Investigating the Variations in Donation after Circulatory Death Hospital Policies in a Single Donor Service Area

TODAY’S PANELISTS

Anji Wall, MD, PhD
Abdominal Transplant Surgeon
Baylor Simmons Transplant Institute

Tuesday, July 19, 2022, 2:00pm – 3:00pm ET
The Alliance is not an advocacy organization and always intends to maintain an objective and unbiased perspective.
Meet Our Moderator

Erin Vines, BS
Clinical Research Associate

Deanna Fenton
Senior Manager, Educational Program Development & Operations

Need Assistance?
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786-866-8730
Meet Our Presenter

Anji Wall
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Abdominal Transplant Surgeon

Baylor Scott & White Health
Variation in Donation after Circulatory Death Policies

The Alliance

Anji Wall, MD, PhD, FACS

July 2022
Objectives

Historical perspective on DCD organ donation

Describe DCD processes

Discuss the ethical framework for DCD donation

Show how policy variation complicates DCD donation
What is donation after circulatory death

Organ donation that from individuals who are pronounced dead by cardio-respiratory criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category I</td>
<td>Found dead</td>
</tr>
<tr>
<td>Category II</td>
<td>Witnessed arrest</td>
</tr>
<tr>
<td>Category III</td>
<td>Withdrawal of life sustaining treatment</td>
</tr>
<tr>
<td>Category IV</td>
<td>Cardiac arrest while brain dead</td>
</tr>
</tbody>
</table>
History of DCD donation in the US

1962: First deceased donor kidney transplant, DCD donor

1968: Harvard Ad Hoc Committee developed brain death criteria

1997: Non-heart beating organ transplantation: Medical and Ethical Issues in procurement

2001: SCCM endorses DCD donation*

2006: Organ donation: Opportunities for Action

Number of DCD donors in the US by year

- IOM NHBD report
- SCCM endorsement of DCD
- IOM Opportunities for action

Year 1995: 64
Year 1996: 70
Year 1997: 78
Year 1998: 75
Year 1999: 87
Year 2000: 118
Year 2001: 167
Year 2002: 190
Year 2003: 270
Year 2004: 393
Year 2005: 564
Year 2006: 1,642
Year 2007: 1,791
Year 2008: 849
Year 2009: 920
Year 2010: 941
Year 2011: 1,057
Year 2012: 1,107
Year 2013: 1,206
Year 2014: 1,292
Year 2015: 1,494
DEATH

CONFIRMATION of DEATH

Withdrawal
SBP < 80 mmHg
O2 sat < 80

Circulatory arrest

Hands off
Flush

Total Warm Ischemic Time

| 2-5 minutes | 2-10 minutes |

Functional Warm Ischemic Time
## What separates DCD from DBD donation?

<table>
<thead>
<tr>
<th></th>
<th>DBD</th>
<th>Super Rapid Recovery DCD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timing of discussion about donation</strong></td>
<td>After declaration of death by neurologic criteria</td>
<td>Before death, after decision to withdraw life-sustaining treatment</td>
</tr>
<tr>
<td><strong>Authorization</strong></td>
<td>For donation</td>
<td>For pre-mortem interventions, for donation</td>
</tr>
<tr>
<td><strong>Family decisions</strong></td>
<td>Donation or support of first person consent</td>
<td>Withdrawal, donation, and pre-mortem interventions</td>
</tr>
<tr>
<td><strong>Temporal relationship of death to organ procurement</strong></td>
<td>Days</td>
<td>Minutes</td>
</tr>
<tr>
<td><strong>Transition from patient care to donor care</strong></td>
<td>In the ICU when the decision to donate is confirmed</td>
<td>In the OR at the time of death or immediately following</td>
</tr>
<tr>
<td><strong>Operation</strong></td>
<td>Time for dissection while heart is beating</td>
<td>Rapid cannulation and perfusion</td>
</tr>
</tbody>
</table>
The context of DCD donation
Ethical principles

Respect for autonomy: recognize the complexity of informed consent for DCD donation

Nonmaleficence: we must avoid harm to the potential donor because the potential donor is a living person until the time at which death is pronounced

Beneficence: maximize benefits and minimize harms in the donor-recipient dyad
DCD policies

Each hospital must have a DCD policy.

DCD donors typically stay at the admitting hospital for donation.

DCD donation is a low volume, high stakes procedure at most hospitals.

