

Pediatric DCD

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Understanding the rules

- Golden Rules:
 - Rule number 1: Some children die
 - Rule number 2: You can't change rule number 1
- Death does not equal failure
- Death is an option
- Death is a natural part of life
- Dying is a process
- Declaration of death is a finite point in time when irreversible function of organ systems occurs

Important considerations with DCD

- The decision to allow this patient to die has already been made
- The decision to donate must be made independently from withdrawal of care
- Issues regarding resuscitation are irrelevant in this patient
- Comfort measures are always provided for the patient
- Involvement of the family is essential

- Donation after cardiac death (DCD)
 - Withdrawal of care can occur in the PICU or the OR
 - After being withdrawn from ventilator support, cardiac standstill must occur within a specified amount of time
 - Typically 60-90 minutes
 - Patients are declared dead after cessation of cardiac and respiratory function occur
 - Organs are then surgically removed for transplantation

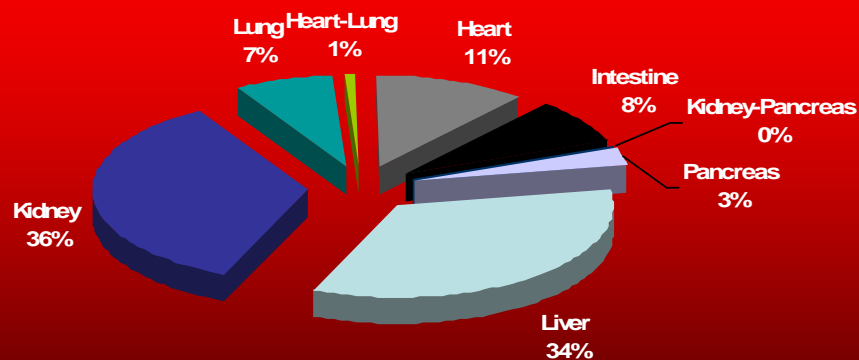
- No formal tool exists to determine when a child will expire following withdrawal of care
- Either electrical asystole or loss of pulse pressure is acceptable to declare death

Important area for growth

- Pediatric DCD

- DCD targets the two most needed organs for children
- DCD requires extensive collaboration with the physicians, nursing staff, OR staff, OPO, and the family to ensure the best outcomes
- DCD has the potential to increase organs available for transplantation

PEDIATRIC* WAITLIST PATIENT BY ORGAN TYPE



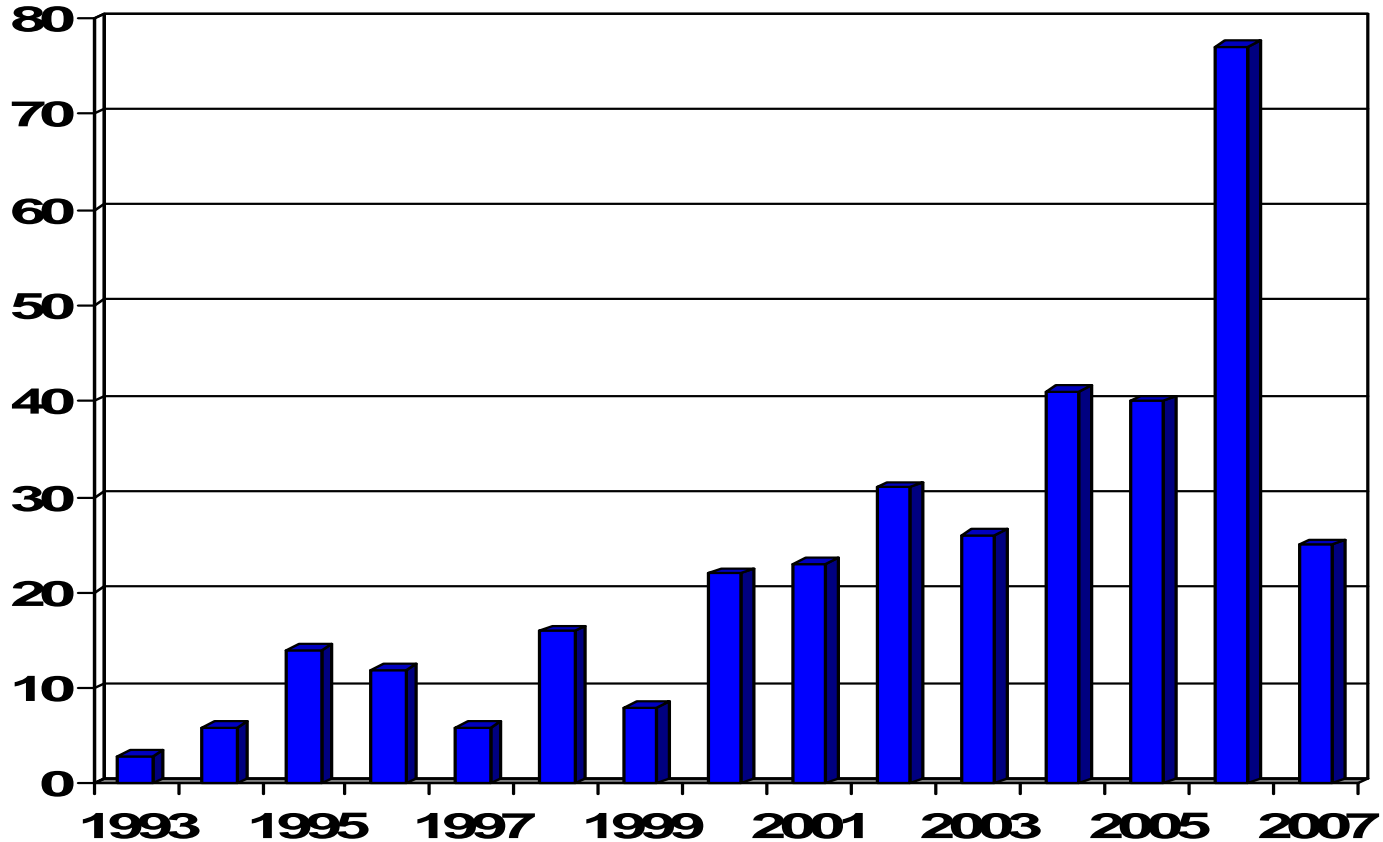
* Pediatric patients age 0-17 years of age

