Medical education in organ donation – how far have we come?

Dr Ben Ivory – National Education Clinical Lead for Organ Donation
@bennoivory
The dark days of the past…
The dark days of the past...
4. Recommendations – rationale and detail

4.1 The recommendations cover five broad aspects of donation, based on one overriding principle – that there should be a UK-wide Organ Donation Organisation.

4.2 The five aspects are:

i. legal and ethical issues;

ii. the role of the NHS;

iii. organisational aspects of co-ordination and retrieval;

iv. training;

v. public recognition of donors and their families and public promotion of donation.

4.4 There have been many reviews and recommendations concerning co-ordinators and the need for a more national structure has long been recognised. The quinquennial review of the United Kingdom Transplant Support Service Authority in 1999 recognised this but did not recommend national employment of co-ordinators, opting instead to give the new UK Transplant (UKT) responsibility for professional leadership of...
What they said

4.2 The five aspects are:

i. legal and ethical issues;

ii. the role of the NHS;

iii. organisational aspects of co-ordination and retrieval;

iv. training;

v. public recognition of donors and their families and public promotion of donation.
What was happening in medical training?

• 2007 syllabus for the award of CCT in ICM
• Describes the knowledge, skills and attitudes necessary to work as a ICM consultant
Overview: Death is a common event in intensive care; it may also be inevitable, and a dignified death a desirable though sad outcome. Sustained organ system support of patients who are certain to die is unkind, unethical, inappropriate, and depletes the medical commons. Withdrawal of support does not mean withdrawal of care, and a kind death does much to resolve guilt and unhappiness persisting for years in the surviving family. Brain death and organ donation must be handled with sensitivity and strictly according to national guidelines. Autopsy (post-mortem) examination often provides important opportunities for learning.

Knowledge

Responsibilities and activities of transplant co-ordinators
Management of the organ donor
Skills

• None listed...
Attitudes

Liaison with transplant co-ordinators
One suggestion they gave...
One suggestion they gave...

| Attendance at surgical organ harvesting |
What this ‘training’ regime meant
What this ‘training’ regime meant

• ‘What’s the CLOD?’
What this ‘training’ regime meant

• ‘What’s the CLOD?’

• ‘I don’t like having the SNOD in the room before I’ve mentioned organ donation’
What did the taskforce notice?

• Many critical care staff may go through their training without being involved in the care of a single potential organ donor
The recommendation

**Recommendation 11**

All clinical staff likely to be involved in the treatment of potential organ donors should receive mandatory training in the principles of donation. There should also be regular update training.
How have we addressed this challenge?

### 8.5 Manages the physiological support of the organ donor

<table>
<thead>
<tr>
<th>Knowledge</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic ethical principles: autonomy, beneficence, non-maleficence, justice</td>
<td></td>
</tr>
<tr>
<td>Causes of brain stem death</td>
<td></td>
</tr>
<tr>
<td>Role of national organ/tissue procurement authority and procedures for referral</td>
<td></td>
</tr>
<tr>
<td>Responsibilities and activities of transplant co-ordinators</td>
<td></td>
</tr>
<tr>
<td>Physiological changes associated with brain stem death</td>
<td></td>
</tr>
<tr>
<td>Principles of management of the organ donor (according to national / local policy)</td>
<td></td>
</tr>
<tr>
<td>Common investigations and procedures undertaken in the ICU prior to organ donation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skills</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain the concept and practicalities of brain stem death and organ donation clearly</td>
<td></td>
</tr>
<tr>
<td>Liaise with transplant co-ordinators (local organ donation authority) to plan management of the organ donor</td>
<td></td>
</tr>
<tr>
<td>Monitor vital physiological functions as indicated</td>
<td></td>
</tr>
<tr>
<td>Recognise and rapidly respond to adverse trends in monitored parameters</td>
<td></td>
</tr>
<tr>
<td>Aware of the emotional needs of self and others; seeks and offers support appropriately</td>
<td></td>
</tr>
<tr>
<td>Obtain consent/assent for treatment, research, autopsy or organ donation</td>
<td></td>
</tr>
</tbody>
</table>
### How have we addressed this challenge?

