

The Physician's Role in Organ Donation

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Lifeline of Ohio empowers our community to save and heal lives through organ, eye and tissue donation.



The Need Is Real

- Every **10** minutes, someone is added to the national transplant waiting list.
- Each day, an average of **20** people die waiting for a transplant.
- Currently, there are over **114,000** people waiting nationally for a life-saving organ transplant.

- Legalized donation of human tissues and organs
- Revised in 1987 and 2006
 - Last amended in Ohio in 2009
- Defined how a person can indicate their wishes regarding donation
- Protects healthcare workers from liability
- Defined the decision making hierarchy

Ohio Donor Registry

- Established in July 2002
- Maintained by the Ohio Bureau of Motor Vehicles
- Registration as a donor is “First Person Consent for organ, tissue and eye donation
- Family cannot amend, revoke or refuse the patient’s consent
- If someone is not registered, the legal next-of-kin will be approached for authorization.
- Immunity for healthcare workers is provided in this law
- Parents can revoke their child’s decision until age of 18

Federal Rule Five Components

Hospitals are required to:

1. Call on every death
2. Effective Requestors
3. Medical Record Reviews
4. Agreements with organ/tissue/eye recovery agencies
5. Approach families in a sensitive and caring manner

Clinical Triggers/When to Call

- Patient is on a vent
- No continuous sedatives or paralytics
- Glasgow coma scale of ≤ 5 (RASS -4)

Also please call if :

- Donation is mentioned by family
- Brain death testing is ordered
- Decision to withdraw care is being made
- Prior to withdraw from a vent

Making The Referral

1-877-B-A-DONOR

- Admission course
- Past medical history
- Clinical data: GCS, labs, I & O
 - Hemodynamics/vital signs
(admit and current)
- Plan of Care / Family dynamics



Referral follow up

LOOP coordinator will come on site.

- Gather information to evaluate medical suitability
- Discuss with LOOP AOC & Huddle with hospital care team

Coordinator will only speak with family if :

1. Patient has been declared Brain dead
2. Family has decided to withdraw life support
3. Family asks to speak with LOOP

If patient is not declared BD and withdraw is not planned, LOOP will not speak to the family, but will continue to follow the patient

- Family Service/Hospital Development Coordinators will obtain daily updates:
 - Stability- Is blood pressure adequate? Is oxygenation adequate? Is urine output adequate?
 - Neurologic status- Any changes? GCS? Brainstem reflexes?
 - Family/NOK- Any issues or updates?

Waiting for LOOP to come....

- Please do not remove patient from vent before coordinator arrives
- Please do not discuss donation with the MPOA/next of kin.
- You need to know if patient has authorized donation and if he/she is medically suitable prior to approach
- Family may wonder if you tried to save the patient's life if you are bringing up donation
- If the patient has authorized donation, the family does not need to make a decision; just give medical history

Historically death was defined as putrefaction or decapitation, failure to respond to painful stimuli or loss of observable cardiorespiratory function

This was not always a “best practice”

String and bell

Coffins found with scratch marks

Became more of an issue with the development of artificial ventilation and as organ transplantation matured



1968, Harvard group presented “A Definition of Irreversible Coma”- irreversible loss of all functions of the brain, including the brainstem

- Coma
- Absence of brainstem reflexes
- Apnea
- A patient who is determined to be brain dead is legally and clinically dead



In 1981, model state law approved for the U.S. by the national Conference of Commissioners on Uniform State Laws

- AMA, ABA, & President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research
- 50 states have adopted this law

Determination of Death- an individual who has sustained either

1. irreversible cessation of circulatory and respiratory functions
2. irreversible cessation of all functions of the entire brain

“ since death is the breakdown of the organism as a whole, and the functioning of the brain is necessary for the integration of the various cells, tissues, and organs into a single organism- total brain death is the death of the human being”

Lee, P. 2015. Total Brain Death is a Valid Criterion of Death. Ethika Politika.
<http://ethikapolitika.org/2015/01/15/total-brain-death-valid-criterion-death/>



1. The attending physician can perform the examination to determine brain death or may consult from other members of the medical staff willing to perform the exam
2. An Epic template is available and can be used at the discretion of the physician to provide recommended documentation in the medical record. Type “brain death” in Epic and click on the “GHS Determination of Brain Death” template.
3. For additional resources, refer to <http://www.neurology.org/content/74/23/1911.full.pdf+html>

I. Prerequisites

- Coma, irreversible
- Core temperature $>36^{\circ}\text{C}$
- Systolic BP ≥ 100
- Absence of neuromuscular blockade
- Absence of response to electrical stimulation, if used
- Absence of sedatives/CNS depressants
- Absence of severe metabolic disturbances

II. Clinical Exam

- Spontaneous movement/posturing
- Response to deep pain
- Pupillary response to light
- Corneal reflex
- Oculocephalic reflex (doll's eyes)
- Gag reflex
- Cough reflex
- Oculovestibular reflex (cold caloric)

