

### Benefits
- Increase lung transplant volume
- Avoid poor outcomes from high-risk donor lungs
- Potential to avoid dry-runs
- Decrease wait times and deaths on the waitlist
Administration Support
OPO Buy-in - Lifequest

- Provision of waivers
- Track conversion rates
- Build a reputation of EVLP expertise
- Potential to work with other OPOs
- Increased lung utilization rate
Perfusion Champion

- Clear understanding of EVLP foundations
- Interest in lung transplantation (transition from CPB to ECMO intraop)
- Present in first 10 cases
- Perfusion Educator to establish a team
EVLP Team

Perfusion champion

Core team of perfusionists and RTs

All perfusionists and RTs
• Research coordinator

• NOVEL Lung trial – Normothermic EVLP for marginal donor lungs

• Recently achieved target enrollment 126 EVLP vs 126 control

• Results expected soon
UF EVLP Program Current Set Up

High-Risk Donor
Lungs

Charge Nurse informed transplant on hold d/t EVLP

Lung Transplant Surgeon and Fellow
Perfusion
RT
UF EVLP Program Future Set Up

High-Risk Donor Lungs

Charge Nurse informed transplant on hold d/t EVLP

Lung Transplant Surgeon and Fellow

ECMO specialist
The UF Ex Vivo Lung Perfusion Program Experience

Onset of SOB: 4 years
ILD pulmonary med clinic: 3 months
Lung Tx formal evaluation: 10 days
Listing: 7 days
Double Lung Transplant: 11 days
Hospital Discharge
The UF Ex Vivo Lung Perfusion Program Experience – Collaborating with other programs

- 21 y/o male donor, low P/F and bilateral infiltrates
- Accepted by Duke University however intra-operative assessment revealed consolidation on the RLL and pulmonary edema LLL
- No potential recipient consented for EVLP for single left
Female 68 y/o, severe emphysema, admitted with exacerbation

POD13, discharged home
Brain Death + 16 hrs Cold Ischemia

4 hrs EVLP ± mitDNA repair fusion protein

Left Lung Transplantation

Lung Function, PGD, Cytokine profile, mitDNA over 4 hours reperfusion

Eduardo Fontena MD
David Hall MD
Mark Gillespie PhD
UF Lung Transplant Program - Present

UF Lung Transplant Activity

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In addition, the complexity of transplants has increased as reflected by more bilateral lung transplants.

UF Lung Transplant Activity

- SLTx
- DLTx

Cases across years from 1994 to 2017 with percentages for SLTx and DLTx.
UF successfully established Ex Vivo Lung Perfusion technique as a tool to both evaluate and rescue potential lung donors.

Recent cohort (from 2015) – 94% 1-year survival
Expanded donor pool – EVLP, DDCD, lobar transplants