



ORGAN, EYE AND TISSUE DONATION

## Certified Donation Partner Workshop

March 16, 2021

2

## A Word From Our CEO Susan Gunderson



3



ORGAN, EYE AND TISSUE DONATION

## Support of the Donor Family

---

Nicole Replogle, MS, LPC  
*Family Support Coordinator*

Laura Shaffer, MDiv  
*Family Support Coordinator*

4

## Learning Objectives

### Describe

- The role of the Family Support Coordinator, before, during, and after the donation process.

### Recognize

- That donation increases when the healthcare team and LifeSource collaborate to support families before and during the donation process.

### Summarize

- The importance of huddles to guide the donation conversation and care for families.

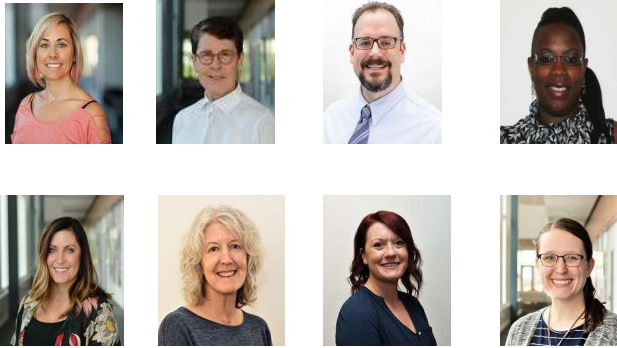
### Acknowledge

- That every family is different, and how we support and care for them will need to meet their needs.



5

## Family Support Coordinators (FSCs)



### Background & Experience

- Pastoral Counseling
- Addiction Counseling
- Adult Mental Health
- Juvenile Correction
- Chemical Dependency
- Police Chaplaincy
  - Mass casualties, homicides, suicides, accidents, domestic violence, etc.
- Military Mortuary Affairs
- Native American School Social Work
- Hospital Chaplaincy
- Conflict Zone Refugee Crisis Support

8 Full Time FSCs with a combined  
63+ years at LifeSource



6

## How We Help

- Donor
- Family
- Hospital staff
- LifeSource Team Members

Support



- Bedside RN and Physician
- Chaplaincy
- Palliative Care
- Social Work
- Child Life
- Security
- HUC

Collaborate



7

# Collaborative Donation Discussion

When LifeSource facilitates the donation discussion they share knowledge and can ensure accurate information is given to families so that they can make an informed decision about donation or honor their loved one's wishes.

## Research Findings

- Explanation from Healthcare Team
- Length-of-Stay in Hospital
- Time to Process Information
- Separation Between Notification and Request

### SOURCES:

- Spaulding, Alicen R., PhD, MPH1, Zagel, Alicia, PhD, MPH1, Cutler, Gretchen J., PhD, MPH1, Brown, Angela LRT2, Zier, Judith L.,MD2 Organ Donation Authorization After Brain Death Among Patients Admitted to PICUs in the United States, 2009–2018  
**2,237 patients included**
- Cornell, Danielle L. (2010) Family Initiated Discussions About Organ Donation at the Time of Death. *Clinical Transplant* 24(4), 493-499. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2888774/>
- Shemie, Sam D. (2017). End-of-Life Conversations with Families of Potential Organ Donors. *Transplantation* 101(S2), S17-S26. [https://journals.lww.com/transplantationjournal/FullText/2017/05001/End\\_of\\_Life\\_Conversations\\_With\\_Families\\_of2.aspx](https://journals.lww.com/transplantationjournal/FullText/2017/05001/End_of_Life_Conversations_With_Families_of2.aspx)  
**146 cases reviewed**
- Rodriguez, James R. (2008). The Instability of Organ Donation Decisions by Next-of-Kin and Factors that Predict It. *American Journal of Transplantation* 8(12), 2661-2667. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2589486/>  
**Study included 285 families, retrospective phone interviews and EMR review**
- Ralph, A. (2014). Family Perspectives on Deceased Organ Donation: Thematic Synthesis of Qualitative Studies. *American Journal of Transplantation* 14(4), 923-935. <https://onlinelibrary.wiley.com/doi/full/10.1111/ajt.12660>  
**105 family members; 672 authorized donation, 244 no authorization**
- Simplin, Arabella L. (2009). Modifiable factors influencing relatives' decision to offer organ donation systematic review. *BMJ* 338, b991  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2671586/>  
**9 trauma hospitals including 2 Pediatric. 420 cases reviewed**
- de Groot, J. (2014). Intensive care staff, the donation request and relatives' satisfaction with the decision: a focus group study. *BMJ Anesthesiology* 14 (52). <https://bmcanesthesiol.biomedcentral.com/articles/10.1186/1471-2253-14-52>  
**1 ICU in study - 228 patients reviewed**



8

# Transitional Language

If a family mentions donation:

1. Acknowledge
2. Connect to LifeSource
3. Stay and Support



### When Donation is Mentioned:

"Our hospital supports donation and making sure all of your questions are answered. We work with an organization called LifeSource, the experts in donation. I'll give them a call so I can connect with them by phone right now. I'll join you for the conversation so I can continue to support you and your family."

### Family is beginning to make End-of-Life decisions:

"Your decision to remove the ventilator is an end-of-life decision, one that we will plan for thoughtfully with you and your family. Part of our commitment to caring for families at this time includes planning for LifeSource, our partner in end-of-life cares, and the (physician, chaplain, or social worker) to talk to you able next steps."

### Imminent withdrawal of life-sustaining support:

"I will arrange for you to talk with LifeSource, our end-of life partner, as soon as you are ready. I will join you for that conversation, so I can continue to support you and your family."



9

## Questions We Consider

What does this family know about BD?

- Do they understand?
- Is there a cultural understanding?
- Do they have language for it?

Has donation been mentioned?

Are there any cultural considerations?

What has been their experience with the staff, authority or medical community?



10

## Donation Conversation



Introduction

Condolences

The Impact

11

## Case Review #1

Case Details	What went well?	Outcome
<ul style="list-style-type: none"> <li>• 4-month-old male</li> <li>• Anoxic brain injury following cardiac arrest of unknown etiology</li> <li>• Not brain dead</li> </ul>	<ul style="list-style-type: none"> <li>• Timely initial referral</li> <li>• Appropriate updates to LifeSource</li> <li>• Total collaboration</li> <li>• Comprehensive support</li> </ul>	<ul style="list-style-type: none"> <li>• Patient became a DCD donor</li> <li>• Kidneys transplanted into a 29-year-old female</li> </ul>



12

## Case Review #2

Case Details	Challenges	Donor Designation Honored	Lessons Learned
<ul style="list-style-type: none"> <li>• 27-year-old, female</li> <li>• Pedestrian v. MVC</li> <li>• Brain Dead</li> <li>• Donor Designated</li> </ul>	<ul style="list-style-type: none"> <li>• Family Dynamics</li> <li>• Broken Communication</li> <li>• Lack of Trust</li> </ul>	<ul style="list-style-type: none"> <li>• Heart &amp; Lungs to 61-year-old female</li> <li>• Liver 61-year-old female</li> <li>• Kidney 34-year-old male</li> <li>• Kidney 42-year-old male</li> </ul>	<ul style="list-style-type: none"> <li>• Communication is essential</li> <li>• Collaboration is crucial</li> <li>• Conflict might not be about donation</li> </ul>



13

## How can you help?

Huddles

Information

Introduction

Transition

Communication



14

## Aftercare



15



## Discussion

If family is not interested, do you stop the conversation right away or do you continue to pursue the conversation?

What have you found to be the best way to connect LifeSource with families in a timely fashion that flows well?

Many times, unless the family brings up donation it is very awkward because we aren't supposed to bring it up, but the family is ready to withdraw care and opportunities are lost. Is there something we can say when a family is ready to withdraw care now without directly bringing it up?

Do you check the donor registry before having conversations with family?

What is different when the donor is not BD and DCD is being pursued?

Do families get offended, angry or hostile when organ donation is mentioned?

16

12% SOME NEED FOR IMPROVEMENT

88% HIGHLY SATISFIED

# 2019

## LifeSource

— Overall Donor Family Satisfaction Rates —

### RPG'S HIGHEST EVER

FIRST-TIME SURVEY RESULTS IN THE NATION

### DONOR FAMILY STUDY

The research was conducted with a stratified random sample of 151 donor families (30 organ, 104 tissue, 17 eye). This sample was drawn from a comprehensive list of families whose loved ones donated in 2017 or 2018. Interviews were conducted in July and August 2019 by RPG.

30  
ORGAN  
DONORS

17  
EYE  
DONORS

104  
TISSUE  
DONORS

#### TOP POSITIVES & OPPORTUNITIES

**Why donor families felt highly satisfied:**

- Good follow-up and aftercare (24 comments)
- They were kind or compassionate (21 comments)
- LifeSource communicated well with families (25 comments)
- It's a good cause or it helps others (35 comments)
- My loved one was able to become a donor (23 comments)

**How donor families could be more satisfied:**

- Don't rush the donation process (4 comments)
- Increase public education on donation (5 comments)
- Provide more timely follow-up on donation outcomes (4 comments)

“The hospital team – the doctors and nurses – helped us make it through. Months later we attended a big event honoring donors with pictures and stories at the hospital. We had a chance to say our son's name, connect with others who were grieving, and thank some of the hospital staff.”

—Father of Organ Donor, Highly Satisfied

17



## Questions?



18

**LifeSource**

ORGAN, EYE AND TISSUE DONATION

## Brain Death

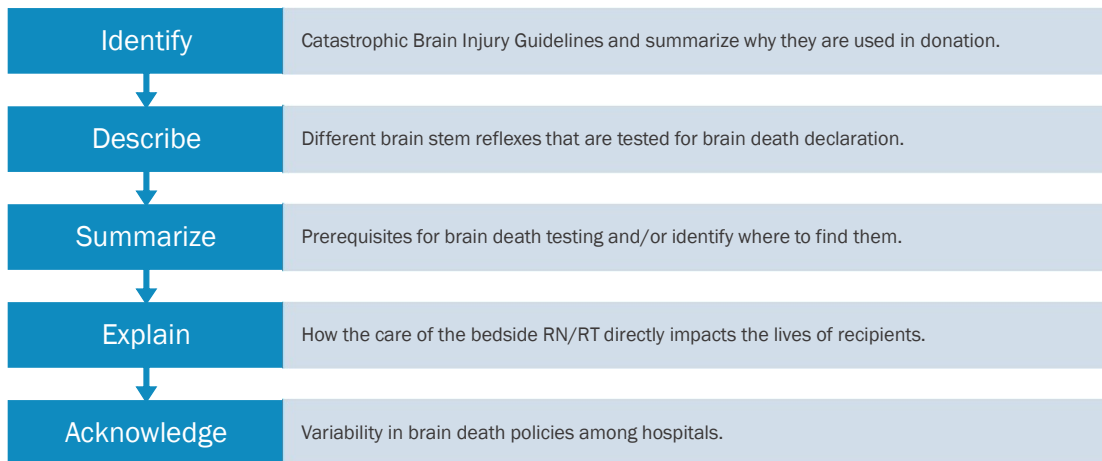
---

Hannah Dobias, RN, BSN, CPTC  
*Donation Coordinator II*

Allysa Nadeau, RN, BSN, CPTC  
*Donation Coordinator II*

19

## Learning Objectives



20

## Catastrophic Brain Injury Guidelines

### **What are they?**

- Catastrophic Brain Injury Guidelines (CBIGs) are a set of clinical guidelines.

### **Who created them?**

- MidWest Transplant Network, et al.

