A guideline for organ and tissue donation

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Approved by	NHS Lanarkshire Organ Donation Committee
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Contents

1. Introduction

Organ donation refers to the donation of a solid organ or organs including, though not limited to, heart, lungs, liver, kidneys, pancreas and small bowel. Tissue donation includes the donation of corneas, skin, bone, tendons and heart valves.

The aim of this practical guideline is to ensure that within NHS Lanarkshire every patient's decision to be an organ or tissue donor following their death is fulfilled wherever possible.

The consideration of donation after death should be a normal part of end of life care in all areas of NHS Lanarkshire. Guidance from the General Medical Council (GMC) states that "if a patient is close to death and their views cannot be determined, you should be prepared to explore with those close to them whether they had expressed any views about organ or tissue donation".
This is further supported by the change in Law by the Human Tissue (authorisation) Scotland Act 2019 Duty to inquire "health workers should make every effort to establish the decision or views of the potential donor and then to support their decision being fulfilled

Although donation occurs after death there are steps that health professionals will need to take before the death of the patient, if donation is to take place. Key to this is the timely referral and involvement of the Specialist Nurses in Organ Donation, (SNOD), whose expertise will guide and support families and health care professionals through this emotional time.

The successful donation of an organ or tissue requires collaborative working across the health board and thus necessitates all the infrastructure to be in place. The health board works in partnership with NHS Blood and Transplant (NHSBT) and the Scottish Government to deliver this and is in keeping with the national strategy for organ and tissue donation. This is detailed in the UK strategy document *Taking Organ Transplantation to 2020* and the Scottish Government document *A Donation and Transplantation Plan for Scotland 2013-2020*. A stated key priority is to ensure that "all parts of NHS Scotland are knowledgeable about and support donation" and "it is the responsibility of NHS managers to champion and support donation and transplantation locally".

Patients who are eligible to donate their organs are usually those who pass away whilst receiving, or immediately following the withdrawal of, mechanical ventilation. Most organ donors will therefore be cared for in an ICU with a small number from other areas such as theatres or the Emergency Department.

Tissue donation is able to occur up to 48 hours following death and is therefore feasible for most patients who die in hospital and wish to donate. Tissue only donation is facilitated by the Scottish National Blood Transfusion Service who is the primary provider of tissues for therapeutic use in Scotland.

2. Scope of policy

This guideline applies to all employees of NHSL in all locations. Specific recipients who should:

Be **aware** of the document and where to access it	Clinical Directors, Nurse Directors and Service Managers.
Understand the document	Clinical Directors, Nurse Directors and Service Managers.
Have a **good working knowledge** of the document	Staff working in all clinical areas, especially critical care units, emergency departments and operating theatres.

3. Roles and responsibilities

All healthcare professionals should do their utmost to ensure that all nearest relatives or patients have the opportunity to consider organ or tissue donation as part of routine end of life care. Early referral to the Specialist Nurse for Organ Donation (SN-OD) and/or Tissue Donor Co-ordinator (TDC) should occur when the clinical triggers (see 4.1) are met.

4.1 Identification of potential organ donors

To support the identification of potential organ donors, clinical triggers have been developed by NICE and should be used to prompt discussion with the Specialist Nurse in Organ Donation (SN-OD). While recognising that clinical situations vary, the following triggers should be considered:

- A decision has been made to perform brainstem death tests.
- Catastrophic brain injury with GCS 3-4 and at least one absent brainstem reflex (which cannot be explained by sedation) after completion of a period of observation to allow prognostication.
- The intention to withdraw life-sustaining treatment which will, or is expected to, result in circulatory death.

The earliest possible discussion with the Specialist Nurse in Organ Donation (SN-OD), following meeting a trigger, is recommended. This will enable the SN-OD to screen the patient for donation, identifying when organ donation is not feasible and when appropriate, mobilise to support the team thus minimising any delays to the patient's family and the donation process.

The initial discussion with the SN-OD should occur **prior** to raising the subject of donation with the patient's family/nearest relative. This is to prevent unnecessary discussions regarding donation where it is not feasible (some referrals may be screened out as

unsuitable for organ donation) *and to establish if the patient has registered their decision on the Organ Donor Register.*

Most potential organ donors are cared for within the ICU after an ICU stay for critical illness although some are cared for in other clinical areas, e.g. the Emergency Department or theatres. The above principles are applicable across all clinical areas.

While assessing if a patient is a potential donor, it is appropriate to stabilise the patient within a critical care setting. Providing delay is in the patient's overall benefit, life-sustaining treatments should not be withdrawn or limited until the patient's decision around organ donation has been explored and the clinical potential to donate has been assessed in accordance with legal and professional guidance.

