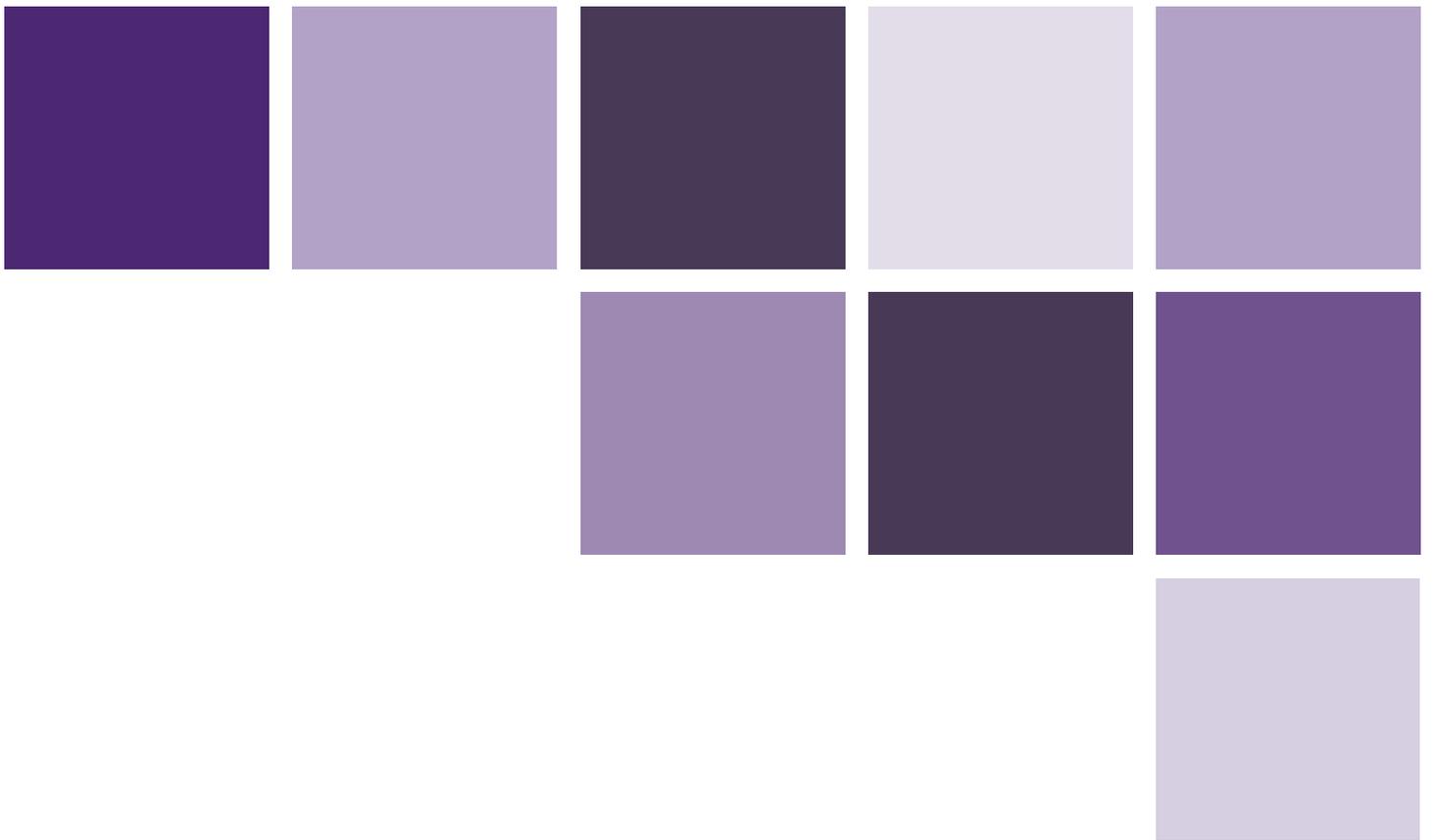


Diagnosing Death for Donation after Circulatory Death (DCD) for Advanced Critical Care Practitioners



Preface

In DCD donation, a safe and timely diagnosis of death is essential to maintain public confidence in deceased donation and to minimise warm ischaemic organ damage.