### **Why use them?**

- Intended to be used when patient has a non-surgical and non-survivable brain injury.
- Preserve the opportunity for donation.
- Better transplant outcomes if patient becomes a donor.
- What's good for the patient is likely *also* good for the donor.

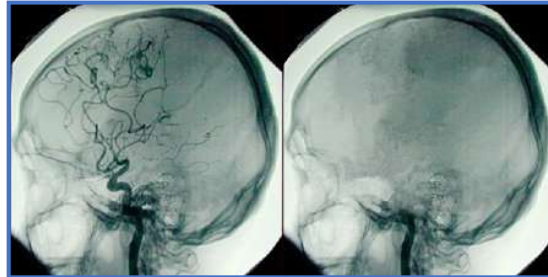
### **Study results:**

- The use of CBIGs *prior to brain death* led to more stable donors.
- The use of CBIGs during hospital management is associated with a **2-fold increase in achieving  $\geq 4$  organs transplanted per donor (OTPD).**

21

## Brain Death

Defined as the irreversible cessation of all brain function including the brain stem.



22

## Brain Death Guidelines

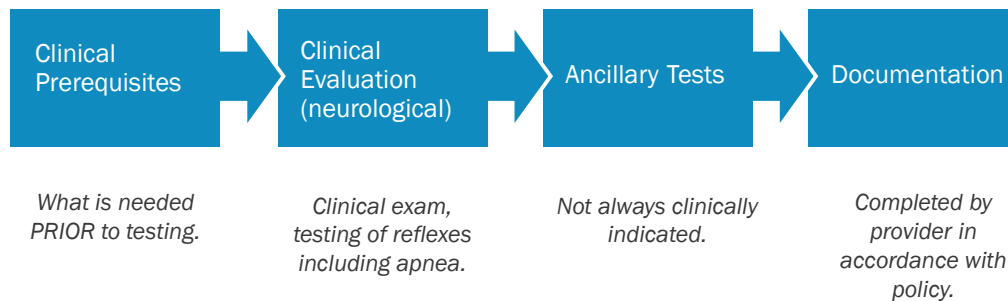
American Academy of Neurology (AAN) guidelines indicate 3 clinical findings necessary to confirm irreversible cessation of all functions of the entire brain, including the brain stem:

1. Coma (with a *known* cause)
2. Absence of brainstem reflexes
3. Apnea



23

## Brain Death Declaration



24

## Brain Death Testing - Prerequisites

- ☐ Time from Initial Injury
- ☐ Irreversible Coma
- ☐ Normothermia
- ☐ Normotensive
- ☐ Absence of:
  - Electrolyte derangement
  - Acid/base imbalance
  - Endocrine disturbance



*Hospital policy drives these prerequisites*

25

## Clinical Brain Death Exam

### Absence of brainstem reflexes



1. Pupillary response
2. Oculocephalic reflex – “Dolls Eyes”
3. Oculovestibular reflex – “Cold Calorics”
4. Corneal reflex
5. Cough / Gag Reflex
6. Motor / Pain response to noxious stimuli
7. Respiratory drive – apnea exam



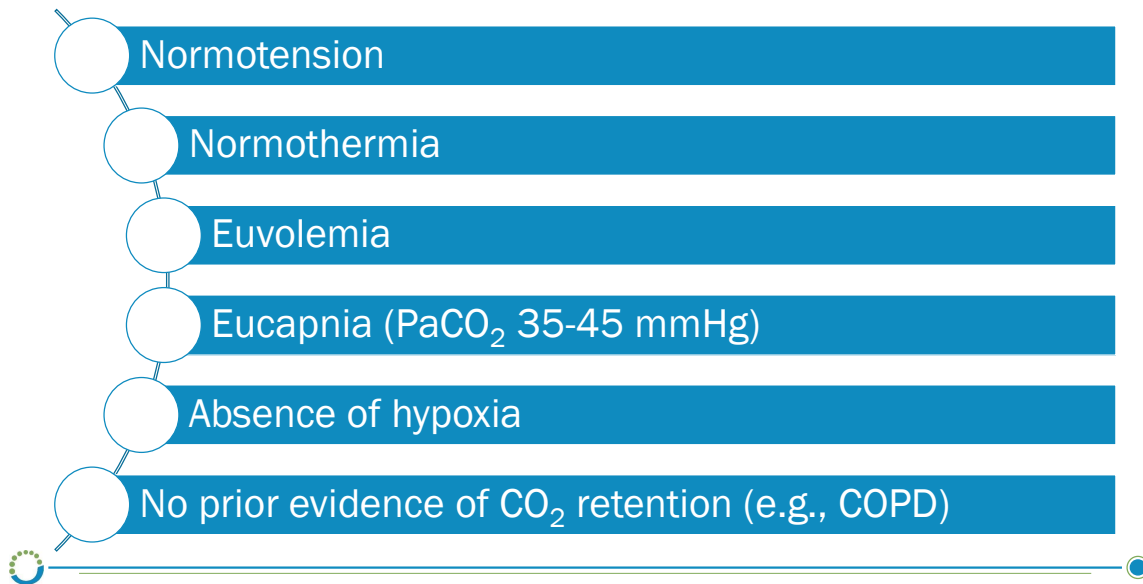
26

## Clinical Brain Death Exam



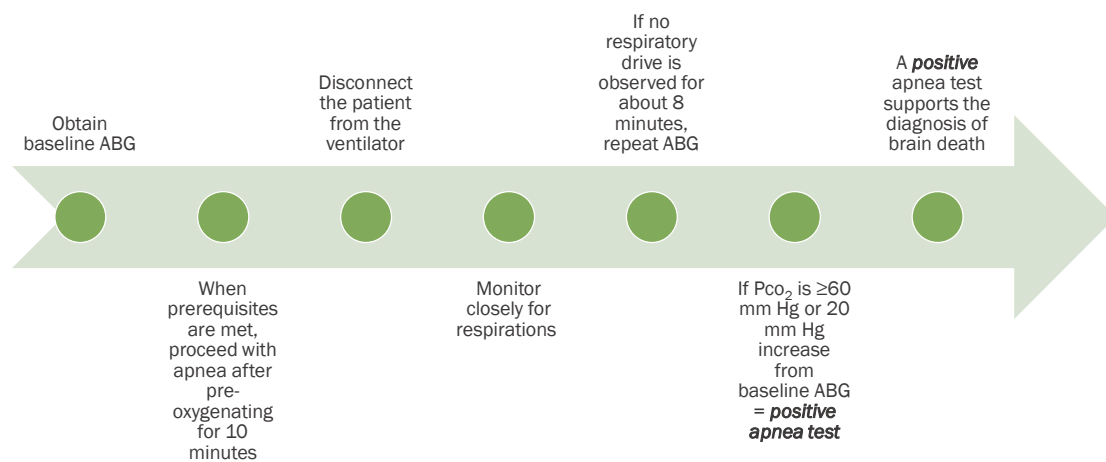
27

## Apnea Testing - Prerequisites



28

## Apnea Testing



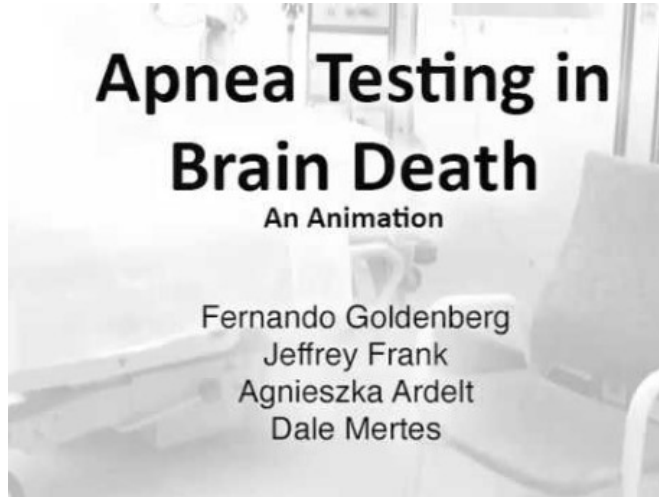
29

# Apnea Testing

## Apnea Testing in Brain Death

An Animation

Fernando Goldenberg  
Jeffrey Frank  
Agnieszka Ardelt  
Dale Mertes



30

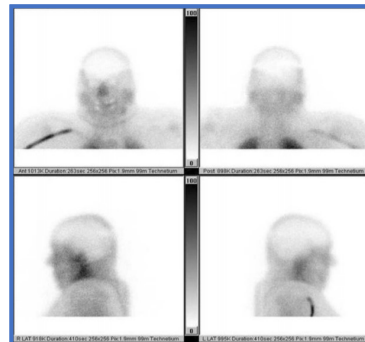
## Confirmatory or Ancillary Exams

Typically confirmatory tests are used to help declare brain death in 3 scenarios:

1. Apnea testing is unable to be completed.
2. A clinical exam is uncertain or incomplete.
3. To shorten or eliminate an observation period.

Examples:

- EEG
- Cerebral angiography
- Cerebral Blood Flow (CBF)
- Transcranial Doppler



31



## Observation Period

The amount of time between clinical exams.

Evidence is insufficient to determine the acceptable observation period between exams.

Wide variability in hospital policies for adults.

Less variation in the Pediatric population.



32

## Hospital Policies

### Example #1

#### NOTE:

1. Two clinical exams and an APNEA test OR 2 exams and an ancillary test must be performed.
2. Clinical assessment must be performed by two separate physicians A and B.
3. One exam must be performed by either a Neurosurgery attending (may be designated to the Neurosurgery Chief Resident) or a Neurology attending.
4. The other exam may be performed by A G3 or above in the Neurosurgery, Neurology or Surgery residency program, a Critical Care Fellow or a Surgery/Medical ICU attending
  - Patients < or equal to 17 years, refer to Pediatric Brain Death Assessment.
5. Brain death certification constitutes pronouncement of death, and is a medical act.
6. Organ donation to be considered prior to ventilator support withdrawn.
7. Refer to HCMC Organ/Tissue/Eye Donation policy # 010018.



33

# Hospital Policies

## Example #2

**Policy:** Brain death is defined as the irreversible loss of the clinical function of the brain, including the brain stem. Brain death is a clinical diagnosis. Brain death determination is made with one clinical exam and a confirmatory test **OR** two clinical exams with identical results of complete loss of brain stem function and no interval improvement.

**Suggested time intervals between clinical exams:**

**Adults:** 6-12 hours apart

**Children:**

- 7 days to 2 months - at least a 48 hour interval
- 2 months to 1 year - at least a 24 hour interval
- Older than 1 year to 17 years old - at least a 12 hour interval.

If the first exam is performed soon after an acute event, it is recommended to wait at least 24 hours between exams. This period may be reduced if the cerebral radionuclide angiographic study does not demonstrate intracranial circulation.

There is no need for a time delay between a clinical exam and a confirmatory test.

34

# Hospital Policies

## Example #3

### Period of Observation

Full term infant 8 days to 2 months: 2 unequivocal clinical exams at least 48 hours apart and 2 confirmatory tests.

2 months to 12 months: 2 unequivocal clinical exams at least 24 hours apart and 1 confirmatory test.

13 months to 17 years: 2 unequivocal clinical exams at least 12 hours apart, confirmatory test optional. (24 hours if hypoxic-ischemic injury.)

18 years and older: 2 unequivocal clinical exams at least 6 hours apart or 1 exam and confirmatory test. (24 hours if hypoxic-ischemic injury.)

