Attitudes to DCD kidney donation: A survey of health professionals

National Donation Conference
London 2012

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NHSBT and Cambridge University
DCD kidney transplantation

<table>
<thead>
<tr>
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<th>Transplants from cardiac-death donors</th>
<th>Transplants from brain-death donors</th>
<th>p value</th>
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<tbody>
<tr>
<td>Primary non-function</td>
<td>20 (3%)</td>
<td>174 (3%)</td>
<td>0.89*</td>
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<tr>
<td>Graft failure up to 30 days (death censored)</td>
<td>9 (2%)</td>
<td>22</td>
<td></td>
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<td>Immediate function</td>
<td>297/581 (51%)</td>
<td>3462/4564 (76%)</td>
<td>&lt;0.0001*</td>
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<tr>
<td>Acute rejection up to 3 months</td>
<td>107/649 (16%)</td>
<td>1399/5773 (24%)</td>
<td>&lt;0.0001*</td>
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<tr>
<td>eGFR (mL/min per 1·73m²)</td>
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<td>3 months</td>
<td></td>
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<tr>
<td>1 year</td>
<td>46 (35-58)</td>
<td>47 (36-59)</td>
<td>0.26†</td>
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<tr>
<td>3 years</td>
<td>45 (34-59)</td>
<td>46 (35-58)</td>
<td>0.83†</td>
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<td>Sensitisation at transplantation</td>
<td></td>
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<tr>
<td>Graft survival up to 5 years (death censored)</td>
<td>85.1%</td>
<td>85.4%</td>
<td></td>
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<tr>
<td>Graft survival up to 5 years (all-cause failure)</td>
<td>76.2%</td>
<td>76.4%</td>
<td>0.725</td>
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Regional Variation in Donation Rates
Aims

- Explore the causes of the variation
- Identify barriers to donation
- Evaluate variation in clinical practice
- Recommend solutions
Methods

- From April 2011 – Jan 2012
- 20 transplant centres
- 7 other donation centres
- 90 interviews with SNODs, CLODS, surgeons and nephrologist
- Semi-structured interviews retrospectively analysed
- Quantitative and qualitative analysis
What causes the variation 1?

Unmodifiable

- Ethnicity of Population: 35
- ICU type and Provision: 35
- Use of Marginal Organs: 1
- Discard Rates: 1
- Age of Population: 2
- Number Trauma Deaths: 3
- Multi-Organ Centres: 11
What causes the variation 2?

- Modifiable

- Education of locals and social class
- ICU management of potential donors
- Centre enthusiasm and key individuals
- Novelty of Programme
- Missed referrals
- Consent and ODR registration
Data

Variables

Statistical Analysis

- Ethnicity of Population
- ICU type and Provision
- Use of Marginal Organs
- Discard Rates
- Age of Population
- Number Trauma Deaths
- Multi-Organ Centres

Deaths (n= 27,482)

Transplants (n=1,528)

Variables

Statistical Analysis
All kidney donors (DCD and DBD)
All kidney donors (DCD and DBD)
Qualitative results

More DCD
- Plymouth
- Bristol
- Cardiff
- Cambridge
- Nottingham
- Sheffield
- Coventry
- Birmingham
- Newcastle
- Portsmouth

Fewer DCD
- Belfast
- Leicester
- Glasgow
- North Thames
- Oxford
- South Thames
- Manchester
- Leeds
- Edinburgh
- Liverpool

Non-transplanting centre
- Stoke
- Hull
- Middlesbrough
- Salford
- Brighton
- Southampton
- Walton
Is DCD donation generally a good thing?

More DCD

Fewer DCD

Non-transplanting centre

SNOD

CLOD

SNOD

CLOD

SNOD

CLOD

SNOD

CLOD

SNOD

CLOD
Do DCD kidneys work as well as DBD?
Is DCD going to be more important in the future?

- More DCD
- Fewer DCD
- Non-transplanting centre
Do you have ethical concerns

More DCD  | Fewer DCD  | Non-transplanting centre

5 | 6 | 4 | 8 | 5 | 4

SNOD | CLOD | SNOD | CLOD | SNOD | CLOD
What?