The growth of the ACCP role, combined with the 100% increase in donor numbers over the last 10 years, means that for some units the ability for ACCPs to diagnose death in the context of DCD is vital for service provision and ensuring every donation opportunity can be facilitated.

Introduction

To enable Advanced Critical Care Practitioners (ACCPs) to diagnose circulatory death in the context of DCD organ donation the following competency document has been developed.

The local Clinical Lead for Organ Donation [CLOD] and ICU Clinical Lead must agree and ensure local governance arrangements are in place with activity reviewed and reported to the CLOD.

Learning and Teaching

When death is diagnosed in the UK, it must be carried out in accordance with the [Academy of Medical Royal Colleges Code of Practice for the Diagnosis and Confirmation of Death](#).

Only medical practitioners can:

- Diagnose death using neurological criteria (brainstem death).
- Complete the Medical Cause of Death Certificate and Cremation forms.
- Diagnose death for organ or tissue donation in Scotland.

However, following cardio-respiratory arrest, there is no restriction on the type of healthcare professional who can diagnose death, provided they are competent to do so. Where death is expected, it is increasingly common in hospitals and hospices that nurses will confirm the death.

In the context of donation after circulatory death, where death follows the withdrawal of life-sustaining treatment, and therefore death is expected, there is no requirement in England, Wales or Northern Ireland that the diagnosis and confirmation of death must be a medical practitioner. Expanding the role of ACCPs to make this important diagnosis to facilitate DCD (outside of Scotland) has been approved by FICM and the National Organ Donation Committee.

Aim

The aims of this Advanced Critical Care Practitioner (ACCP) DCD competency are to:

- Enable ACCP training to a nationally agreed standard by FICM and NHSBT for the diagnosis of death in the context of DCD organ donation.
- To describe the core theoretical knowledge, practical skills and professional judgment required of an ACCP in the diagnosis of death in the context of DCD organ donation.
- The competences identify knowledge, common and specialist elements, which are deemed essential to the role, while allowing for flexibility within local settings to meet service needs.
- Each individual practitioner will take professional responsibility for their autonomous practice including acknowledgement of their limitations and when to 'refer the patient on' to medical colleagues or other appropriate professionals.

DCD Competency

To gain DCD competency, Advanced Critical Care Practitioners will attend a one-day study day run by the Local Clinical Lead for Organ Donation (CLOD) in conjunction with the local Specialist Nurse for Organ Donation (SNOD) and their usual ACCP supervisor in clinical practice.

The study day will teach the theoretical and legal underpinnings for the diagnosis of death and the practicalities of how to diagnose death by circulatory criteria using lectures and simulation based learning.

After completing the taught element of the study day, ACCPs will need to pass an assessed simulation station *and* a multiple choice question [MCQ] paper to successfully complete the training.

After successful completion of the taught and assessed elements, the ACCP will undertake a Direct Observation of Procedural Skills [DOPS] assessment by their supervising consultant. If knowledge and skills are met to the required standard, the ACCP will be signed off as competent to diagnose DCD death for organ donation.

The Advanced Critical Care Practitioner will not be responsible for making treatment limitation decisions but will contribute to decision-making discussions as a member of the critical care multi-professional team.

Recommended assessment processes

Assessment tools for the DCD organ donation competencies are the same as those in familiar use in the assessment of medical trainees.

Each competence is mapped to the relevant assessment tools as follows:

Assessment Tools

Code Full name
Direct Observation of Procedural Skills [DOPS] (D)
Simulation (S)
Observation of clinical practice (O)

Alignment to Good Medical Practice

A trained ACCP will be working within a medical model of care delivery; therefore, the competences for the trainee ACCP are also aligned to the four domains of Good Medical Practice.