35

## Clinical Changes After Brain Death

**Cardiovascular  
System**

**Pulmonary System**

**Endocrine/Metabolic  
Stability**

**Coagulopathy**



36

36

## Questions



37

37



## Lunch Break



38

LifeSource

ORGAN, EYE AND TISSUE DONATION

## Donation after Circulatory Death vs Donation after Brain Death

Chad Fowler, RN, BSN, CPTC  
Donation Coordinator II

Laura Shaffer, MDiv  
Family Support Coordinator

39

## Learning Objectives



Define donation after circulatory death and summarize how it differs from donation after brain death.

Recognize the changes in timing between donation after circulatory death and donation after brain death.

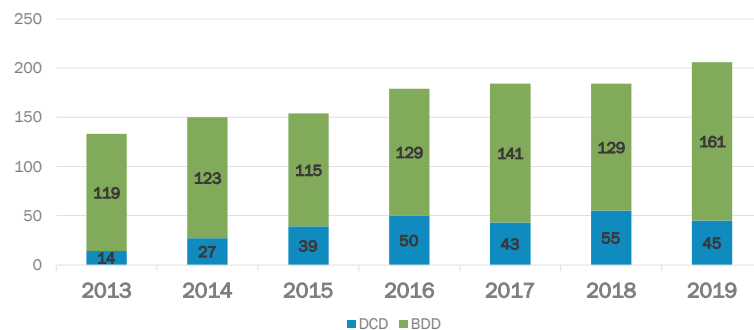
Describe the role and expectations of RN and RT in the donation after circulatory death OR.



40

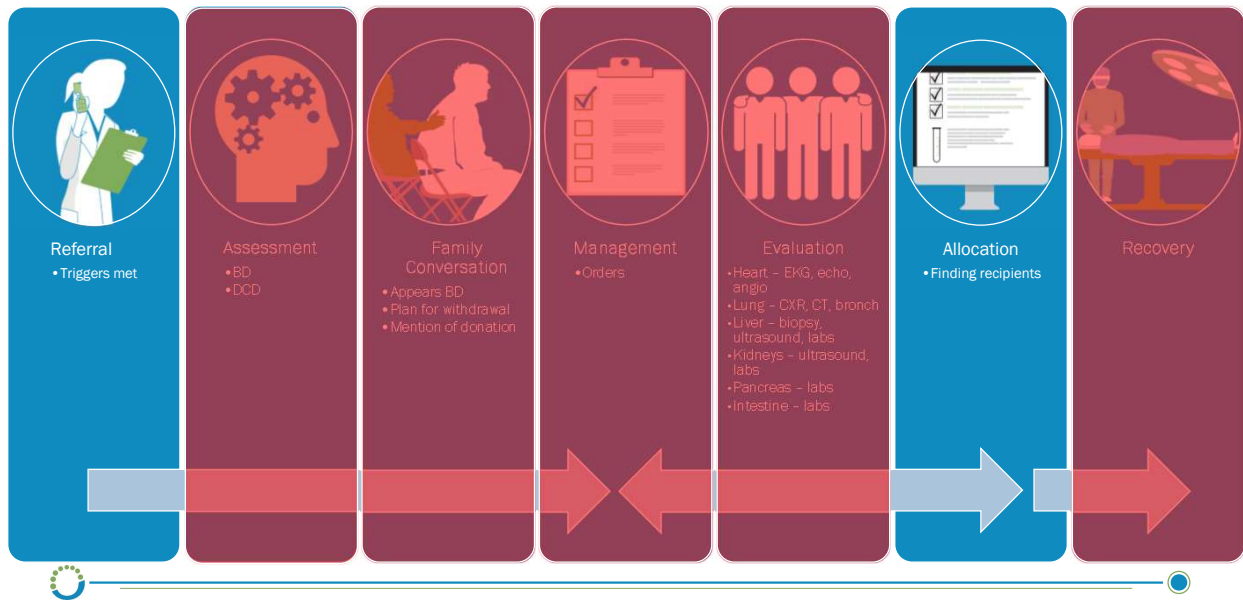
## Donation after Circulatory Death (DCD)

- Donation always occurs after **death**
  - irreversible cessation of circulatory and respiratory functions (**DCD**)
  - irreversible cessation of all functions of the entire brain, including the brain stem (**BD**)
- Often faster
- Less frequent\*



41

## Donation Process



42



## Referral

FOR DONATION REFERRAL  
PLEASE FOLLOW THESE TRIGGERS

**Call LifeSource at: 1-800-247-4273**

To preserve potential for donation, all patients meeting any trigger must be referred within **ONE HOUR**:

- ➕ Ventilator dependent patients with a neurological injury or non-survivable illness AND:

Loss of two or more brain stem reflexes

or

Prior to ANY end-of-life conversation

or

Anticipated withdraw of life-sustaining support
- ❓ Family mentions donation
- 🫀 Cardiac death

**LifeSource** ORGAN, EYE AND TISSUE DONATION **DONATE LIFE**

Family care conference/palliative meeting

43



## Assessment

### What is different with DBD?

- DCD eligibility
  - Patient is requiring life-sustaining medical treatment and ventilator support
  - Patient has suffered permanent and irreversible neurological injury and/or disease (but is not BD)
  - Age  $\leq 65^*$  **No age limit**
  - Neurologic status **Neuro status is not applicable**



44



## Family Conversation

### What is different with DBD?

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Triggers for family approach               <ul style="list-style-type: none"> <li>• Decision to withdraw care</li> <li>• Mention of donation (by family or staff)</li> </ul> </li> <li>• Heparin</li> <li>• Donor Designation</li> </ul> | <ul style="list-style-type: none"> <li>• Triggers for family approach               <ul style="list-style-type: none"> <li>• <b>Appears brain dead/brain death testing planned or in process</b></li> <li>• Mention of donation (by family or staff)</li> </ul> </li> <li>• <b>Heparin</b></li> <li>• <b>Donor Designation</b></li> </ul> |
|---|---|



45





## Management

### What is different with DBD?

- Patient is alive **Patient is dead**
  - Attending remains the same
  - **LifeSource assumes care of the patient**
  - Orders entered by physician
  - **Orders entered by LifeSource**
  - Financial responsibility at time of authorization
  - **Financial responsibility at time of brain death/authorization**
  - Consents required
  - **No consents required**
  - Comfort cares/DNR
  - **No comfort cares/full code**



46



## Evaluation

### What is different with DBD?

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Lungs           <ul style="list-style-type: none"> <li>• Neuro status</li> <li>• Bronch, CT, recruitment/gasses</li> </ul> </li> <li>• Liver           <ul style="list-style-type: none"> <li>• Ultrasound, CT</li> <li>• Labs</li> </ul> </li> <li>• Kidneys, pancreas           <ul style="list-style-type: none"> <li>• Labs</li> <li>• Ultrasound, CT</li> </ul> </li> <li>• Heart</li> </ul> | <ul style="list-style-type: none"> <li>• Lungs – neuro status not applicable</li> <li>• Liver – biopsy</li> <li>• Heart – EKG, echo, angio</li> <li>• Intestine</li> </ul> |
|--|--|



47



## Allocation

### What is different with DBD?

- Finding recipients
  - Current neuro status
  - Likelihood of arrest



48



## Recovery

### What is different with DBD?

- Pre-OR huddle
- RN/RT/MD presence
- Withdrawal
- Comfort medications
- Timeframe for arrest
- Death declaration
- Family presence
- Monitoring
- Warm ischemic time

- Pre-OR huddle
- RN/RT/MD not present
- No withdrawal
- No comfort medication
- No arrest
- Death declared prior
- No family present
- Anesthesia managing
- No warm ischemic time



49



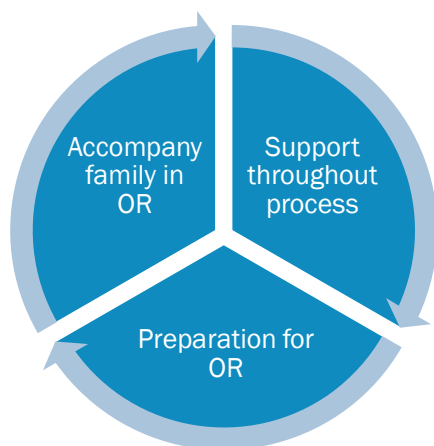
# Recovery

## Roles in DCD OR



50

## Family Support during the OR



51

## What if the patient doesn't arrest?



Return to  
hospital  
room

Comfort  
cares

Family

Tissue & Eye  
donation



52

## DCD Donor to BD Donor


### What changes?

- Length of case
- Brain death testing
- Additional organ evaluation
- Family support and education



53

## Key Takeaways




Comfort is a priority

Death occurs in the OR

Hospital provider writes orders


Family presence in OR

RN, RT, and MD presence in OR



54

## Questions



55



ORGAN, EYE AND TISSUE DONATION

## **Donor Lungs: Optimizing Function for Transplantation**

---

Cindy Darnell, CPTC, LRT, MPH, MBA  
*Clinical Resource Supervisor*

56

## **Learning Objectives**

Review Donor Lung Management

Review LifeSource Lung Protocol

Management of Mechanical Ventilation

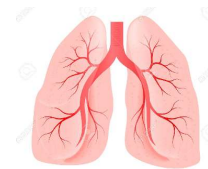
Review Advanced Lung Management Strategies



ORGAN, EYE AND TISSUE DONATION

57

# Evaluation & Management of the Potential Lung Donor



58

## Donor History...

### Age/Size

- $\leq 70$  years
- Older donors considered when smoking history is minimal and/or no evidence of age-related or emphysemic changes by CT scan
- Donors with very large or small chest cavities impact placement

### Pre-existing Lung Disease

- Emphysema, COPD, Pulmonary hypertension
- Auto-immune disorders (Lupus, Rheumatoid arthritis) can impact lung tissue

### Smoking/Substance Inhalation

- Smoking is not a rule out
- Longer smoking history in younger donors or with CT scan showing no disease



59



## Donor History...

Mechanism of Death	<ul style="list-style-type: none"> <li>• Drowning , hanging, GSW to head, MVA</li> </ul>
Lung Injury or Trauma	<ul style="list-style-type: none"> <li>• Aspiration, lung contusions, hemo/ pneumothorax, past cardiac surgery</li> </ul>
Time on Mechanical Ventilation	<ul style="list-style-type: none"> <li>• Antibiotic coverage</li> <li>• Organism colonization in lungs</li> </ul>
Social Factors	<ul style="list-style-type: none"> <li>• Inhaled substances, CDC “increased risk,” infectious disease testing</li> </ul>



60

## Lung Management Protocol

- Implemented 2007
- Updated July 2012 & 2019
- Special Lung Summit to review current practice included:
  - Intensivists
  - Respiratory Therapists
  - Transplant Pulmonologists/Surgeons
  - LifeSource



61

# Update to Lung Management Protocol

### RT TREATMENT SCHEDULE

Please connect with LifeSource Donation Coordinator regarding when to begin treatment regimen

<input type="checkbox"/>	Metanex or pneumatic vest treatment with bronchodilator followed by lung recruitment. Post recruitment leave PEEP at +10 as tolerated.
<input type="checkbox"/>	O2 Challenge-PEEP to +5 and FIO2 to 1.0. Blood gas 30 minutes after vent changes. Return vent to baseline settings after blood gas is drawn.
<input type="checkbox"/>	Metanex or pneumatic vest treatment with bronchodilator followed by lung recruitment. Post recruitment leave PEEP at +10 as tolerated.
<input type="checkbox"/>	O2 Challenge-PEEP to +5 and FIO2 to 1.0. Blood gas 30 minutes after vent changes. Return vent to baseline settings after blood gas is drawn.
<input type="checkbox"/>	Metanex or pneumatic vest treatment with bronchodilator followed by lung recruitment. Post recruitment leave PEEP at +10 as tolerated.
<input type="checkbox"/>	Baseline blood gas. Please draw blood gas on baseline PEEP and FIO2 settings.
<input type="checkbox"/>	Metanex or pneumatic vest treatment with bronchodilator followed by lung recruitment. Post recruitment leave PEEP at +10 as tolerated.
<input type="checkbox"/>	O2 Challenge-PEEP to +5 and FIO2 to 1.0. Blood gas 30 minutes after vent changes. Return vent to baseline settings after blood gas is drawn.
<input type="checkbox"/>	Metanex or pneumatic vest treatment with bronchodilator followed by lung recruitment. Post recruitment leave PEEP at +10 as tolerated.
<input type="checkbox"/>	O2 Challenge-PEEP to +5 and FIO2 to 1.0. Blood gas 30 minutes after vent changes. Return vent to baseline settings after blood gas is drawn.
<input type="checkbox"/>	Metanex or pneumatic vest treatment with bronchodilator followed by lung recruitment. Post recruitment leave PEEP at +10 as tolerated.