- Does the ODR constitute valid consent – particular for premortem intervention
- Mild concerns about being paid for a role of procuring organs – particularly how this may be perceived by the public
- Deciding futility and then optimising for donation conflict
- Treating the donor before death to optimise organs
- Is withdrawal of treatment done in the same way for donors and non-donors?
- Concern about early involvement of SNODs before futility decision – perception of pushing too hard
- Is the delay of treatment withdrawal reasonable?
- Concern about sedating potential donors – hasten the end of life, even if primarily for comfort
- Reversibility of death at 5 minutes – is this sufficient, are we careful enough not to reinstitute cerebral circulation
- ED referrals: is it too soon to make quick decisions about survivability in ED on the basis of a neurosurgical review of scans in remote hospitals. Should all be brought to ICU for a trial 24 hours?
Does the DCD programme affect the DBD?

- More DCD
- Fewer DCD
- Non-transplanting centre

![Bar chart showing the effect of DCD programme on DBD](image)
How often do you see the SNOD?

- More DCD
- Fewer DCD
- Non-transplanting centre

- Daily: 5
- Most days: 6
- 2x a week: 4
- Weekly: 8
- When Called: 4
- Never: 5
Do you aim to refer every patient who has treatment withdrawn in ICU?
After discussion with the family
After futility decision
Before futility decision

When is the referral to the SNOD?
Do you have a policy for controlled donation from the ED?

- More DCD
- Fewer DCD
- Non-transplanting centre
Where do you withdraw treatment?

More DCD
Fewer DCD
Non-transplanting centre
Most intervention ok
Titrates inotropes, reinsert lines
Bag of fluids
Nothing – no delay

Pre-mortem intervention?

More DCD
Fewer DCD
Non-transplanting centre

5  6  4  8  4  4

Extubation to withdraw treatment?

- More DCD
- Fewer DCD
- Non-transplanting centre

When a donor
No unit policy
Unit policy

5 6 4 8 4 4
Is the arterial line sufficient to declare cessation of circulation?

- More DCD
- Fewer DCD
- Non-transplanting centre

Electrical activity

Arterial Line
How long is minimum from cardiac arrest to knife-to-skin?
How would you improve DCD donation rates?

**Speed of Process**
- Early referrals to SNOD
- Rapid decision making
- Guidelines for marginal donors
- Emergency theatre access improvement

**Donor Identification**
- 100% referral rate
- Nurse-led referral
- Embed SNODs further in unit
- ICU capacity

**Education/Consent**
- Target low-volume centres
- Educate local population
- Personal messages on ODR

**ED**
- Formal pathways for donors
- Guidance about admission after ‘futility’ decision
- Donation bays in ED/Recovery/ICU

**Other**
- Novel sources of donor – MND or NIV
Conclusions

- DCD provides an excellent source of donor kidneys
- There remains significant, unexplained, regional variation in DCD donation rates
- The vast majority of ‘donation clinicians’ think DCD donation is a ‘good thing’ and will continue to become more important
- There remains significant variation in the interpretation of clinical guidance
- Improving the decision-making process about donor suitability is the most commonly suggested improvement
# Acknowledgements

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<tr>
<th>Donation Advice</th>
<th>Stats Advice</th>
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<tr>
<td>Paul Murphy</td>
<td>Rachel Johnson</td>
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<tr>
<td>Michelle Tyler</td>
<td>Dave Collett</td>
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<td>Kevin Gunning</td>
<td>Alex Hudson</td>
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<tr>
<th>Qualitative Help</th>
<th>General Help</th>
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<tr>
<td>Gurch Randawa</td>
<td>Andrew Bradley</td>
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<tr>
<td>Chloe Sharp</td>
<td>Chris Watson</td>
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<td>James Neuberger</td>
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<td>Gavin Pettigrew</td>
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**Interview**

Mekhola Mallik

**And Finally…**

The CLODs, SNODs, surgeons and nephrologists who gave their time to be interviewed.
Could the time interval prior to cardiac donation be shortened, particularly in children?

Pharmacological therapy to improve organ function e.g. inotropes, heparin

Invasive interventions to improve organ function and minimise warm ischaemia time e.g. cold perfusion, ECMO, elective ventilation

For an intervention to be considered, it has to be shown not to cause or risk causing harm or distress to the patient, but the degree of risk versus benefit is undefined.