Domains of Good Medical Practice

Domain Descriptor:

1. Knowledge, skills and performance
2. Safety and quality
3. Communication, partnership and teamwork
4. Maintaining trust

Supervision

Overall supervision (direct or indirect) will be provided by a consultant in intensive care medicine. Where the supervising consultant in Intensive Care Medicine is not physically present they must always be readily available for consultation and it is identified that ultimate responsibility for standards of patient care lies with the consultant in Intensive Care Medicine.

How many workplace-based assessments?

Given the inherent nature of DCD certification, a minimum number of WPBAs has been specified, but these numbers should be viewed as an absolute minimum. The actual number of observations of work required will depend on the individual ACCP knowledge competence and skill, and they should seek advice and guidance from their supervisors; ACCPs should be encouraged to undertake as many WPBAs as they feel is needed to support their acquisition of confidence and competence

As a minimum standard, trainees must have **at least one** piece of satisfactory assessment evidence for every competency required for sign-off.

Where an ACCP trainee performs unsatisfactorily, more assessments will be needed under discussion with the ICU clinical Lead and the CLOD. It is the responsibility of the ACCP to provide sufficient evidence of satisfactory performance and satisfactory progress to develop competence.

Diagnosing Death for DCD Donation

These are the competencies required of ACCPs for the care of patients for organ Donation after Circulatory Death (DCD) they expand on the general common competencies of ACCP training.

DCD Organ Donation / Diagnosing Circulatory Death		
<i>Objective:</i>		
<ul style="list-style-type: none"> Diagnose death in a safe and timely manner to facilitate DCD organ donation 		
<i>Competence</i>	<i>Assessment Methods</i>	<i>GMP</i>
Knowledge		
Understands the local organ donation referral and retrieval process	T, C, I	1
Demonstrates knowledge of the principles of medical ethics	T, C, I, HEI, E	1
Diagnoses death in a safely and timely manner so as to facilitate DCD donation	D, S	1,2,4
Skills		
In conjunction the with SNOD, ensures family's understanding of the process of diagnosing death for DCD	C, D, M	1, 3
Accurately documents the diagnosis of death	T, C, I	1, 3
Diagnoses death using circulatory criteria (5 minutes of observed loss of cardiac output and apnoea followed by testing for loss of pupillary reflexes to light, loss of corneal reflexes and absent response to supra-orbital ridge pressure) in a safe and timely fashion	D, S	1,2,4
Behaviours		
Approaches the situation with courtesy, empathy, compassion and professionalism, especially by appropriate body language acting as an equal not a superior	T, C, I, M	1, 3, 4
Ensures appropriate personal language and behaviour	T, I, E	1, 3
Ensures that the approach is inclusive person and patient centred and respects the diversity of values in patients, carers and colleagues		
Demonstrates that all decisions and actions must be in the best interests of the patient	C, M	1

Donation after Circulatory Death (DCD)

ACCP's Surname		
ACCP's Forename(s)		
NMC/equivalent		NUMBER <u>MUST</u> BE COMPLETED

	Satisfactory / Unsatisfactory	If yes, please describe how and when this need was met. If no or in progress, please explain why not or how the need is progressing.
Diagnose death using circulatory criteria (5 minutes of observed loss of cardiac output and apnoea followed by testing for loss of pupillary reflexes to light, loss of corneal reflexes and absent response to supra-orbital ridge pressure) in a safe and timely fashion		
Accurately documents the diagnosis of death		

Observed by		
GMC/NMC Number		GMC /NMC NUMBER <u>MUST</u> BE COMPLETED
Date		Profession/grade
Signature of observing clinician		

Please complete this form in BLOCK CAPITALS and BLACK ink

ACCP's Surname		
ACCP's Forename(s)		
NMC/equivalent		NUMBER <u>MUST</u> BE COMPLETED

Observed by		
GMC/NMC Number		GMC /NMC NUMBER <u>MUST</u> BE COMPLETED
Date		Profession/grade
Signature of observing clinician		

Assessment:

	Practice was satisfactory	Tick one	Assessor's signature
	Practice was unsatisfactory	Tick one	Assessor's signature

Expand on areas of good practice. You **MUST** expand on areas for improvement for each unsatisfactory score given.