### DONOR MANAGEMENT GUIDELINES FOR RT

Thank you for your assistance in making donation happen! We realize treatment of potential lung donors uses a great deal of your resources and will work with you to assist in conforming our needs to your schedule demands. Lung donation could not happen without collaboration with Respiratory Therapy and we are grateful for your assistance and expertise!

- Early bronchoscopy with minimal saline instillation to evaluate lung donor
- Ideally bronchoscopy will be performed prior to RT Treatment Schedule initiation
- Obtain sputum culture asap to ensure proper antibiotic coverage
- Maximal inflation of ETT cuff to prevent aspiration of oral secretions
- Tidal volume of 6-8 mL/kg IBW to prevent and treat atelectasis
- Inspiratory time of 1-1.2 seconds to prevent and treat atelectasis
- Q4 Metanex, pneumatic vest or manual percussion to assist in secretion removal
- Q4 oral care and ETT suction
- Q4 recruitment maneuvers as tolerated to prevent and treat atelectasis
- Recruitment maneuvers as tolerated post bronchoscopy and after any vent disconnect
- Please use a Kelly clamp on the ETT prior to vent disconnect or change to transport vent to prevent atelectasis.
- Q4 Blood gases to evaluate potential lung donor
- O2 challenge: PEEP +5, FIO2 1.0 30 minutes prior to ABG to evaluate potential lung donor

62

## Lung Management: Considerations

- Cough is absent in brain dead donors
- Cough is frequently severely impaired in Donation after Circulatory Death donors
- Early bronchoscopy to evaluate lungs for trauma or signs of pulmonary aspiration
- Early bronchoscopy for therapeutic removal of secretion

63

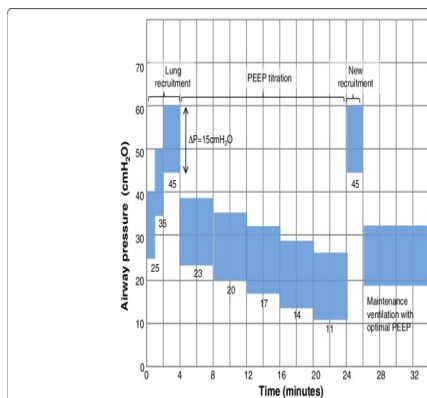
## Lung Management: Strategies

- Metaneb is the preferred method of scheduled pulmonary therapy in hospitals where it is available
- Alternately IPV or pneumatic vest therapy may be implemented
- Donor positioning e.g L-side up, R-side up



64

## Recruitment Maneuvers: Considerations



- Intrapulmonary shunting from dependent atelectasis is the most common cause of impaired oxygenation in donors
- Recruitment and maintenance of open lung is our goal
- Transient hypotension is common and can be limited by temporary adjustment of pressors and adequate fluid resuscitation



65

## Why q4hr CXR's ?

- Are we improving?
- Air-space opacities
- Atelectasis
- Contusion
- Pneumothorax
- Pleural effusion



66

## Chest CT: What are we looking for?

- Pulmonary Contusion
- COPD/Emphysema
- Aspiration
- Extent of Infection



67

## The Delicate Management of Fluids



68

## The Balance Between Organ Systems

- Therapies that benefit one organ may harm another
- Fluid administration may help the kidneys and heart but harm the lungs
- Excessive fluid administration can cause third spacing and pulmonary edema
- Concern for fluid overload particularly in patients with impaired left ventricular function
- Donors in DI may need fluid resuscitation
- Donors may require transfusion
- Lasix can cause a bump in serum creatinine



69

## Assessment of Fluid Status

- Fluid balance since admission
- Implementing Flotrac, monitoring SVV/SVI
  - Goal: 8-12
- Current CVP
  - Goal: 4-10
- Hyper/Hypovolemia
- Monitor hourly I/O



70

## Ventilator Management

- Evaluate pulmonary status using ABG results, oxygen saturation, CXR and CT results, lung auscultation
- Airway pressures can be helpful in management of a potential lung donor
  - Lung protection strategies
- Arterial line and Flotrac can also provide helpful information in management of a potential lung donor
  - ABG's
  - Fluid status



71

## Ventilator Management

Adjust vent settings to correct acid/base disturbances or hypoxemia and achieve adequate ventilation as follows:

- Tidal Volume 6-8 ml/kg IBW\*\*\*
- Rate =  $\frac{\text{PCO}_2 \times \text{Vent rate}}{40}$
- PEEP 8-10
- FiO2 40% or lowest to keep PaO2 >100
- I:E ratio 1:1-1:2
- Longer I times to improve gas distribution in the lungs

\*\*\*IBW males: 50kg + 2.3kg/in of ht. above 5ft  
females: 45kg + 2.3kg/in of ht. above 5 ft.



72

## Management of Metabolic Acidosis

- Fix the cause - poor peripheral perfusion
  - High pressor doses
  - Low Hgb
  - Hypovolemia
  - Renal failure
- Sodium Bicarb Administration
  - Increases the Ph of the blood transiently which can improve cardiac function
  - Does not change the intracellular Ph
  - Breaks down into CO2 which can worsen acidosis
  - Can increase serum Potassium
  - THAM can be used in patients with high CO2 levels



73



## Metabolic Alkalosis

- Excessive GI loss (vomiting, aggressive NG suctioning)
- Hypovolemia or Hypokalemia
- Chronic CO<sub>2</sub> retention
- Aggressive diuresis
- Generally self limiting when caused by GI loss or diuresis
- Be wary of adjusting vent to improve CO<sub>2</sub> and compensate
- If donor is otherwise hemodynamically stable continue to monitor



74

## Advanced Oxygenation Strategies

Find the Cause

- Basilar atelectasis
  - Increase PEEP
  - Increase Vt
  - Increase IT
  - Positioning (does CXR or CT show unilateral atelectasis-position donor bad side up)
  - Positioning (does CXR or CT show bilateral or diffuse atelectasis-consider proning)
- Hypo/Hypervolemia
  - Evaluate Flo-Trac numbers for fluid
  - Hypovolemia can decrease pulmonary perfusion leading to impaired oxygenation
  - Hypervolemia can lead to pulmonary edema leading to impaired oxygenation
  - Give fluids or diuretics as needed
  - Consider Albumin



75

## Prone Positioning

- Prone Positioning in Severe Acute Respiratory Distress Syndrome Guerin, C et al, Published in NEJM study noted significantly decreased 28 and 90 day mortality in ARDS patients that were placed in prone position
- Prone positioning increases ventilation to basilar lung segments improving atelectasis and decreasing shunt physiology
- Hospitals have different comfort levels for prone positioning
- Some hospitals require a proning bed to be rented prior to initiating prone positioning
- Patient may require reposition to supine for transports, echo, liver biopsy, liver ultrasound



76

## Pulmonary Vasodilators Epoprostenol/Flolan/Valettri (Nitric Oxide)

- Can be used in donors with severely impaired oxygenation e.g ARDS
- Decreases shunt physiology by selectively vasodilating the ventilated portions of the lungs
- Inhaled agents do not have systemic effects
- If donor is requiring a pulmonary vasodilator lungs will likely be ruled out unless there is a dramatic improvement in function and inhaled agents can be weaned off



77



ORGAN, EYE AND TISSUE DONATION

## Donor Management Panel Discussion

Moderator: Katie McKee, MPH  
*Hospital Partnership*

Cindy Darnell, CPTC, LRT, MPH, MBA  
*Clinical Resource Supervisor*

Hannah Dobias, RN  
*Donation Coordinator II*

Chad Fowler, RN, BSN, CPTC  
*Donation Coordinator II*

Isabella (Izzy) Briggs, RN, CPTC  
*Advanced Practice Donation Coordinator*

78

## Question & Answer



Submit questions via:

- Zoom chat function
- “Raise Hand” in Zoom and you will be unmuted
- Email [DonationPartnerTeam@life-source.org](mailto:DonationPartnerTeam@life-source.org)



79



ORGAN, EYE AND TISSUE DONATION

## Allocation and Organ Recovery

Missy Korolchuk, RN, BSN  
*Donation Coordinator I*

Liz Schwartz, RN  
*Donation Coordinator I*

80

## Learning Objectives

**SUMMARIZE**

Basics of the organ allocation process

**IDENTIFY**

Reasons organs may not be recovered or placed for transplantation.

**RECOGNIZE**

Your role in preparing for organ donor surgery

**UNDERSTAND**

The intraoperative organ recovery process



81

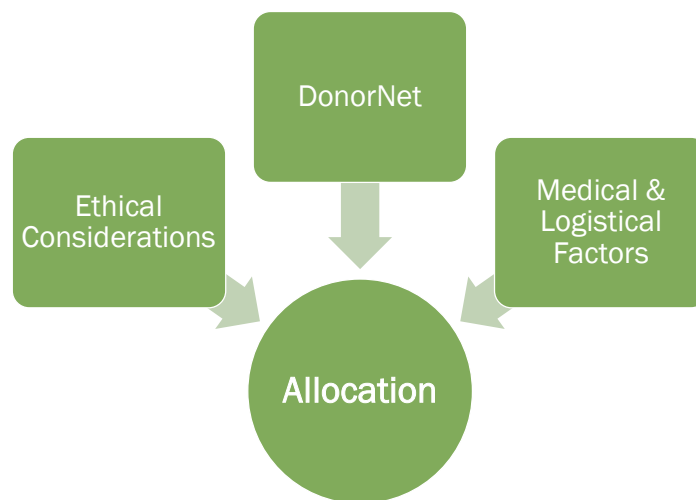
## What does NOT affect a recipient's rank on the organ list?