**8.5 Manages the physiological support of the organ donor**

**Knowledge**
- Basic ethical principles: autonomy, beneficence, non-maleficence, justice
- Causes of brain stem death
- Role of national organ/tissue procurement authority and procedures for referral
- Responsibilities and activities of transplant co-ordinators
- Physiological changes associated with brain stem death
- Principles of management of the organ donor (according to national/local policy)
- Common investigations and procedures undertaken in the ICU prior to organ donation

| Skills |  
|--------|-------------------|
| Explain the concept and practicalities of brain stem death |  
| Liaise with transplant co-ordinators (local organ donation authority) |  
| Monitor vital physiological functions as indicated |  
| Recognise and respond to adverse trends in monitored parameters |  
| Aware of the emotional needs of self and others; seeks and offers support appropriateness |  
| Obtain consent/assent for treatment, research, autopsies |  

---

---

**8.6 Manages donation following cardiac death**

**Knowledge**
- Basic ethical principles: autonomy, beneficence, non-maleficence, justice
- Common investigations and procedures undertaken in the ICU prior to organ donation
- Procedure for pronouncing life extinct and subsequent completion of death certification
- Responsibilities in relation to legal authorities for certifying death (e.g., Coroner, Procurator Fiscal or equivalent), and reasons for referral
- Legal and ethical framework for decision making
- Role of national organ/tissue procurement authority and procedures for referral
- Transplant team members and their roles
- Responsibilities and activities of transplant co-ordinators

| Skills |  
|--------|-------------------|
| Recognise when treatment is unnecessary or futile |  
| Identify potential non-heart beating donors |  
| Lead a discussion about end of life goals, preferences and decisions with a patient and/or their relatives |  
| Participate in discussions with relatives about treatment limitation or withdrawal |  
| Liaise with transplant co-ordinators (local organ donation authority) and retrieval teams to plan management of the organ donor |
How have we addressed this challenge?

### 8.5 Manages the physiological support of the organ donor

**Knowledge**
- Basic ethical principles: autonomy, beneficence, non-maleficence, justice
- Causes of brain stem death

**Skills**
- Recognise when treatment is unnecessary or futile
- Identify potential non heart beating donors
- Lead a discussion about end of life goals, preferences and decisions with a patient and/or their relatives
- Participate in discussions with relatives about treatment limitation or withdrawal
- Liaise with transplant co-ordinators (local organ donation authority) and retrieval teams to plan management of the organ donor

### 8.4 Performs brain-stem death testing

**Knowledge**
- Basic ethical principles: autonomy, beneficence, non-maleficence, justice
- Causes of brain stem death
- Legal aspects of brain stem death diagnosis
- Applied anatomy and physiology of the brain and nervous system including cerebral blood supply, base of skull, autonomic nervous system and cranial nerves
- Physiological changes associated with brain stem death
- Preconditions and exclusions for the diagnosis of brain stem death
- Clinical, imaging and electrophysiologic tests to diagnose brain death: applicability
- Cultural and religious factors which may influence attitude to brain stem death and organ donation

**Skills**
- Liaise with transplant co-ordinators (local organ donation authority) and retrieval teams to plan management of the organ donor
- Monitor vital physiological functions as indicated
- Recognise and rapidly respond to adverse trends in monitored parameters
- Aware of the emotional needs of self and others; seeks and offers support appropriately
- Obtain consent/assent for treatment, research, autopsy or organ donation

---

#### Following cardiac death

- Beneficence, non-maleficence, justice
- Procedures undertaken in the ICU prior to organ donation
- Process and subsequent completion of death certification
- Authorities for certifying death (e.g., Coroner, Procurator Fiscal or equivalent), and
- Decision making
- Remot authority and procedures for referral
- r roles
- nsplant co-ordinators
For ICM trainees
The National Deceased Donation Simulation Course

• Free 2 day residential course for senior ICM trainees
• Started as a local pilot in Nottingham
• Now running in 7 centres in all 4 home countries of the UK
• Slowly built up course numbers and faculty so that we can now train every ICM trainee in the UK
Day 1

• Deceased donation in context
• Identification and referral
• Diagnosis of death
• Donor and recipient stories
• Ethics and the law
• Practical approach to ethics (MORAL BALANCE)
• Role of the SNOD
• Approach
• Optimisation
Evening of day 1
Day 2

- Optimise
- Withdrawal
- Ethics
- Dead or not dead
- Diagnosing death by neurological criteria
- 3 comms stations (1 DCD, 2 DBD)
Day 2

- Optimise
- Withdrawal
- Ethics
- Dead or not dead
- Diagnosing death by neurological criteria
- 3 comms stations (1 DCD, 2 DBD)
Costs

• Approx £70000 per annum
• Only worth it if it produces more donors...
They seem to like it
Is that important?