If you have rated the performance unsatisfactory, you **MUST** indicate which elements were unsatisfactory

Example of good practice were:

Areas of practice requiring improvement were:

Further learning and experience should focus on:

Reflective Account Form – DCD

Completing a reflective account about DCD confirmation can be used as part of your revalidation cycle demonstrating that you are meeting the needs of the NMC Revalidation Process, HCPC CPD guide and Good Medical Practice.

Discussion topic Organ Donation	
Key lessons learnt	

Name of reviewer	
NMC/HCPC/GMC number	
Signature	

Reflective Account Form – DCD

Completing a reflective account about DCD confirmation can be used as part of your revalidation cycle demonstrating that you are meeting the needs of the NMC Revalidation Process, HCPC CPD guide and Good Medical Practice.

Discussion topic Organ Donation	
Key lessons learnt	

Name of reviewer	
NMC/HCPC/GMC number	
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Appendix 1: Abbreviations

The below is a list of abbreviations commonly used throughout this curriculum document:

<i>Abbreviation</i>	<i>Term</i>
<i>ACCP</i>	<i>Advanced Critical Care Practitioner</i>
<i>DBD</i>	<i>Donation after Brainstem Death</i>
<i>DCD</i>	<i>Donation after Circulatory Death</i>
<i>FICM</i>	<i>Faculty of Intensive Care Medicine</i>
<i>GMC</i>	<i>General Medical Council</i>
<i>HEI</i>	<i>Higher Education Institution</i>
<i>NHSBT</i>	<i>National Health Service Blood & Transplant</i>

Withdrawal of life-sustaining treatment and diagnosing death using circulatory criteria

DCD 2: Withdrawal and Lung DCD

Key moments

1. In this workshop the group will have to in REAL TIME:
 - a. Plan the withdrawal which must include extubation and should involve the whole group
 - b. The group will withdraw life sustaining treatment – turn off noradrenaline and extubate (no family present but SN-OD taking observations and co-ordinating with the retrieval team) Sim Man will progress to asystole, mechanical first than electrical
 - c. Participant will have to confirm death after five minutes
 - d. Participant, ICU Nurse and SN-OD will have to ‘move’ Sim Man into theatre
2. Debrief (15-30 minutes)

Current recommendation

It is the observation for five minutes that is important. There is no requirement by the AoMRC to listen to the heart with a stethoscope for five minutes.

Step 1: start the clock on mechanical asystole (a-line) not electrical

Step 2: observe ongoing apnoea and mechanical asystole (a-line) for five minutes

Step 3: at five minutes brief auscultation to confirm accuracy of a-line (if not done within the five minutes, which is also acceptable) then complete neurological examination.

Personnel

- 1 High fidelity simulation manikin + Faculty Operator
- 1 Faculty
- 1 or more course participants
- 1 ICU Nurse (can be member of faculty playing role)
- 1 SN-OD

Facilities

Room set up like ‘ICU’ / ‘recovery’: bed, sim man patient, intubated and ventilated, noradrenaline low dose infusion, morphine and midazolam both 5 mls/hr

Simulation mannequin capable of mimicking withdrawal of life sustaining treatment and progression first to mechanical asystole than electrical asystole, with short return of cardiac output of approximately 10 seconds, 15-20 seconds after first loss of output.

Paperwork

- ICU
- Lung DCD theatre checklist
- SN-OD paperwork/iPad for donor path

Equipment

- Mannequin looking like an ITU patient with lines and tubing as would be ordinarily expected
- Ventilator and tubing
- Laryngoscope
- ETT
- BVM
- 3X infusion pumps (noradrenaline low dose infusion, morphine and midazolam 5mls/hr)
- Drip stand
- Bed or trolley for the mannequin
- Oxygen supply (for vent)
- Bladder syringe
- Stethoscope
- Pen torch
- Gauze
- Intubation trolley and spare ETT

Link [HERE](#) to An Ethical Framework for controlled donation after circulatory death -Executive summary

Faculty Brief

Michael a man in his fifties collapsed in supermarket. He was intubated in the Emergency Department, with GCS 3/15, sluggish pupils and CT scan revealed a large left MCA territory infarct. He had no neurosurgery but received thrombolysis.