- A. Size
- B. Race
- C. Time on wait list
- D. Health status



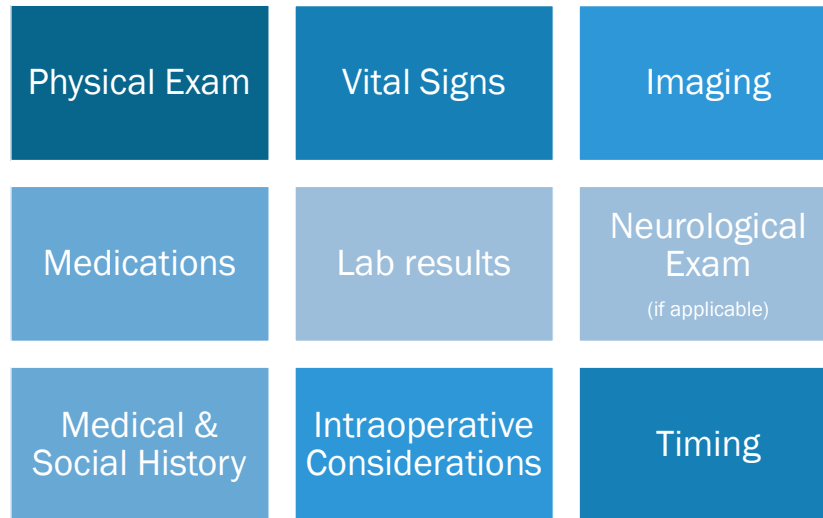
82

## Finding the Perfect Match



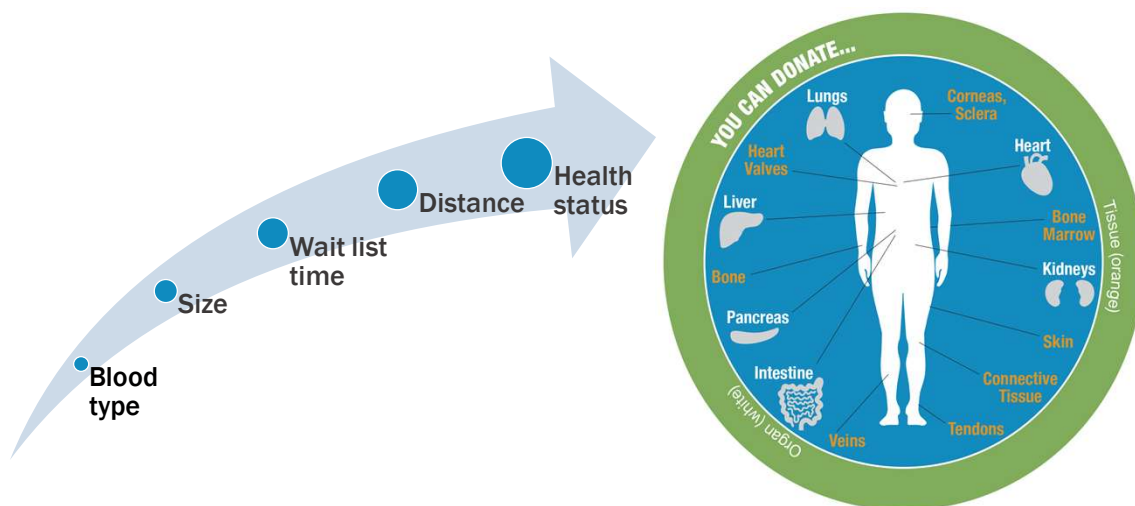
83

## Creating the List



84

## Organ Specific Lists: Recipient Rank



85

# What organ has the most recipients on the waitlist?

A. Heart

B. Kidney

C. Liver

D. Lung



86

## The Organ List

500 NM, MELD or PELD 15 to 28																
Seq#	Center	Name	Age	ABO	Donor Weight (lbs)		Score	Height	Weight	BMI	# Prev LI Tx	LI seg	Other Organs	SLK	Email/Fax Status	Offer Response
1	****_***	***_***	67	AB	40	440	28.00	*****	*****	*****	*****	Y				
National, Pediatric and Adult, Status 1A																
Seq#	Center	Name	Age	ABO	Donor Weight (lbs)		Score	Height	Weight	BMI	# Prev LI Tx	LI seg	Other Organs	SLK	Email/Fax Status	Offer Response
2	****_***	***_***	53	B (I)	44	441	10.00	*****	*****	*****	*****	Y				
National, Status 1B																
National, MELD or PELD of at least 15																
Seq#	Center	Name	Age	ABO	Donor Weight (lbs)		Score	Height	Weight	BMI	# Prev LI Tx	LI seg	Other Organs	SLK	Email/Fax Status	Offer Response
3	****_***	***_***	67	AB	100	400	23.00	*****	*****	*****	*****	Y				
4	****_***	***_***	57	AB	40	441	20.00	*****	*****	*****	*****	Y				
5	****_***	***_***	63	AB	50	400	19.00	*****	*****	*****	*****	Y				
6	****_***	***_***	59	AB	44	441	18.00	*****	*****	*****	*****	Y				
7	****_***	***_***	36	AB	40	400	17.00	*****	*****	*****	*****	Y				
8	****_***	***_***	59	AB	40	650	16.00	*****	*****	*****	*****	Y				
9	****_***	***_***	59	AB	40	440	16.00	*****	*****	*****	*****	Y				
10	****_***	***_***	61	AB	100	400	15.00	*****	*****	*****	*****	Y				
150 NM, MELD or PELD less than 15																
250 NM, MELD or PELD less than 15																
500 NM, MELD or PELD less than 15																
Seq#	Center	Name	Age	ABO	Donor Weight (lbs)		Score	Height	Weight	BMI	# Prev LI Tx	LI seg	Other Organs	SLK	Email/Fax Status	Offer Response
11	****_***	***_***	61	AB	40	650	10.00	*****	*****	*****	*****	Y				
National, MELD or PELD less than 15																
Seq#	Center	Name	Age	ABO	Donor Weight (lbs)		Score	Height	Weight	BMI	# Prev LI Tx	LI seg	Other Organs	SLK	Email/Fax Status	Offer Response



87

**NOTE**  
Allocation Plan:

Allocation Policy reviewed by CRS: Yes  
Allocation Policy reviewed by DC: Yes  
Allocation discussed with DC: Yes  
Was DonorNet reviewed prior to the generation of match results: Yes – by DC  
Allocation lead: Mary

Heart: Heart down list as primary holding lungs through #10, if not placed lungs primary off lung list. Hold liver and kidney for MV  
Lung: Backup to HL MV through #10 then offer lungs as primary  
Liver: Offer as backup through #63 on heart list, becomes primary when heart placed. Holding 1 kidney  
\*Include backup offers to all local centers (MNUM, MNMC, SDMK) through OPO LI MELD/PELD  $\geq 15$  and  $\leq 28$  - Adult and Pediatric Age 0-17

Pancreas/Kidney: Offer as backup to MV until heart or liver placed then becomes primary. If not placed UNOS to make regional/national

Kidney #1: Offer as backup to MV  
Kidney #2: Offer as backup to MV

\*Preliminary crossmatch blood is sent to accepting local, regional and national centers when possible. LifeSource sends blood to the first 3 high CPRA (LifeSource Service Area Transplant Center. LifeSource obtains specimen and coordinates the delivery of the requested specimen to the accepting Transplant Center or OPO. LifeSource obtains specimen and informs the accepting Transplant Center or OPO where the specimen does not arrange for specimen transportation.)

Intestine: Offer down list as isolated organ  
Kidneys to be pumped: No  
Kidneys to be biopsied: No

Research Consent: Yes

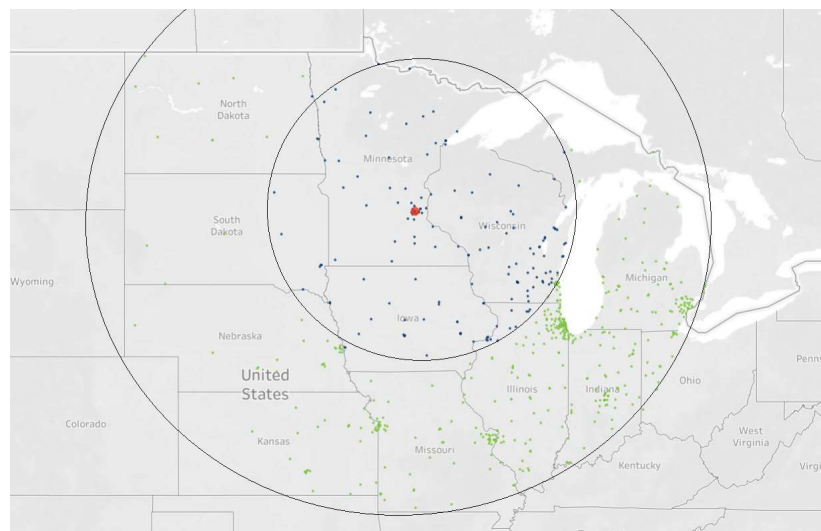
Allocation begins NO later than 1 hour after the allocation plan note has been entered into TN.  
Transplant centers have 1 hour to accept or decline after PY entry and verbal communication has occurred.

Biopsy and Pump Criteria:  
Biopsies obtained on ANY donor that has a hx of HTN and/or on ECD donors.  
Pumps utilized for all donors age 50 years or older, all DCD donors, or donors less than 50 years of age if clinically indicated.

Kidney Choice:  
Local transplant centers have kidney choice in the following sequence:  
Directed Donation, Kidney/Heart, Kidney/Lung, Kidney/Liver, Solitary Kidney, KP

88

## Allocation by Nautical Miles



89



## Organ Placement



Donor information is sent to Transplant Centers or Surgeon.



Transplant centers have a specified amount of time to evaluate the clinical information.



The first center on the list, has 1 hour to ACCEPT or DECLINE based off that evaluation.



If DECLINED, the organ offer is made to the next Transplant Center or Surgeon.



90

## What You can do During Allocation

Keep up on hourly vitals and urine output

Make sure labs are drawn on time

Update MAR

Maintain lung recruitment, chest x-rays and blood gas schedule

- Check in if there are any questions, concerns, or orders to be placed.

Update DC with any concerns

- Marked increase or decrease in urine output
- Adjustments to vasopressors
- Abnormal labs and electrolyte replacements



91

## One reason an organ may not be placed for transplant?

- A. Poor organ function
- B. Religion
- C. Drug use
- D. HIV+ donor



92

## Why Was No Organ Recipient Located?



Size

Marginal organ function

Health of the organ recipient

Intra-operative organ visualization

Biopsy results

Questionable donor history

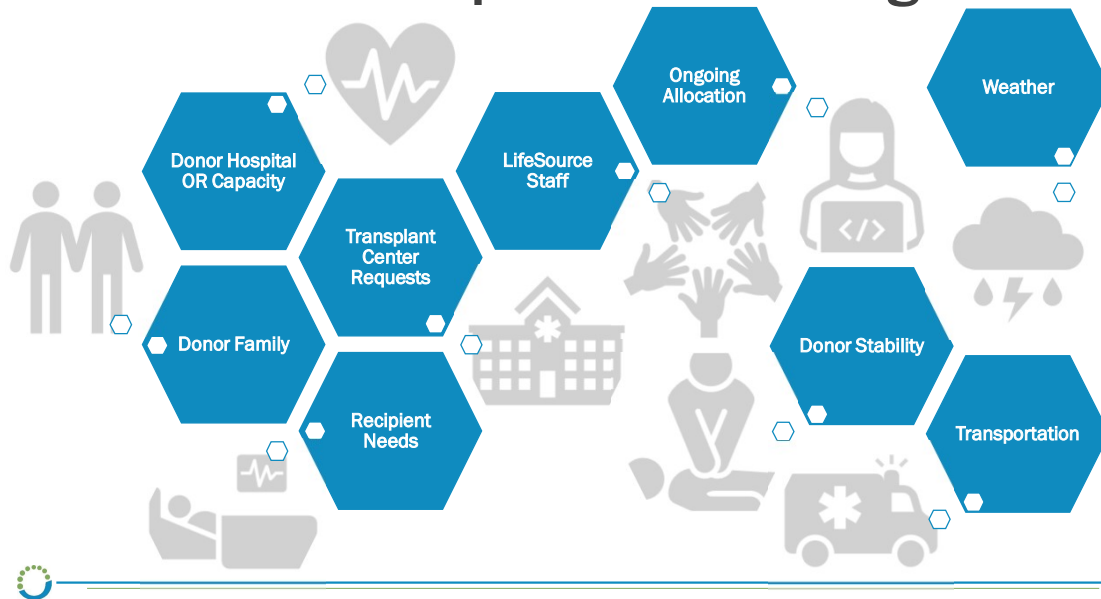
Distance

Time constraints



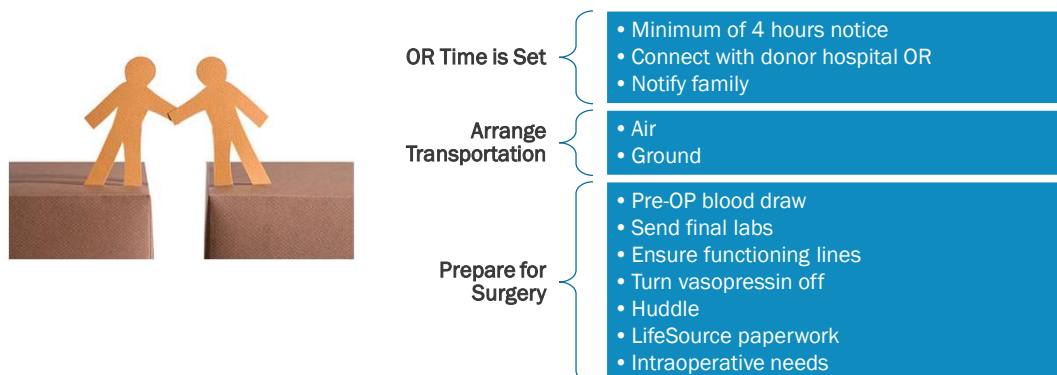
93

## What Impacts OR Timing?



94

## Setting the OR



95

## RN Role in Preparation for OR

- Draw OR blood
- Donor chart
- Death checklist

Gather  
Resources



- Charge RN
- Respiratory Therapist
- Declaring MD (DCD)

