Organ Donation: An Overview for Theatre Nurses

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How many donors were there in Australia in 2015??
Less than 1% can!
Donation Consent Rates

- 91% When donor has registered to donate
- 75% When families know donor’s decision
- 60% National average
- 42% When donor has not registered and family does not know donor decision
Who is a potential organ donor?

- Intubated & Ventilated
- Died from brain death or imminently dying and WCRS is planned
- Sufficient BP for organ perfusion
- No evidence of:
  - Current malignancy
  - HIV*
- Age limits 1 - 80 years (loosely)
# Pathways to organ and tissue donation

## Donation after Brain Death (DBD)

1. Catastrophic neurological injury
2. Brain death testing
3. **Death certified**
4. End of life discussion
5. Donation discussion
6. Family consent and authorisations
7. Donation assessment
8. Organ & tissue offer & allocation
9. Retrieval surgery

## Donation after Circulatory Death (DCD)

1. Irreversible end stage organ failure or neurological injury
2. Decision to withdraw cardiorespiratory support (WCRS)
3. End of life discussion
4. Donation discussion
5. Family consent and authorisations
6. Donation assessment
7. Organ & tissue offer & allocation
8. WCRS
9. **Death certified**
10. Retrieval surgery
Declaration of Death

In Australia there are two legal definitions of death:

- Irreversible cessation of circulation of blood in the body of a person - *cardiac death*

  OR

- Irreversible cessation of all function of the brain of a person - *brain death*
Sudden event, accident or illness leading to hospital admission
Exploration of all medical treatment options
Patient declared brain dead via clinical tests / imaging
OR
decisions are made regarding futility of ongoing treatment (DCD)
Process of Brain Death

- Severe cerebral injury
- Brain swelling
- Intracranial hypertension
- Reduced cerebral blood flow
- Cerebral ischemia

As this cycle continues, cerebral blood flow declines to a point at which it ceases altogether and whole brain death occurs.
Clinical Testing
Imaging - Cerebral Angiogram
Imaging - Radionuclide Scan

Normal Cerebral perfusion

RT LATERAL

LT LATERAL

Rt Lateral

Lt Lateral

Flow

No Flow
What is DCD?

• Donation of organs from patients declared dead by cardio-pulmonary criteria

• Prior to the introduction of brain death into the law in the early 80’s, ALL organ transplants from deceased donors came from what were then termed “non-heart beating donors” – now DCD
Benefits of DCD

• More organs are available for transplantation
• Allows families to consider donation in scenarios where
  - patients thought unlikely to progress to BD
  - families not accepting of BD diagnosis
  - families of BD patients who wish to be with loved one when heart stops
• Fulfils patient’s wishes
• Meets community expectations
Who are the candidates:

- Patients with end stage organ failure for whom end of life care is planned
- Intubated and Ventilated
- Medically suitable to donate but not BD
- CO needs to cease within 90 mins of WCRS
Organ timeframes for DCD

Timeframe in which the organs remains viable for transplantation – warm ischaemic time

- Liver & Pancreas - 30 minutes
- Kidneys - 60 minutes
- Lungs - 90 minutes
DBD Vs DCD

The major differences for Operating Room staff
End of Life conversations had with family
Call made to DonateLife to check the AODR and brief medical suitability

Blood Group (if known)
Height & Weight
Age
Medical Past History
Family donation conversation / donation raised
Donation decision
Referral to DonateLife to engage donor coordinator to attend hospital
Formal written consent with donor family
Medical investigations to assess organ suitability

Blood group, height & weight
Circumstances of death
Past and current organ function
Diagnostic tests & pathology
Serology, NAT & tissue typing
Physical examination
Donor coordinator refers organs to transplant units
Confirm theatre start time
Patient transported to theatre
Transporting the donor

DBD:

• Donor is transported monitored and on a ventilator
• Escorted by anaesthetist +/- anaesthetics nurse
• Tech, donor co-ordinator to help escort patient
Transporting the donor

DCD:

• Donor is not monitored or ventilated
• Transport is done swiftly, with care to ensure no delay with lifts or doors between the ICU and OR
• Tech, donor coordinator, bedside nurse/doctor to help escort the patient
• Care taken to reduce any exposure of the donor to the public (if applicable)
Arrival in theatre

**DBD**

- formal time out and checking of identification and consents in theatre with all staff to be involved in the retrieval present

**DCD**

- checking of identification and consents is done in the DCD pre-meeting in the ICU with all staff to be involved in the retrieval - only a quick ID check is then done on arrival to theatre
Surgeons commence organ retrieval procedure (DBD)
Cross clamp of aorta
Mechanical ventilation ceased
Surgeons remove organs
Donor coordinator packages organs
Surgeons close patient
Transplant surgeons leave with respective organs
Cold Storage Ischaemic Times

- Heart: 2 - 4 hrs
- Lungs: 4 - 6 hrs
- Liver/Intestine: 8 - 12 hrs
- Pancreas: 24 hrs
- Kidneys: 24 hrs
Family viewing
Staff debrief
THEATRE STAFF
Frequently Asked Questions
Who is present during the retrieval surgery?

- Scrub nurse
- Scout nurse (2 is helpful)
- Donor coordinator (+/- Nurse Donation Spec.)
- Anaesthetist & Anaesthetic nurse
- Abdominal surgeon and assistant
- Thoracic surgeon and assistant
- Theatre technician
- Observers with permission from coordinator
What is the donor coordinator’s role in the Operating Suite?

- Donor & donor family advocate
- Coordination of surgical teams
- Communicating with transplant coordinators
- Legal & administrative documentation
  - including coronial requirements
- Education & support of staff
- Packing of organs & documentation
- Preparation of body for viewing / mortuary
How is organ retrieval different to other surgery?

**DBD**
- Patient appearance
- Cessation of circulation during retrieval

**DCD**
- Patient has appearance of deceased person
- More time pressured for reduction of warm ischemic time
- Uncertainty - 90 minute wait scrubbed
- Patient may be re-intubated for lung donation
- Pre-theatre meeting
What is the role of the anaesthetist in retrieval surgery?

- Required for both DBD and DCD donation
- Ensure optimal perfusion / protection of organs during retrieval
- Administration of medication to support retrieval - antibiotic and heparin administration
- Re-intubation for DCD (Lung retrieval only)
- Leadership and team support

**Anaesthetic management of the organ donor document available**
What is intra-operative evaluation?

- Visual appearance
- Trauma to the organ
- Presence of:
  - infection
  - malignancy
  - scarring
  - atherosclerosis
  - shrinkage
- May need to perform biopsy to assess organ suitability
How long does the retrieval surgery take?

• **DBD**
  - Multi-organ ~ 6 hours
  - Abdominal organs only ~ 4 hours
  - Liver insitu split ~ 8 - 10 hours
  - Kidney only ~ 3 hours

• **DCD**
  - 90 minutes +/- ~ 2 hours

• **OT set up**
  - 1 hour
DonateLife
Theatre Nurses Workshop
An organ donation education workshop for theatre nurses

Upcoming workshop:

Wednesday 27th July, 2016

Ballarat Base Hospital, Education Resource Centre – Seminar Room 1 & 2

Workshop program

- Diagnosis and declaration of brain death
- Donation after Circulatory Death (DCD) donation
- The donation process in Intensive Care
- Preparation for organ retrieval
- The organ procurement procedure
- Caring for self and supporting others
- Resources and support strategies
- Donor family and recipient experiences

For further information or to register please contact:

DonateLife Victoria - ph: 8317 7405 or
email: educationvic.donatelife@redcrossblood.org.au
Before and After Organ Transplant

Donation makes a difference
Thankyou