Three days later, on the intensive care, he deteriorated further. His pupils became fixed and dilated but he was coughing and breathing the odd spontaneous breath. Medical consensus was to withdraw life sustaining treatment.

In DCD 1 the group spoke to Michael's family and ensured their understanding and acceptance of this plan. Donation was discussed. Michael is not on the organ donor register.

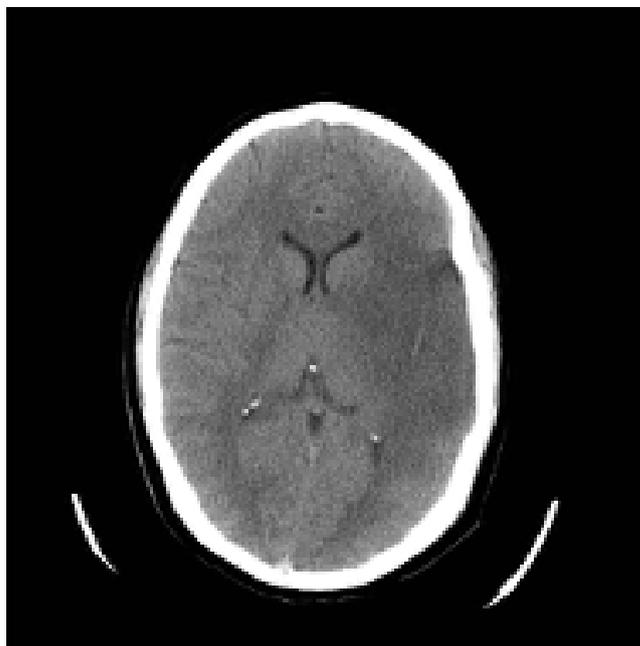
His family have consented to donation. The plan is to retrieve his kidneys, liver, pancreas and LUNGS.

It is 12 hours later and the surgical retrieval team are ready in theatre. It is time to withdraw.

Michael's family is not with him for the withdrawal

In REAL TIME (20-25 minutes) the group must:

1. **Plan the withdrawal which must include extubation and should involve the whole group**
2. **They will then withdraw life sustaining treatment – turn off noradrenaline and extubate (no family present but SN-OD taking observations and liaising with the retrieval team)**
3. **Simulation mannequin will progress to asystole, mechanical first then electrical**
4. **Participant will have to confirm death after five minutes**
5. **Participant with the ICU Nurse and SN-OD will have to 'move' Sim Man into theatre (which may be out door and back in)**



Day 1

Faculty Debrief

Topics to discuss:

Essential

- **Importance of planning, and preparing bed to move,**
- **Alternative locations for withdrawal pros/cons**
 - ICU
 - Recovery and anaesthetic room
 - ED
- **When to start the clock**
 - At onset of mechanical asystole in expectation that electrical asystole or agonal rhythm will be present at five minutes
 - What to do if mechanical output returns
- **Role of the SN-OD in this process (let SN-OD explain this part)**
- **The mechanism of withdrawal of life sustaining treatment on ICU and national guidance (which there is very little currently)**
- **Criteria and paperwork for confirming death using circulatory criteria**
 1. A clear intention not to attempt cardiopulmonary resuscitation (CPR) in order to restore circulatory, and therefore cerebral, function.
 2. An examination and an observation period to confirm continuous apnoea, absent circulation and unconsciousness; after which the likelihood of spontaneous resumption of cardiac function will have passed.
 - a. Five minutes is related to spontaneous resumption risk
 - b. Examination is like a mini neurological death test including a five minutes apnoea