Appendix 1 – Donor identification and referral pathway

4.2. Obtaining Procurator Fiscal consent

There is an agreement between the Crown Office and Procurator Fiscal Service and the Scottish Donation and Transplant Group to support donation where possible in circumstances where the potential donor's death is reportable.

All patients that meet the criteria for a reportable death must be discussed with the Procurator Fiscal and authorisation to proceed with donation should be obtained.

These discussions should involve the patient's Consultant. The consent required is very specific and therefore the SN-OD and/or Tissue Donation Co-ordinator (TDC) should be involved early in the discussions.

Discuss with the Procurator Fiscal (PF) at the earliest point where donation is being considered and the death requires reporting. It is advantageous for these discussions to be during routine working hours, Monday to Friday where the PF at the Scottish Fatalities Investigation Unit (SFIU) can be contacted directly. Out with these times the on-call PF should be contacted.

N.B. The on-call PF may have no experience of reportable deaths and organ or tissue donation. Where donation is declined please ensure the on-call PF has discussed the case with the PF on-call for SFIU (we cannot contact them directly). There are options available that may allow the PF not to object to donation so involve the SN-OD/TDC (who is familiar with such options) in the discussions and begin the discussions with the PF at the earliest possible juncture.

4.3. Approaching the family or nearest relative

Approaching families regarding donation can be challenging and whilst requiring tailoring to individual circumstances, best practice guidance is available and is recommended. This includes:

- Checking the Organ Donor Register. To check Opt in opt out status
- A collaborative, multi-disciplinary approach by the Consultant, the SN-OD, the nurse and others as deemed appropriate, e.g. faith representatives.
- The planning of the approach prior to meeting with the family.
- Confirming the family understand and are accepting of their loss prior to raising the potential of organ/tissue donation.

Appendix 2 - NHSBT "Approaching the families of potential organ donors: - Best practice guidance"

4.4. Care of the organ/tissue donor

Most organ donors do not have capacity and thus their care in support of organ/tissue donation should be in keeping with the principles of The Adults with Incapacity (Scotland) Act 2000.

4.5. Donation following death by neurological criteria (DNC)

National guidance supported by the GMC advises that all patients in whom brainstem death is suspected should have brainstem death testing performed.

Brainstem death testing should be completed in keeping with the guidance from the Academy of Medical Royal Colleges.

If the family agree to donation, then supportive care should be continued to optimise organ function with the implementation of the Donor Optimisation Extended Care Bundle. Decisions around cardiopulmonary resuscitation should be made clear.

Appendix 3 – Donation after death by neurological criteria pathway.

Appendix 4 – Donor optimisation extended care bundle.

4.6. Donation after circulatory death (DCD)

If the family agree to donation, then supportive care should be continued whilst the preparations are made for the organ retrieval.

Withdrawal of supportive care should occur in accordance with unit practice and with a doctor immediately available to certify death.

Death following cardiorespiratory arrest should be confirmed in accordance with the guidance from the Academy of Medical Royal Colleges. The certifying doctor should handover care to the retrieval team.

If lung donation is being considered and the patient has been extubated as part of their withdrawal of care, then the trachea should be re-intubated following confirmation of death. **This may be done by either the certifying doctor or the retrieval team. Lungs should **not** be re-inflated until **10 minutes** after confirmation of death. At this point one recruitment breath may be given and the lungs held open with CPAP. No cyclical ventilation should commence until cerebral circulation isolated. This is in accordance with national guidance and SN-OD and retrieval team will advise as necessary.

Appendix 5 – Donation after circulatory death pathway.
Appendix 6 – REF INF 1425

4.7. Theatres

<u>Operating theatre responsibilities</u>

The donor hospital will provide a fully equipped operating theatre for the retrieval procedure, including appropriate anaesthetic equipment and medications to support the donor.

The donor hospital will provide trained theatre staff who are familiar with the theatre facilities including access to the equipment, instruments and medications required by the retrieval team. These individuals will remain in theatre during the retrieval procedure to provide assistance to the SN-OD and retrieval team.

The donor hospital is responsible for the safe transfer of the donor to the operating theatre.

The donor hospital will provide an anaesthetist and anaesthetic assistant (e.g. Operating Department Practitioner or Anaesthetic Nurse) to provide care for the donor during the retrieval operation where the donation is following brainstem death (DBD).

It is the responsibility of the theatre staff to ensure that local theatre policies are adhered to and appropriate local documentation is completed for theatre records.

The SN-OD will be present throughout the retrieval operation to help ensure smooth running of the retrieval process and to support the theatre staff.