Notify hospital  
team



- Continuous infusions
- Scheduled antibiotics
- Heparin (DCD)
- Comfort medications (DCD)

Medications



- Prepare patient
- Transport monitor
- Honor walk

Transportation



96

## RT Role in Preparation for OR

**Donation after  
Circulatory Death**

Transport  
ventilator

Attend pre-OR  
huddle

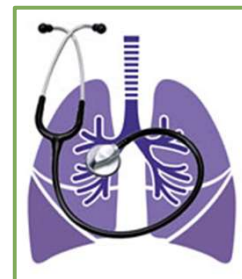
Extubate patient

**Donation after  
Brain Death**

Transport  
ventilator

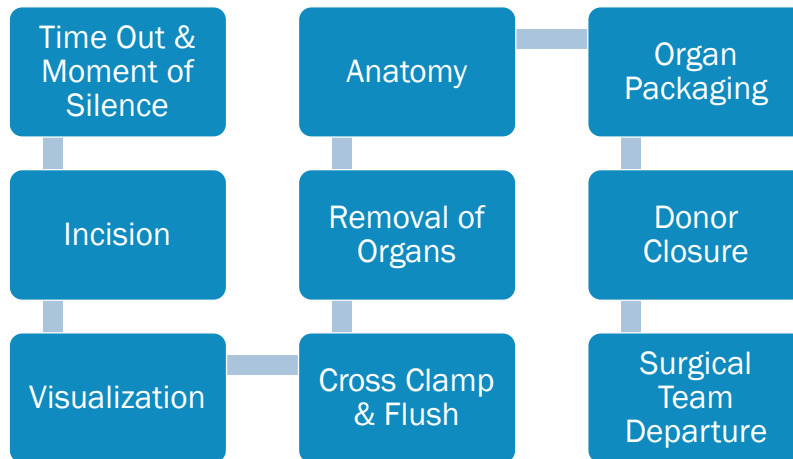
Assist with  
transport

Hand off to  
anesthesia



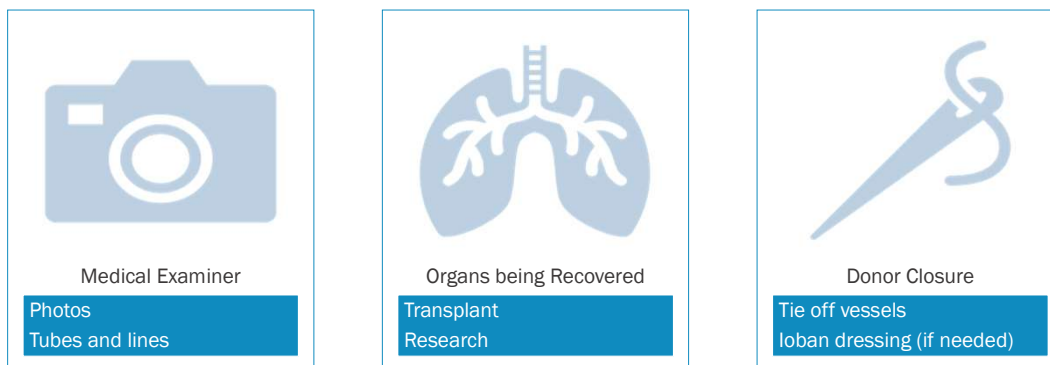
97

## Operative Organ Recovery



98

## Time Out



99

## Moment of Silence

We would like to take a moment to acknowledge that this space becomes sacred when a family entrusts their loved one to us. The donor's family made the decision to donate following their loved one's death. We honor this decision and view them as a hero.

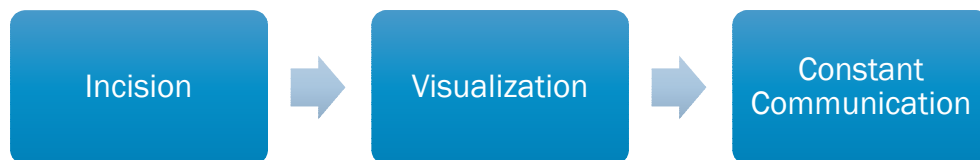
The family would like you to know that the donor is someone who lived their life with the intent of making the world a better place for all people. They lived solely on being of service. The donor was humble, full of love, strength, and encouragement for all of us. Their legacy will live on through the many lives they touched. Although we didn't get our miracle, we are overwhelmed with gratitude that our precious loved one is able to be a miracle in someone else's life. We thank you all from the bottom of our hearts that you are a part of the next journey for them.

I would like to acknowledge this donor, their family, and the waiting recipients now.....Thank You.



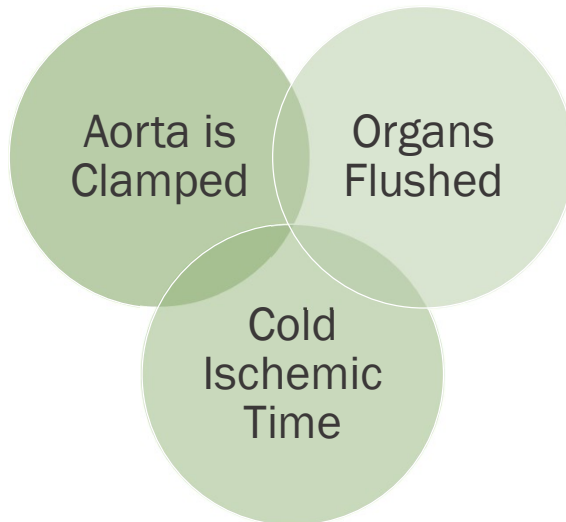
100

## Operative Recovery



101

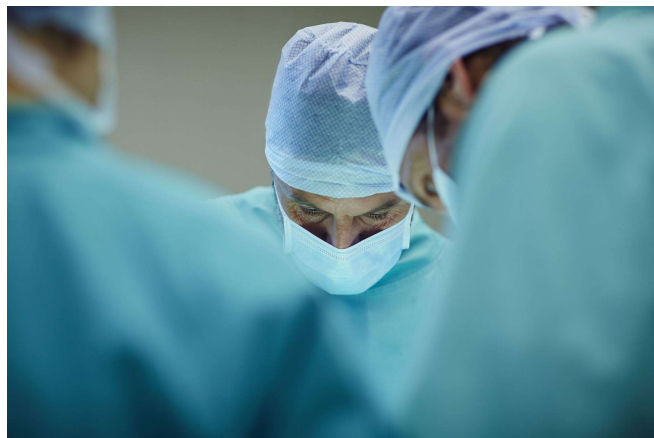
## Cross Clamp and Flush



102

## Removal of Organs

- Heart
- Lungs
- Liver
- Pancreas
- Kidneys



103

# Anatomy

Anatomical Abnormalities

Surgical Damage

Kidneys

- Measurements
- Plaque
- Veins and arteries



104

# Organ Packaging



105



## Special Packaging: OCS



106

## OR Completion

Heart / Lung Teams Leave ASAP

Transportation

Sterile Closure

Kidney Allocation

Family Follow-up



107

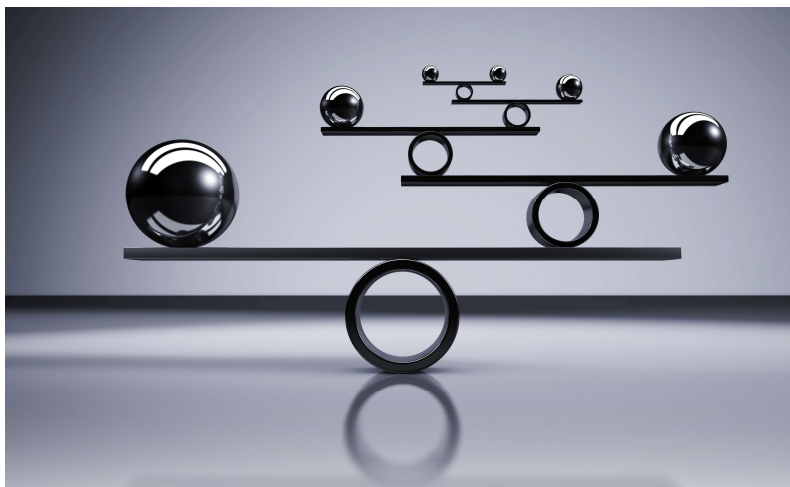
## When does crossclamp of the aorta occur during recovery of organs from a Brain-Dead Donor?

- A. Immediately after incision is made to help stop internal bleeding.
- B. Whenever the surgeon wants, as the timing does not matter.
- C. After organs are cannulated and all surgical teams are ready.
- D. After organs have been removed from the donor.



