

Deceased Organ Donation



Organ Donation after Cardiac
Death
Ethically Sound?

History of deceased organ donation

- Organ donation began with DCD (non-heart beating donors) ~ 40 years ago
- Concept of brain death (DND) evolved in 1970's primarily for the purpose of organ donation from heart beating donors
- DCD is a 'modern' version of what was done in the past

Deceased Organ Donation

- Donation after neurological death
 - Brain death declared
 - Heart is still beating
 - Perfusion to organs maintained
- Donation after cardio-circulatory death (DCD)
 - Death diagnosed using cardiac criteria – cessation of cardio-respiratory function
 - Once patient declared dead – organs must be removed within acceptable time period

Deceased Organ Donation

- Both DND and DCD must respect the dead donor rule:
 - i.e. retrieval of organs for transplantation must not be the cause of death of the donor
- The diagnosis of death in both circumstances requires the determination of both cessation of function and *irreversibility*

Deceased Organ Donation

- DND
 - Cessation of function performed by bedside clinical exam
 - Supportive tests available (brain perfusion)
 - *Irreversibility* implied by repeated exams over time
- DCD
 - Cessation of function performed by bedside clinical exam
 - Supportive tests might include arterial line, Doppler studies, and ECG monitoring
 - *Irreversibility* implied by minimum period of observation to minimize the risk of auto-resuscitation

Why (Re) Consider DCD Now?

- Some families request organ donation during end-of-life discussions
- One option for families to honor last wishes of patient
- Ongoing shortage of organs & long wait lists
 - Ex: 7–10 years for a kidney in Ont. & B.C.
- Limit live donor programs

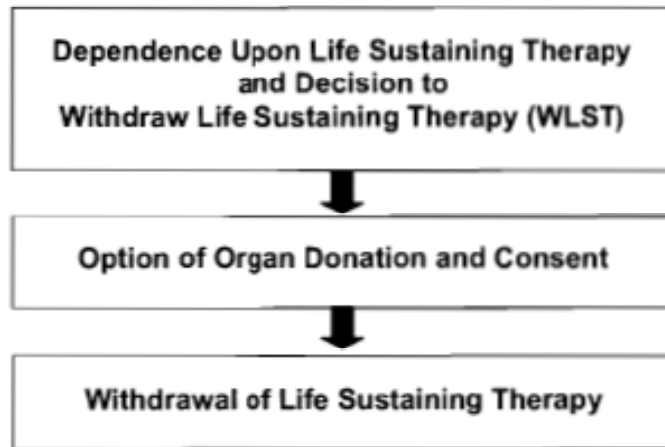
Outcomes from DCD donors

- Outcomes (patient and graft survival) comparable to heart beating donors for:
 - kidneys/pancreas
 - Warm Ischaemic Time < 60 minutes
 - not quite as good for livers
 - Warm Ischaemic Time < 30 minutes, donors less than 60 years
 - not as much data re: lungs