Where the family have requested to view the deceased following the donation, this should be arranged jointly by the SN-OD, theatre staff and/or critical care staff to arrange an appropriate area for the family to visit their loved one. Following this the deceased should be transferred to the mortuary, as per hospital policy.

Theatre booking and priority

Theatre should be made aware that there is the possibility of a retrieval at the earliest opportunity.

Solid organ retrieval and transplant implantation procedures should be considered as emergency cases. Most organ retrievals take place overnight so there is limited conflict with elective work. However, organ donation should take priority over elective work in NHS Lanarkshire where there is a conflict. If there is any doubt, the final decision should be made by the Clinical Directors for Surgery, Anaesthetics and in discussion with the Medical Director if necessary.

For organ retrieval, it is the responsibility of the SN-OD to speak to the theatre coordinator and the on-call anaesthetist to book the case for theatre and to liaise regarding the timing of the retrieval.

Individual hospitals in NHSL may find it useful to have bespoke standard operating procedures to support theatre access.

Donation following circulatory death (DCD)

DCD occurs following the withdrawal of care and confirmation of death by loss of cardiac and respiratory function. Ischaemic injury to the organs occurs very rapidly and therefore the retrieval process must begin as soon after confirmation of death as possible. The patient may have care withdrawn in theatre (anaesthetic room / recovery room) or the ICU in which case the patient is required to be rapidly transferred to theatre. The accurate timing of the organ retrieval is difficult to predict.

An anaesthetist may be required for the DCD organ retrieval if lung retrieval is proposed.

The most appropriate fully equipped and staffed theatre should be identified and made available for the retrieval process which lasts many hours. A DCD organ retrieval should not interfere with emergency theatre work and where necessary a second theatre and on call team should be made available.

Donation following death by neurological criteria (DNC)

DNC occurs following confirmation of death by neurological criteria. The heart will still be beating and the patient will be receiving mechanical ventilation. It will usually be possible to provide an approximate time for organ retrieval and an anaesthetist is required for DNC organ retrieval.

DNC organ retrieval usually takes place in the emergency theatre though the most appropriate fully equipped and staffed theatre should be identified and made available for the retrieval process which usually lasts many hours.

If conflict occurs with other emergency cases, appropriate prioritisation should be made by the Consultant Anaesthetist and Consultant Surgeons involved and the opening of another theatre should be considered.

5. Donation from the Emergency Department

Patients dying in the Emergency Department should be given the same opportunity to donate organs and tissues as those in Critical Care. The NHSBT Emergency Department (ED) Organ donation strategy was launched in December 2016 with the principal aim of raising awareness of organ and tissue donation as a possibility in appropriate ED patients who have been assessed as having a non-survivable diagnosis. It is recommended in this document and by the Royal College of Emergency Medicine, that organ and tissue donation be viewed as an integral part of end of life care in the ED. Suitable individuals should have the opportunity to donate organs and tissue if this is their decision.

Mechanically ventilated patients deemed to have a devastating brain injury i.e. from traumatic head injury or haemorrhagic or ischaemic stroke may go on to become organ donors. Such patients should be discussed with neurosurgery in the first instance but if “not for neurosurgical intervention,” they should be referred to ICU for a period of observation prior to prognostication if appropriate. Organ donation should be considered prior to any withdrawal of treatment.

Patients who die in the ED but who are not suitable for organ donation may still be considered for tissue donation (see tissue donation section 7). The criteria for life enhancing tissue donation differs from that of organ donation. (Appendix 7). The on call Tissue Donor Coordinator (TDC) is contacted by phone to determine the potential donors’ suitability and if they had registered their decision on the ODR. The approach to the family is then made directly from ED or medical staff. Specific bloods are required and blood tubes for this purpose are available in all ED’s. It is important that the deceased patient is transported to the mortuary within 6 hours.

6. Critical care capacity

Care of the potential organ donor will normally be provided within the ICU.

If there is an intubated patient out with ICU who is being considered for organ donation and there is no ICU bed, then the following should occur in order:

1. Care should continue in the current location in liaison with the ICU team and SN-OD whilst additional resources are identified.

2. Extra ICU staffing should be identified first to enable the patient to be cared for within the hospital's ICU.

3. If a local ICU bed is not available then alternative areas within the hospital should be identified, e.g. Emergency Department, theatre recovery rooms, to care for the patient until an ICU bed becomes available.

4. If care out with the ICU is not feasible then consideration should be made to transfer the patient to a nearby ICU for donor care after discussion with the family. This would normally be expected to be within NHS Lanarkshire however if no bed is available discussion with other health boards may be necessary.