108

## Questions



109



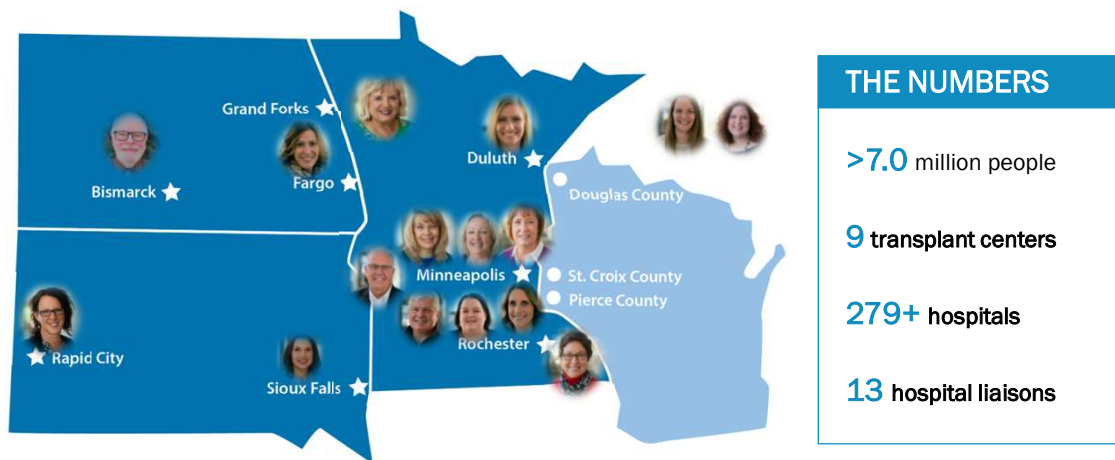
ORGAN, EYE AND TISSUE DONATION

## Donation Resources for You

Jessica Pacheco, MBA, CHTC

*Clinical Hospital Coordinator*

110



*LifeSource saves lives and offers hope and healing through excellence in organ, eye and tissue donation.*



















111

## Who serves my facility?



112

						
<b>Kathy Selden</b> Mercy United Abbott Northwestern	<b>Emily Larimer</b> Monument Health	<b>Cathy Dudley</b> Mayo Rochester	<b>Kristi Roers</b> HCMC	<b>Tim Verschaetse</b> North Memorial St. Cloud	<b>Jolynn Ryan</b> Gillette	<b>Jennifer Fredrickson</b> Avera McKennan Sanford Sioux Falls Avera Heart Avera St. Luke's Huron Regional
						
	<b>Melinda Van Waus</b>	<b>Kelly Romanowski</b>				
						
<b>Mark Ellingson</b> Sanford Bismarck St. Alexius Trinity Health	<b>Ann Lovdahl</b> Fairview Southdale St. Joseph's Fairview Ridges University of Minnesota	<b>Jody Fischer</b> Sanford Fargo Essentia Fargo	<b>Katelyn Baker</b> Essentia St. Mary's St. Luke's	<b>Barb Nelson-Agnew</b> Altru Sanford Bemidji	<b>Jessica Pacheco</b> Children's Minnesota Regions	<b>Rich Villella</b> Methodist Mayo Mankato



113

## How can my liaison help me?



- Questions about donation
- Feedback
- Policy and process changes
- Improvement projects
- Your connection to LifeSource



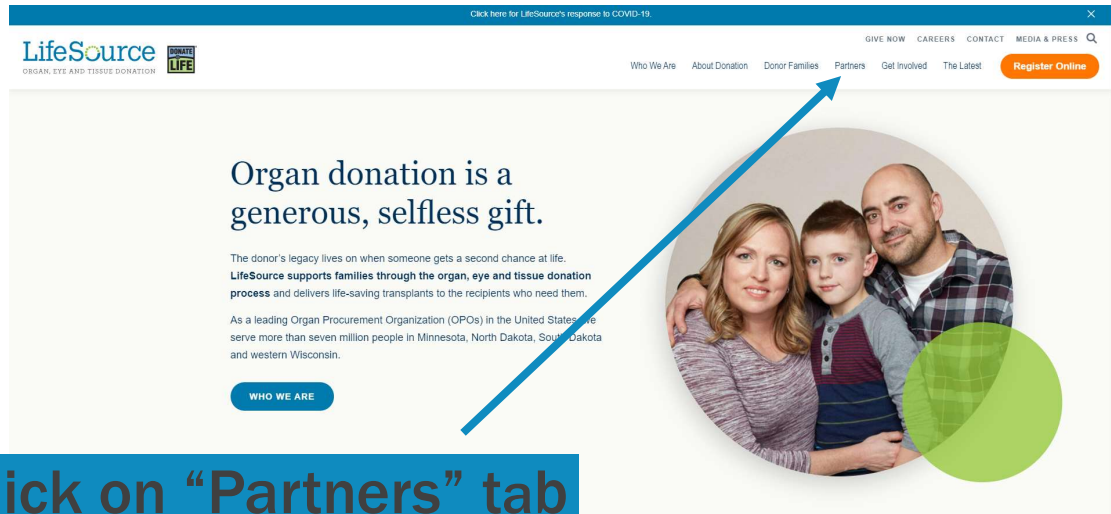
114

## Where can I find more resources?



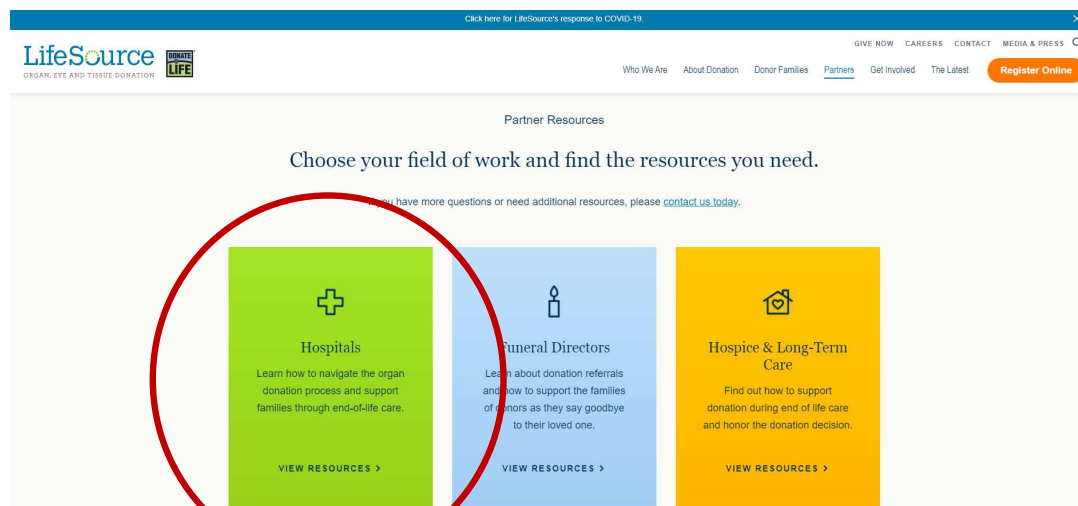
115

# www.life-source.org



Click on "Partners" tab

116



117

Click here for LifeSource's response to COVID-19

LifeSource ORGAN, EYE AND TISSUE DONATION **DONATE LIFE**

GIVE NOW CAREERS CONTACT MEDIA & PRESS

Who We Are About Donation Donor Families Partners Get Involved The Latest [Register Online](#)

## Resources for Hospital Professionals

Below are resources to reference and guide you through the donation process. Please don't hesitate to call your LifeSource Hospital Liaison for general information or call LifeSource at 1-800-247-4273 for real-time assistance.

Your Role: The Step-by-Step Donation Process

- 1 REFERRAL
- 2 HOSPITAL PHYSICIAN DECLARES DEATH
- 3 DONOR DESIGNATION
- 4 FAMILY DISCUSSIONS
- 5 DONOR MANAGEMENT
- 6 SURGICAL RECOVERY

+ Step 1: Referral – Hospital Staff Refers a Patient to LifeSource

+ Step 2: Hospital Physician Declares Death

118

Click here for LifeSource's response to COVID-19

LifeSource ORGAN, EYE AND TISSUE DONATION **DONATE LIFE**

GIVE NOW CAREERS CONTACT MEDIA & PRESS

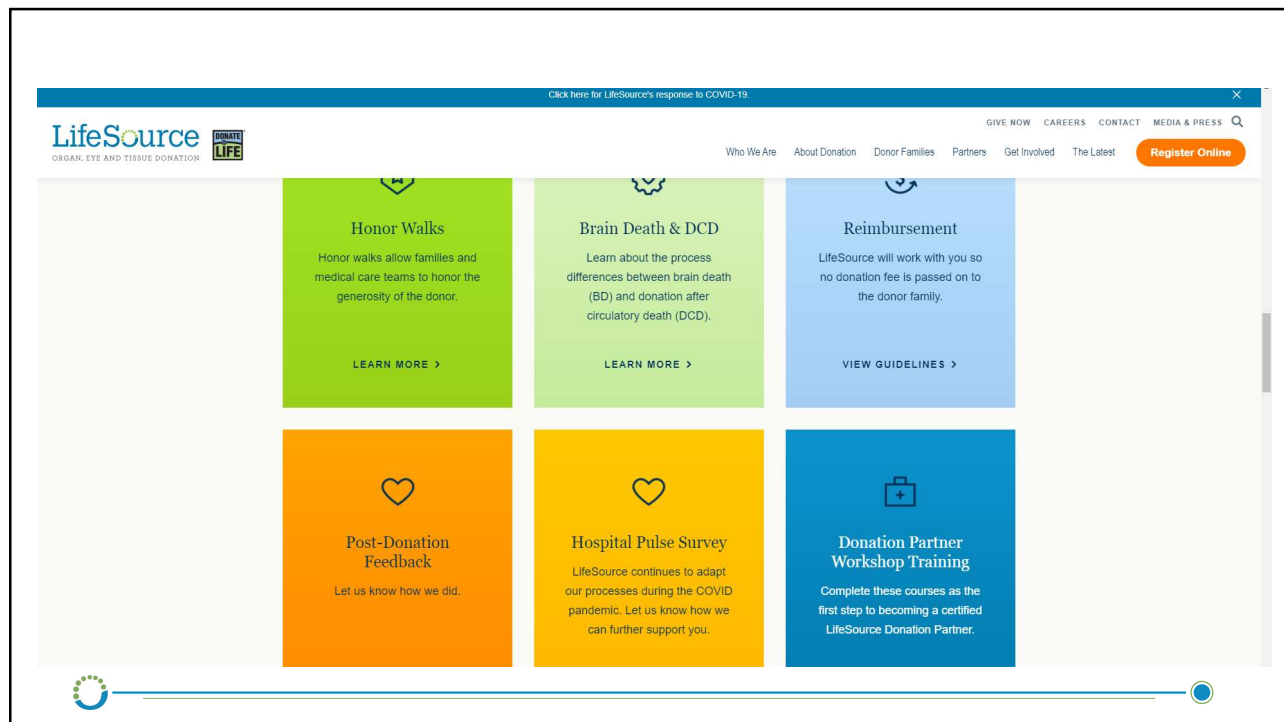
Who We Are About Donation Donor Families Partners Get Involved The Latest [Register Online](#)

## Training Video for Hospital Staff

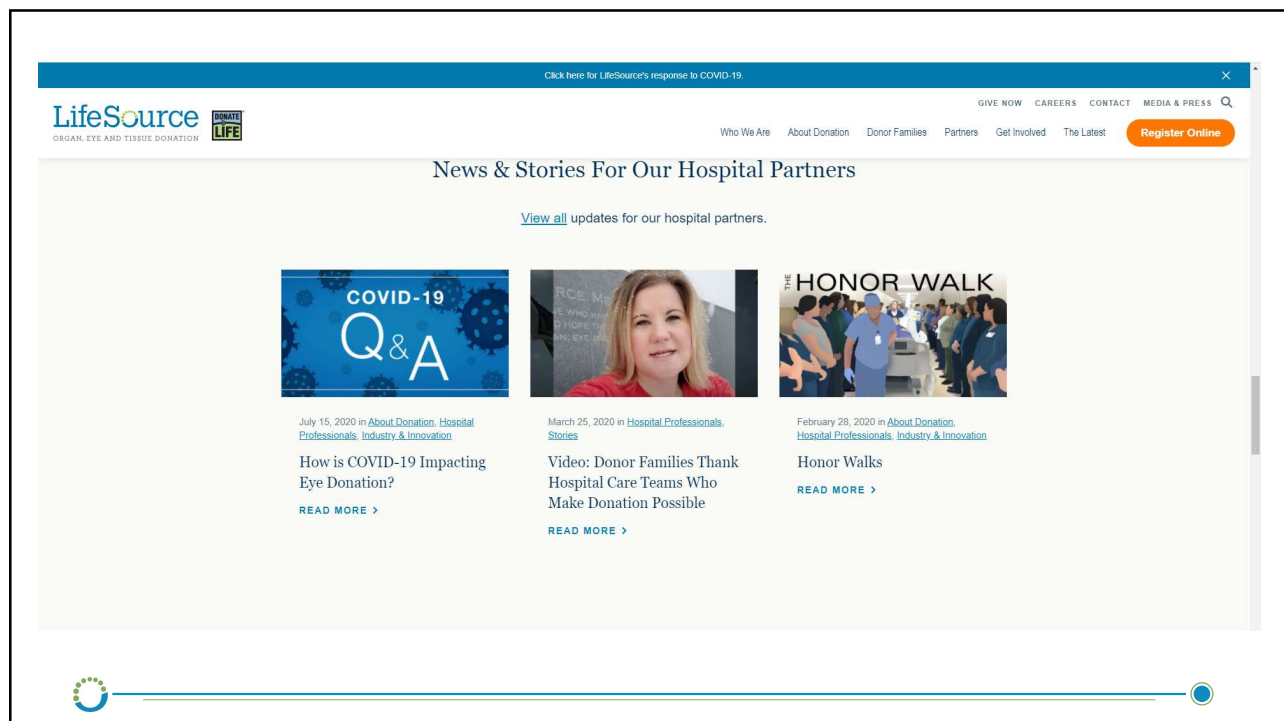
Check out this video to better understand your role in the donation process, how to identify triggers for donation and how to be an advocate for potential donation.