Policies should be detailed, clear and in line with the ethical principles that guide DCD donation.
DCD Dogma

“You cannot prep and drape because it is unethical”

“The procurement team cannot enter the room during hands off time because they may pressure the pronouncing physician to confirm death”

“You cannot be scrubbed in waiting in the core because it’s not sterile enough”

“We withdraw in the ICU because it is more respectful to the patient”

“Anesthesia will not reintubate the patient because they are not comfortable assisting with the organ procurement”
Anji E. Wall, Rehma Shabbir, Sneha Chebrolu, Erin Vines, Chad Trahan, Patricia Niles, Giuliano Testa. Variation in donation after circulatory death hospital policies in a single donor service area. The American Journal of Surgery. Epub ahead of print, 2022
## Hospital Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Yes (n)</th>
<th>%</th>
<th>No (n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transplant center</td>
<td>9</td>
<td>9.18%</td>
<td>89</td>
<td>90.82%</td>
</tr>
<tr>
<td>System Policy</td>
<td>40</td>
<td>40.82%</td>
<td>58</td>
<td>59.18%</td>
</tr>
<tr>
<td>Transfers donors</td>
<td>4</td>
<td>4.08%</td>
<td>82</td>
<td>83.67%</td>
</tr>
<tr>
<td>Ref at least 1 DCD</td>
<td>82</td>
<td>83.67%</td>
<td>16</td>
<td>16.33%</td>
</tr>
<tr>
<td>Completed at least 1 DCD</td>
<td>60</td>
<td>61.22%</td>
<td>38</td>
<td>38.78%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>IQR</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital beds</td>
<td>193</td>
<td>209</td>
<td>2</td>
<td>900</td>
</tr>
<tr>
<td>ICU beds</td>
<td>18</td>
<td>24</td>
<td>0</td>
<td>107</td>
</tr>
<tr>
<td>Donors referred</td>
<td>6</td>
<td>18</td>
<td>0</td>
<td>156</td>
</tr>
<tr>
<td>Donors completed</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>50</td>
</tr>
</tbody>
</table>
Most hospitals referred less than 2 DCD donors per year

Most hospitals completed less than 1 DCD donor per year

High stakes, low volume procedures that can be done at any hospital
When should a referral be made?

- Before the decision to withdraw LST: 75%
- After the decision to withdraw LST: 18%
- Not mentioned: 7%
Who can authorize donation?

- Not mentioned
- Medical examiner
- First person authorization
- Family member or other surrogate
### What can be done prior to WLST?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac catheterization</td>
<td></td>
</tr>
<tr>
<td>Transfer to a different facility</td>
<td></td>
</tr>
<tr>
<td>Femoral cannulation during hands off period</td>
<td>10%</td>
</tr>
<tr>
<td>Femoral cannulation prior to withdrawal</td>
<td>20%</td>
</tr>
<tr>
<td>Consultations for organ viability</td>
<td>50%</td>
</tr>
<tr>
<td>Studies for organ viability</td>
<td>60%</td>
</tr>
<tr>
<td>Heparin administration</td>
<td>70%</td>
</tr>
<tr>
<td>Prep and drape</td>
<td>80%</td>
</tr>
</tbody>
</table>
Time limit from WLST to death

- 52% 60 minutes
- 26% 90 minutes
- 22% Not mentioned
How is death determined?

- Palpation of pulse
- Cessation of electrical activity on monitors
- Auscultation
- Not mentioned
Ethical Lens: Avoiding harm to the donor

Dead donor rule: Vital organs can only be procured from dead patients

Palliation: same comfort care as would be provided in the absence of donation

Consent: for any pre-mortem interventions (e.g., heparin, cardiac catheterization), separate from authorization for donation

Separation of care team and procurement team
Shifting focus: Avoiding the harms of non-donation

Family: unable to fulfill last attempt to make something good out of tragedy, loss of legacy

Recipients: miss the opportunity for transplantation

Transplant centers and OPOs: incur costs associated with “dry runs”
## Shifting policies to value donation

<table>
<thead>
<tr>
<th>Policy element</th>
<th>Harm of donation</th>
<th>Value of donation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of withdrawal</td>
<td>Withdraw in ICU or palliative care ward</td>
<td>Withdraw in OR or PACU</td>
</tr>
<tr>
<td>Hands off time</td>
<td>Longer (5 mins)</td>
<td>Shorter (2 mins)</td>
</tr>
<tr>
<td>Total OR time</td>
<td>Shorter (60 mins)</td>
<td>Longer (90-120 mins)</td>
</tr>
<tr>
<td>Pre-withdrawal interventions</td>
<td>Limited to essential for donation (e.g., heparin)</td>
<td>Expanded (e.g., cardiac cath, liver biopsy, femoral cutdown/cannulation)</td>
</tr>
<tr>
<td>Prep and drape?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Donor team entry to the room</td>
<td>After hands off period</td>
<td>After pronouncement</td>
</tr>
</tbody>
</table>
Thank You!
A Special Thanks to Our Presenter

Anji Wall
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