1,951 Children Waiting

Important area for growth

- Pediatric DCD
 - Although DCD pediatric donors may be a small percentage of the entire pediatric donor pool, DCD should be considered for any child, and their family, who are facing end-of-life issues
 - Ethical issues surrounding DCD
 - Utilize colleagues who are comfortable with this type of donation to care for and work with families who request donation
 - Work to improve understanding of all issues related to DCD
 - Better understand issues of when a person is really dead

Pediatric DCD donors



Scientific Registry of Transplant Recipients. 2006

Pediatrics patients < 18 years of age

** Data through April 2007*

645 DCD donors in 2006

Potential for DCD to increase organ donation in children

- The potential for DCD to increase organ donation in children
 - The routine use of NHBD has the potential to increase organ donation at our institution by 42%

Koogler T, Costantino AT Jr. The potential benefits of the pediatric nonheartbeating organ donor. Pediatrics. 1998;101:1049-1052.
 - 7 additional donors and 14 additional kidneys over a 3 year period (47% consent rate assumption)

Durall AL, Laussen PC, Randolph AG. Potential for donation after cardiac death in a children's hospital. Pediatrics 2007;119:e219-224.

Potential for DCD to increase organ donation in children

- 7 additional donors and 14 additional kidneys over a 3 year period (47% consent rate)
 - Increase to 75% consent rate
 - 3 potential DCD donors per year (9 donors over a 3 year period)
 - 60 Free standing Children's Hospitals = 180 livers and 360 potential kidneys
 - Add another 100 Children's Hospitals within a hospital
 - 280 livers and 560 potential kidneys
 - Approximately 700 children waiting for a needed kidney or liver
 - Incorporate SCD donors who can provide additional organs for transplantation
- DCD has the potential to provide another 280 livers and 560 kidneys for transplantation

Success with DCD organs

- Renal and liver grafts from DCD donors have graft function and transplant recipient survival rates comparable with organs recovered from SCD donors
- Lungs from DCD donors are being recovered and transplanted with good success
- 4 hearts from pediatric DCD donors have been transplanted with good success

Parental perspectives

- Families of children are more willing to agree to donation than families of adult patients

Morris JA, Wilcox TR, Frist WH. Pediatric Organ Donation: The Paradox of Organ Shortage Despite the Remarkable Willingness of Families to Donate. Pediatrics. 1992;89:411-415.

- Parents and guardians want to be asked about organ donation including DCD

Myers G, Kaplan K, Koogler T. Parents'/Guardians' Views of Organ Donation After Brain Death. Crit Care Med. 2005;32: A105.

Meert KL, Thurston CS, Samaik AP. End-of-life decision making and satisfaction with care: parental perspectives. Pediatr Crit Care Med. 2000;1:179-185.

Walker JA, McGrath PJ, MacDonald NE, et al. Parental attitudes toward pediatric organ donation: a survey. CMAJ. 1990;142:1383-1387.

- Parents make no distinction between cardiac and neurologic death

Kaplan K, Myers G, Koogler T. Parents'/Guardians' View of Organ Donation after Cardiac Death. Crit Care Med. 2005;32:A105.