LifeSource New Nurse Orientation

119



120



121



Click here for LifeSource's response to COVID-19

**LifeSource** ORGAN, EYE AND TISSUE DONATION **DONATE LIFE**

GIVE NOW CAREERS CONTACT MEDIA & PRESS

Who We Are About Donation Donor Families Partners Get Involved The Latest [Register Online](#)

Stay Up-to-Date

**Subscribe to the professional partners newsletter!**

Be in-the-know on the industry's clinical innovations, get answers to your most frequently asked questions and be inspired by those who have made more life possible.

Full Name

Email

Organization

[SUBMIT](#)

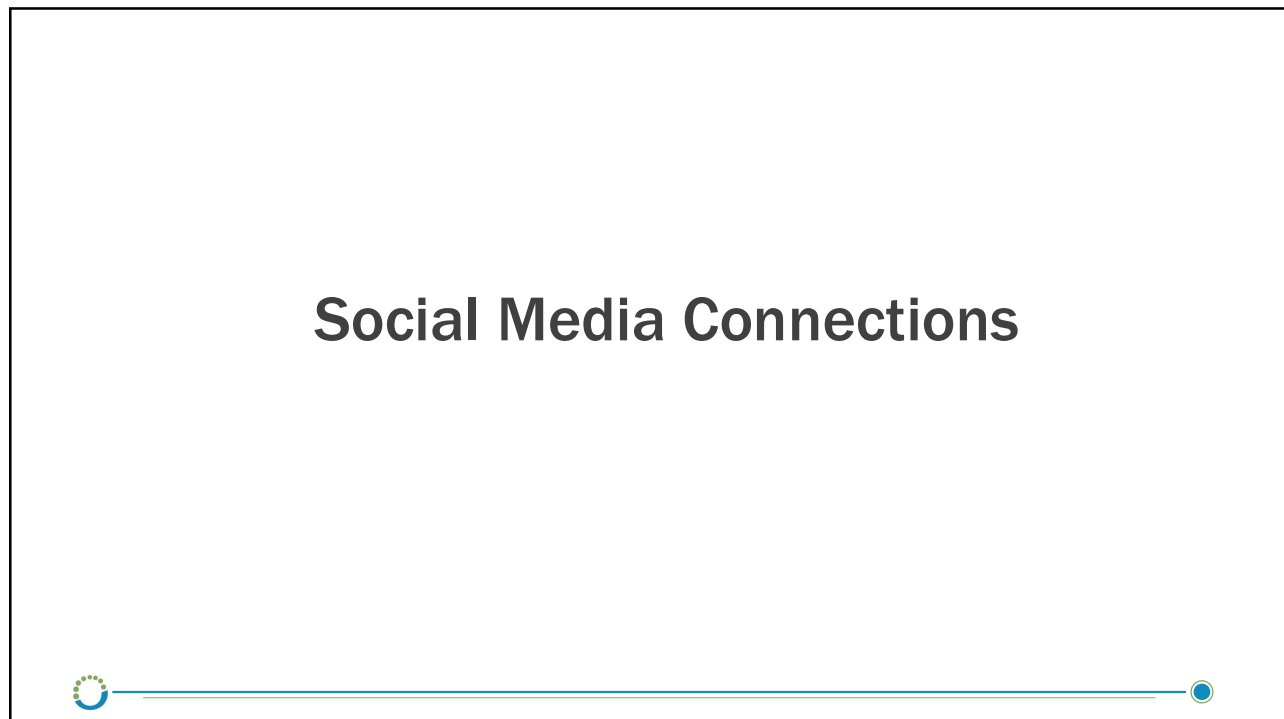
**Get In Touch**  
2225 West River Road North  
Minneapolis MN 55411

**Our Websites**  
[Visit Donate Life Midwest](#)  
[Visit Talk Donation](#)

**Quick Links**  
[Careers](#)  
[Contact](#)

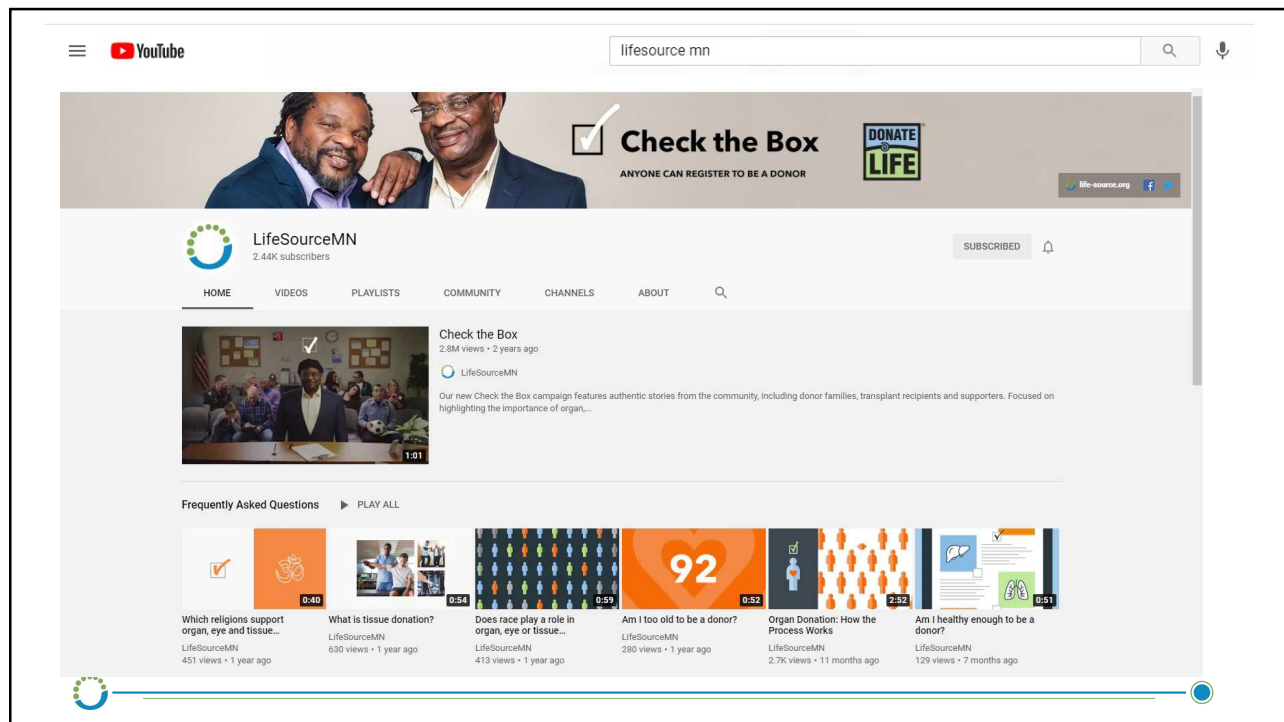
**Register Online as a Donor In Your State**  
[Minnesota](#)

122

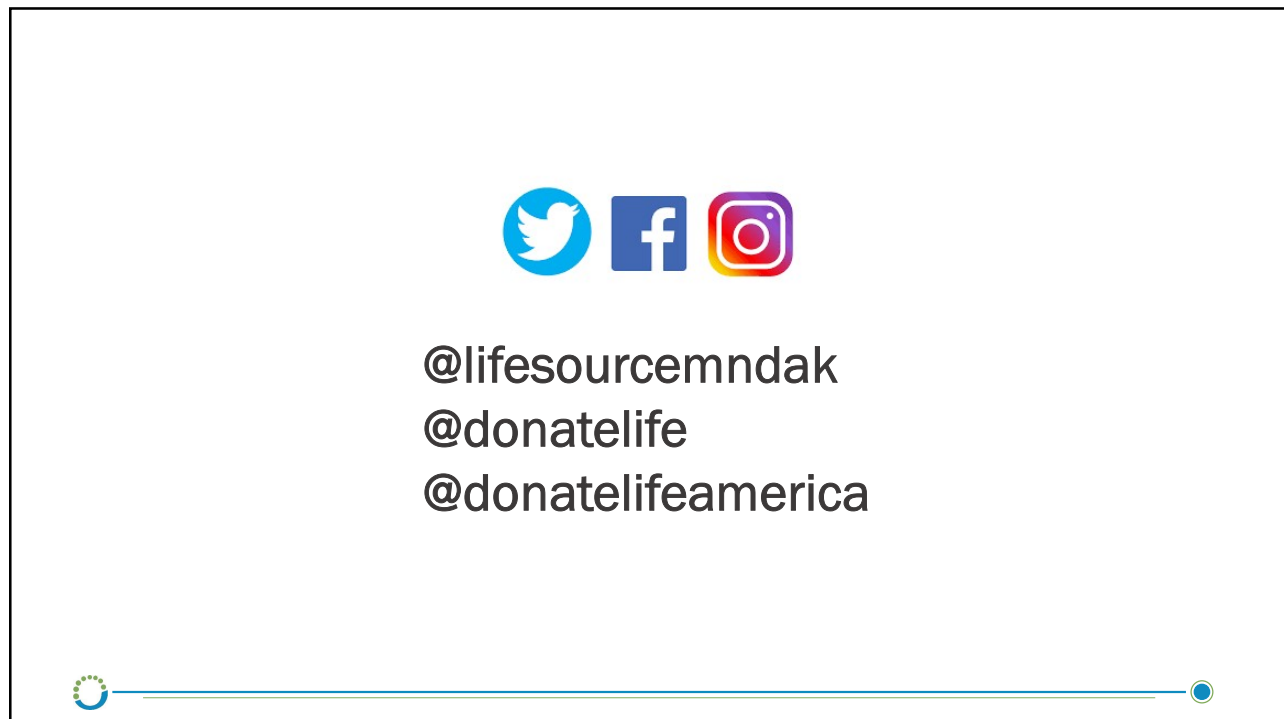


## Social Media Connections

123



124



125



126

**LifeSource**  
ORGAN, EYE AND TISSUE DONATION

## Brandon's Story

---

Becky Bjerklie  
*Donor Family*

127



## Brandon Thomsen



128



129



130



### Gift of Life Shared...

- Heart: 59 year old male
- Liver: 10 year old female
- Pancreas/Kidney: 56 year old male
- Kidneys: 50 year old female

131



**Thank you**