III. Apnea Testing

- Preoxygenate with 100% FiO₂ for > 10 minutes to PaO₂ > 200 mm Hg
- Make sure the patient is on a pulse oximeter and PEEP is at 5 cm of H₂O
- Disconnect the ventilator
- Place a nasal cannula at the level of the carina and deliver 100% O₂, 6 L /minute
- ABG before and after 10 minutes and then reconnect the ventilator
- If patient is hemodynamically stable at the start of the examination:
 - PCO₂ at the beginning (normal is 35-45 mmHg)
 - PCO₂ at the end
 - If > 60 mm Hg, or > 20 mm Hg from baseline pCO₂, then positive for brain death

Ancillary Testing

- In adults, ancillary testing is not required to determine brain death if physician is able to obtain the full clinical exam
- Ancillary testing to be ordered if :
 - Clinical exam cannot be fully performed due to patient factors
 - Apnea testing is inconclusive or aborted
- Only one test needs to be performed
 - Cerebral angiogram
 - Nuclear brain scan

Donation After Cardiac

Death (DCD)

In 1997, 2000, and 2005, the Institute of Medicine reviewed and voiced support for donation after cardiac death

“In 2005, a conference on donation after cardiac death concluded that it is “an ethically acceptable practice of end-of-life care, capable of increasing the number of deceased donor organs available for transplantation.”
Bernat, et al. AJT 2006; 6(2):281-291

In January 2007, the Joint Commission implemented its first accreditation standard for donation after cardiac death

Donation After Cardiac Death (DCD)

Patients who have severe brain injuries but who are not brain dead may still be organ donors if the patient, by advanced directive, or the patient's family decide that life support should be withdrawn

Physician is still responsible for the patient, including pain management orders

Important to maintain hemodynamics

- BP: SBP>100, MAP>70
- HR: 60-140
- CVP: 4-8
- Temp 37-38°C
- Relatively normal ABG

Basic Testing

- Test serology and HLA
- ABO/Rh T and C
- LFTs, calcium, phosphorus, magnesium, lactic acid, CBC, PT/PTT/INR q 8 hours
- Chem 7 and ABG q 4 hours
- Urinalysis and blood cultures
- CXR q 24 hours

Additional Medications

- Dopamine gtt (SBP > 100, MAP > 70)
- Zosyn 3.375g q6 hrs (or 4.5g q 8 hrs)
- Electrolyte replacement protocols
- DDAVP 4 mcg IVP for diabetes insipidus (DI):
UO > 10 ml/kg/hr
- Heparin 30,000 units to be given in the OR just prior to withdrawal
- Withdrawal orders per hospital policy
- Transfer orders if the patient does not pass in the allotted time frame

Donation After Cardiac Death (DCD)



Patient is then brought to the operating room



Patient is removed from the ventilator



After patient expires, physician will evaluate for 5 minutes



Patient will then pronounce the patient dead, including a time of death



Transplant surgeons will come in and recover the organs



If the patient does not expire in the time frame, then they are moved to a palliative care room

Donation After Cardiac

Death (DCD)

Important to remember
that the withdrawal of life
support does not cause
the patient's death, but is
simply allowing the patient
to die

DCD increases the
number of lives saved

DCD gives families
another option of
donation when their
loved one is not brain
dead

Collaboration and
communication are KEY
during the DCD process

DCD Process: Approach

- The OPO will ideally be on-site to huddle with staff
- Allows for questions to be answered immediately and specifically
- Family is fully informed of the DCD process:
 - »Timing
 - »LOPA Evaluation
 - »Plan A & Plan B preparation
 - »Heparin
 - »Etc.

DCD Process: Patient Care

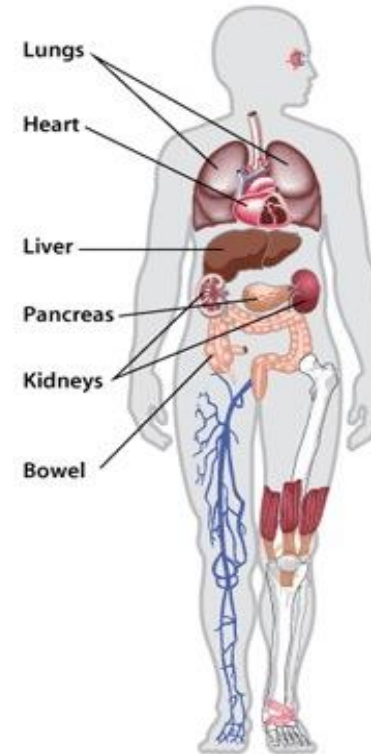
- The patient will remain under the Attending Physicians' care: Collaboration is *KEY*.
- No Orders are written by Lifeline of Ohio
- Lifeline of Ohio collects data, coordinates timing, and location of withdrawal
- Pain management and all patient care decisions remain with hospital staff
 - *Coordination with Palliative staff for withdrawal is helpful at most hospital.*

What is Lifeline of Ohio's Role in the DCD Process?