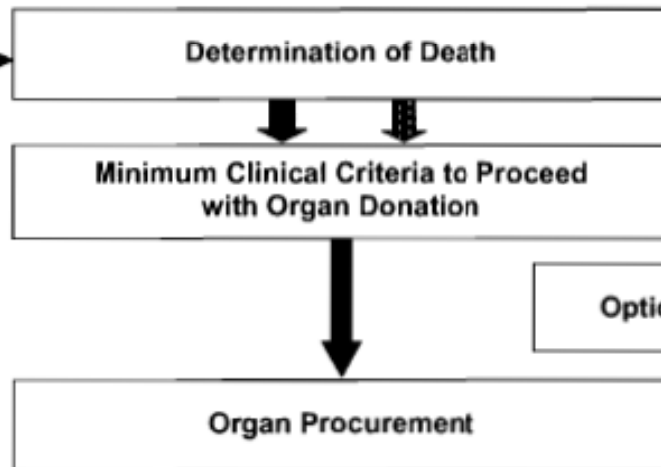
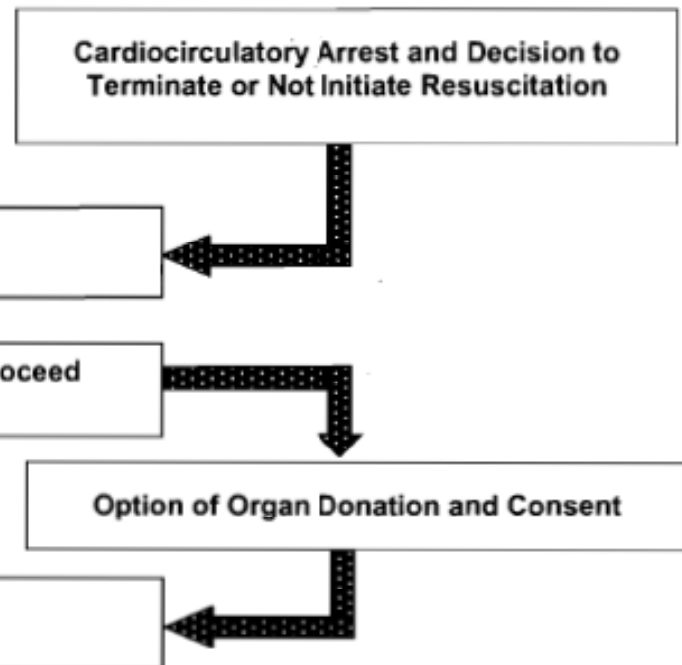


DCDD Sequence

Controlled



Uncontrolled



Donation After Cardiocirculatory Determination of Death
~ A Canadian Forum ~

Ethical Issues

- Will organ donation become more important than appropriate end of life care?
 - Critical care team and family make the decision about the withdrawal of life support first (DCD)
 - Should be independent of any discussion related to organ donation
- Challenge
 - families might become champions for organ donation during the process

Ethical Issues

- Conflict of Interest
 - Neither OPO nor the transplant team can be involved in the declaration process or the decision to withdraw life support
 - National guidelines for DCD available to help guide the process
- Challenge
 - OPO often involved in requesting
 - Timing very awkward

Ethical Issues (DCD)

- Will this lead to organ donation before cardiac/brain death?
 - “Slippery Slope Argument”
 - Many would say that this has already happened vis-à-vis pediatric cardiac transplants

Confirmation of Death

- When is the patient truly dead?
 - Confirmations of death by two different physicians who have no association with the transplant program are made before any organs can be recovered
 - Criteria for DCD primarily based on the absence of a pulse (pressure)

What is an appropriate wait time?

- IOM
 - 2 minutes
- CCDT
 - 5 minutes
- Some centers
 - 10 minutes

Pre-mortem medications/procedures

- Heparin
- Vasodilators
- Thrombolytics
- Steroids
- Cannulation of large veins/arteries

Timing of organ procurement

- Organ donation process cannot be the cause of death
 - DND not an issue as the patient is declared brain dead first, then organ donation proceeds
 - DCD, if the patient does not die within the time frame for organ recovery (<120 minutes), patient will be transferred back to his/her unit for continued comfort measures

How does this happen in Ontario?

- Voluntary donors
- HCWs have a responsibility to make the offer to families so that a patient's wishes may be honored
 - Donor registry now in place
- TGLN facilitates the process
- Everyone respects families decision no matter what it is

Other Ethical Issues

- Should we start speaking of the deceased donor population as “mostly dead” or must we demand donors remain “all dead” to allow organ donation?
- Would we use similar criteria, i.e. length of time following cardiac cessation, to remove organs for transplantation from a previously conscious patient versus someone who is severely neurologically injured prior to EDLT?

Take Home Messages

- DCD can be viewed as part of quality end of life care
- DCD has the potential for increasing the donor pool of deceased organ donation
- Critical care specialists will ultimately be instrumental in the success and evaluation of DCD
- Maintaining trust must always be our primary goal