• We are unashamedly going for hearts and minds
• ‘Passionate about organ donation’
• ‘I want to go back to my own unit and start making changes’
• We now have a number of CLODs and 1 R-CLOD who attended as trainees
Knowledge improves

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre course proportion correct (%)</th>
<th>Post course proportion correct (%)</th>
<th>Chi squared statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following statements may be consistent with the diagnosis of brain death:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The patient flexes their arm to finger nail pressure</td>
<td>18/36 (50)</td>
<td>42/47 (89)</td>
<td>15.8</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>The ventilator registers spontaneous respiratory effort</td>
<td>11/36 (31)</td>
<td>45/47 (96)</td>
<td>38.5</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>The patient has a tonic clonic seizure</td>
<td>27/36 (75)</td>
<td>46/47 (98)</td>
<td>10.0</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>The pulse increases from 70bpm to 110bpm during apnoea testing</td>
<td>22/36 (61)</td>
<td>45/47 (96)</td>
<td>15.7</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>There is slow drift of one eye during caloric testing</td>
<td>28/36 (78)</td>
<td>46/47 (98)</td>
<td>8.5</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
Attitudes improve

**Introduction**

The Deceased Donation Simulation Course (DDSC) is a 2-day course aimed at senior ICM trainees. It aims to improve the knowledge, skills, and attitudes of ICM doctors around the process of organ donation. SNOD presence at the donation conversation is recognised to be an important factor in improving consent rates to OD and we aimed to assess whether attitudes to SNOD involvement in the conversation changed in delegates who attended the course.

**Methods**

The DDSC uses a variety of teaching methodologies (lectures, small group work, low and high fidelity sim and communication sim) to deliver 2 days around organ donation. Key to the course is encouraging early SNOD involvement in the OD consent process. To assess the success of this part of the course, delegates were required to fill out an attitudinal survey to SNOD involvement before attending the course, and again at completion. The survey asked delegates to rate how likely there were to involve the SNOD at a variety of stages in the OD pathway with 1 being the least likely and 5 being the most likely.

**Results**

<table>
<thead>
<tr>
<th>Stage of donation:</th>
<th>Likelihood of SNOD involvement – mean pre-course score (max of 5)</th>
<th>Likelihood of SNOD involvement - mean post-course score (max of 5)</th>
<th>P value (unpaired students T Test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explaining concept of brain death</td>
<td>3.76</td>
<td>4.7</td>
<td>0.002</td>
</tr>
<tr>
<td>Explaining results of brain death testing</td>
<td>4.0</td>
<td>4.85</td>
<td>0.004</td>
</tr>
<tr>
<td>Exploring a plan to WLST on a patient with DBI</td>
<td>3.76</td>
<td>4.9</td>
<td>0.001</td>
</tr>
<tr>
<td>Exploring WLST on patient with no donation potential</td>
<td>3.18</td>
<td>4.6</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Discussion

These data show a significant change in self-reported attitudes to SNOD involvement in a variety of clinical scenarios by ICM trainees. If these changes in attitude are translated into increased SNOD attendance and involvement, previous data would suggest that the DDSC may improve organ donation consent rates.
Explaining the concept of death using neurological criteria (brainstem death)

Explaining the results of tests which confirm death using neurological criteria

Exploring a plan to withdraw life sustaining therapy in a patient with devastating brain injury

Exploring a plan to withdraw life sustaining therapy in a patient with no organ or tissue donation potential

Attitudes to SNOD involvement (pre course)

Weighted Average

Explaining the concept of death using neurological criteria (brainstem death)
Explaining the results of tests which confirm death using neurological criteria
Exploring a plan to withdraw life sustaining therapy in a patient with devastating brain injury
Exploring a plan to withdraw life sustaining therapy in a patient with no organ or tissue donation potential

Attitudes to SNOD involvement (post course)

Weighted Average
A UK Model for Donation
local donation teams

Clinical Lead for Organ Donation (CLOD)

‘Embedded’ Specialist Nurse for Organ Donation (SNOD)

Non-clinical Donation Committee Chair (Chair)
A UK Model for Donation
local donation teams

Clinical Lead for Organ Donation (CLOD)

‘Embedded’ Specialist Nurse for Organ Donation (SNOD)

Non-clinical Donation Committee Chair (Chair)
CLODs shoulder the load

• Twice yearly CLOD induction (fundaments of OD and CLODing)
• Regional collaboratives
• Rely on CLODs to disseminate national learning to the local level
• Far from perfect...
Undergraduate medicine

• Nothing central from NHSBT
• Dependent on individual medical schools
• But does it matter?
Would the taskforce approve

• Not mandatory – but deliberately so
• Not ongoing – but CLOD induction and the regional collaboratives offers something close (local CLOD dependent)
Summary

• Slow work
• Drip drip effect of multiple interventions
• Anecdotal evidence (i.e. not really evidence) that the DD sim course is having direct effects in centres where OD rarely happened
Blue sky thinking...

• Donation as a recognised area of ICU sub-specialisation?