Diagnosing and confirming death after cardiorespiratory arrest (Circulatory Criteria)	Diagnosing and confirming death in a patient in a coma (Neurological Criteria)
<i>Demonstration of loss of the capacity for consciousness</i>	
Absence of pupillary response to light	Absence of pupillary response to light
Absence of corneal reflex	Absence of corneal reflex
Absence of any motor response to supra-orbital pressure	Absence of any motor response to supra-orbital pressure
<i>Demonstration of loss of the capacity to breathe</i>	
Five minutes observation of maintained cardiorespiratory arrest	Five minutes apnoea test to demonstrate no spontaneous respiratory effort

3. The prohibition at any time of any intervention that might restore cerebral blood flow by any means.

Potential additional topics to discuss

- Extubation and its role in end of life care on ICU
- Sedation and analgesics and their role in end of life care on ICU

ACCP Assessment Station

Key Points

- This assessed scenario will closely mirror the 'walk-through' simulation that candidates will have been through earlier in the day **with the addition that the patient will have a brief return of cardiac output 30 seconds after initial asystole. Candidates will be expected to recognise this and restart timings after the second start of mechanical asystole**
- Candidates will be expected to lead the scenario without help from faculty and liaise with other staff in the scenario as would be expected in normal clinical practice
- The scenario should be played out in real time, including the completion of all relevant paperwork that would ordinarily be expected locally to allow DCD donation to proceed

Personnel

- 1 High fidelity simulation manikin + Faculty Operator
- 1 Faculty assessor
- 1 course participants
- 1 ICU Nurse (can be member of faculty playing role)
- 1 SN-OD

Facilities

Room set up like 'ICU' / 'recovery': bed, sim man patient, intubated and ventilated with bandage around head, noradrenaline low dose infusion, morphine and midazolam both 5 mls/hr

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- Pen torch
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- Intubation trolley and spare ETT

Faculty Brief

John is a 28 year old man who was assaulted 7 days ago with an iron bar. He sustained a devastating traumatic brain injury, and despite a decompressive craniectomy, he has continued to deteriorate. He is now GCS 3, and the entire team are in agreement that withdrawal is in his best interests.

John was on the organ donor register and his family brought up the subject of donation. They do not wish to be with him at the time of extubation.

His family have consented to donation. The plan is to retrieve his kidneys, liver and pancreas.

It is 12 hours later and the surgical retrieval team are ready in theatre. It is time to withdraw.

In REAL TIME (20-25 minutes) the candidate MUST:

- 1. Plan the withdrawal which must include extubation which should include the SNOD and ICU nurse**
- 2. Candidate will withdraw life sustaining treatment – turn off noradrenaline and extubate (no family present but SN-OD taking observations and liaising with the retrieval team)**
- 3. Simulation mannequin will progress to asystole, mechanical first then electrical. Timing must start at MECHANICAL ASYSTOLE**
- 4. After 30 seconds there will be a spontaneous resumption of cardiac output. Candidates MUST STOP TIMINGS AND ONLY RESTART AFTER MECHANICAL OUTPUT STOPS AGAIN**
- 5. Participant will have to confirm death after five minutes using 5 minutes of observation of cardiorespiratory arrest followed by examination of pupillary reflexes, response to supra-orbital pressure and absent corneal reflexes**
- 6. Participant with the ICU Nurse and SN-OD will have to ‘move’ Sim Man into theatre (which may be out door and back in)**

Assessment

Assessors should consider whether they would be comfortable to allow a candidate to diagnose death in their own hospital with the assessor as the responsible clinician. It is suggested that the following actions should result in a candidate failing the assessment

- Failure to stop timing after the spontaneous resumption of cardiac output
- Failure to use mechanical rather than electrical asystole as the criteria for absent cardiac output
- Failure to adequately complete the full neurological assessment as set out in the 2008 AoMRC code for the diagnosis of death
- Failure to plan effectively with the wider team looking after the patient
- Failure to correctly complete any locally agreed documentation

The opinion of the SNOD and the consultant assessors should be included in the determination of whether a candidate has demonstrated the knowledge, skills and attitudes necessary to pass the assessment.