Organ Preservation Time from recovery to transplant

- Heart: 4-6 hours
- Lungs: 4-6 hours
- Liver: 12 hours
- Pancreas: 12 hours
- Small Intestine: 12 hours
- Kidneys: 24-48 hours



One organ donor may save 8 lives...How?

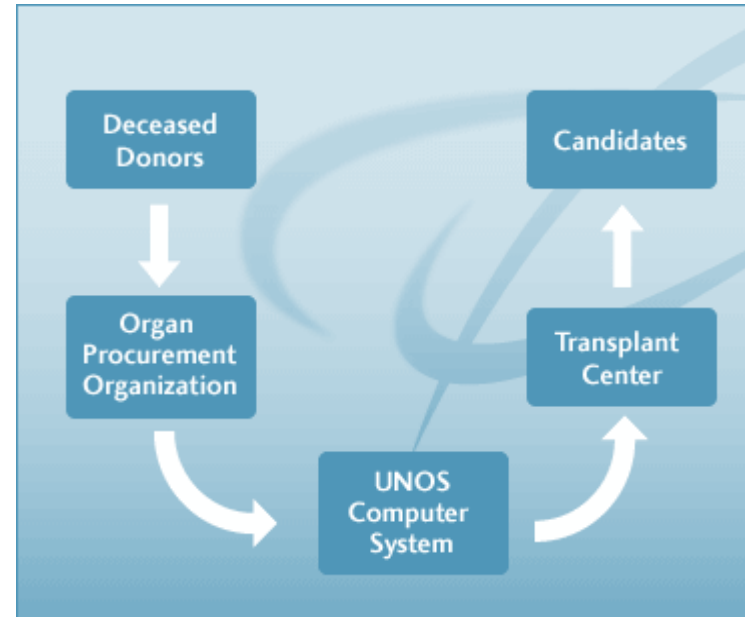
ICU Timeline

- ICU element of donation may take **24-48** hours
- ICU components include (under the direction of Lifeline of Ohio organ recovery coordinator):
 - Donor stabilization and optimization
 - Multi-system organ function testing
 - Serological and HLA testing
 - Multi-organ allocation
 - Logistical coordination for recovery



Organ matching criteria

- Medical urgency and waiting time
- Tissue match and ABO compatibility
- Size and BMI
- Age
- Immune status
- Geographic distance



Preparation For The OR

- Negotiating OR time (Recovery teams, Hospital OR and Lifeline of Ohio staff)
- Arranging transportation for incoming recovery teams
- Communication with incoming surgeons



Donation After Brain Death vs. Donation After Cardiac Death

	Donation After Brain Death (DBD)	Donation After Cardiac Death (DCD)
Injury	Severe brain injury from trauma, CVA, anoxic event, other Referral to OPO	Severe brain injury from trauma, CVA, anoxic event, other Referral to OPO
Meets Criteria for Brain Death	Yes: Clinical Exam(including apnea test) is consistent with BD <ul style="list-style-type: none"> • Confirmatory Testing 	No: Some neurological reflex is still present
Prognosis	Brain Death: this is the legal time of death	As determined by hospital physician, patient has no chance of recovery from brain injury; cannot survive without mechanical ventilator
Action	Brain death declaration by hospital physician (not OPO) OPO reviews signed brain death note and consent form Hospital & OPO cooperatively do medical management Patient on ventilator until organs recovered Transplant team spends 5-6 hours recovering organs Heart, lungs, liver, pancreas, kidneys, and intestines can be recovered	Family and doctor elect to withdraw mechanical support Referral to LOOP Withdrawal of life support in OR suite or designated area nearby <ul style="list-style-type: none"> • Cardiac death = • Unresponsiveness • No spontaneous respiration • No pulse • No blood pressure • No cardiac sounds Transplant team begins organ recovery 5 minutes after death is declared Transplant team spends 3-4 hours recovering organs Liver, kidneys, pancreas and lungs can be recovered

What Transplantation Can Mean

- A life is saved
- The only treatment for end stage organ failure
- Improved quality of life
 - No dialysis
 - No home oxygen
 - No insulin

Bill Laing, before lung transplant



Bill Laing, after lung transplant



Family Follow-Up

- Phone call after the recovery
- “Lasting Legacy”
- Letter: 6 weeks, 6 months and 1 year
- Donor Memorial – memorial brick
- Donor Memorial Quilts
- Volunteer Workshop
- Donor Recognition Event
- Dash for Donation
- Donate Life Month – April
- Wall of Heroes



The Deavers Family takes in Jeremy's floragraph

We Can't Do This Without You!

- In 2018 Lifeline of Ohio coordinated **130** organ donors, **410** organs recovered and **366** people were transplanted.
- We had **471** tissue donors. **250** eye donors
- YOU are a vital part of the donation process!
- **Just remember...**
 - There are NO rule-outs for referrals.
 - Call with referral, as soon as patient meets clinical triggers.
 - When in doubt, call in the referral.