7. Tissue donation

Tissue donation includes the donation of skin, bone, tendons, heart valves and corneas. Different to organ donation, tissue donation does not require a controlled death as there is no need to preserve metabolic function of the retrieved tissue. Tissue donation can take place up to 48 hours after death and should therefore be considered at each and every death.

There is a great clinical demand for tissue donation; heart valves and skin can be lifesaving while other tissues tend to be greatly life-enhancing. At present, there is an unmet clinical demand for some of these tissues.

Families of all deceased patients in NHS Lanarkshire should be offered the option of tissue donation as a usual part of end of life care.

A tissue donation leaflet should be given to all families alongside the bereavement information on how to register a death. Where appropriate the leaflet should act as a means to initiate discussion about the option of tissue donation. Where families are in support of tissue donation the on-call tissue donation co-ordinator (TDC) can be contacted 24/7 through their radio pager.

There is a close working relationship between the SN-ODs and the TDCs which means that when a patient is proceeding to become an organ donor, tissue donation is also considered and progressed when able. However, when tissue only donation is being considered the tissue donation service should be contacted directly.

As with organ donation if there is an indication for referral to the Procurator Fiscal then this should be done before tissue donation can proceed.

Appendix 7 – Tissue and eye donation flowchart

8. Training

Regular training for medical and nursing staff will be performed in the following areas by the resident SN-OD or Clinical Lead for Organ Donation (CLOD):

- Critical Care
- Anaesthetics
- Emergency Department
- Theatres
- Bereavement link nurse

9. Monitoring compliance with the policy

All missed potential solid organ donors are audited and will be discussed by SNOD and CLOD. If particular issues are identified feedback and further training will be given.

10.1 Equality and diversity - summary

NHS Lanarkshire is committed to ensuring that, as far as reasonably practical, the way that we provide services to the public and the way our staff reflects their individual needs, does not discriminate against individuals or groups on the grounds of any protected characteristics. All clinical members of the ODC will be able to demonstrate valid equality & diversity certification via LearnPro.

10.2 Equality and diversity - Black, Asian and minority ethnic (BAME) communities

Black, Asian and Minority Ethnic communities constitute about 4% of the Scottish population. Although a quarter of the transplant waiting list are ethnic minority patients, they are under represented on the Organ Donor Register. On average, a person of South Asian descent waits 1 year longer for a deceased kidney donation. NHS Lanarkshire is

committed to not only promoting awareness amongst these communities regarding the need for organ donor registration through outreach activities, but are also making a concerted effort to improve clinicians understanding of religious and cultural needs with families from these communities.

In accordance with equality and diversity requirements it is essential that potential donors from all ethnic backgrounds are referred to the SN-OD. It should not be assumed that because a patient or their family come from a specific ethnic background that referral for donation should not be made. The responsible Consultant and SN-OD may consider including the offer of a faith representative or hospital chaplain to support the families during these discussions.

11. Media

NHS Lanarkshire Communications Department will support the Organ Donation Committee by promoting awareness of organ donation issues, and support national and local campaigns to encourage people to sign up to the organ donation register through all available media channels.

There is a strong commitment to work proactively with both broadcast and print media to support organ donation and also to raise awareness of any issues that are raised through the Board's Organ Donation Committee.

12. References

Taking Transplantation to 2020 (2012). NHSBT.

A Donation and Transplantation Plan for Scotland 2013-2020 (2013). Scottish Government.

Timely identification and referral potential donors. A Strategy for implementation of best practice. NHSBT (2012)

Organ donation for transplantation: improving donor identification and consent rates for deceased organ donation (2011). NICE.

Organ donation quick reference guide. NHSBT.

Agreement between Crown Office and Procurator Fiscal Service and The Scottish Donation and Transplant Group in regard to organ and tissue donation (2014). Scottish Government.

Approaching the families of potential organ donors: Best practice guidance (2013). NHSBT.

Adults with Incapacity (Scotland) Act 2000 (2000). Scottish Government.

A code of practice for the diagnosis and confirmation of death (2008). Academy of Medical Royal Colleges.

Organs for Transplants: a report from the Organ Donation Taskforce (2008). Department of Health.

Treatment and care towards the end of life: good practice in decision making (2010). General Medical Council.

The NHS Blood and Transplant Organ Donation and Transplantation Clinical Website.

Organ Donation and Transplantation Safety Alert: Care of potential lung DCD donors (2015). NHSBT.

Academy of Medical Royal Colleges: An ethical Framework for donation after circulatory death (2011).

Legal issues relevant to non-heartbeating organ donation (2009). Department of Health.

Guidance on legal issues relevant to donation following cardiac death (2010). Scottish Government.

Organ Donation and the Emergency Department: A Strategy for Implementation of Best Practice (2016) NHSBT

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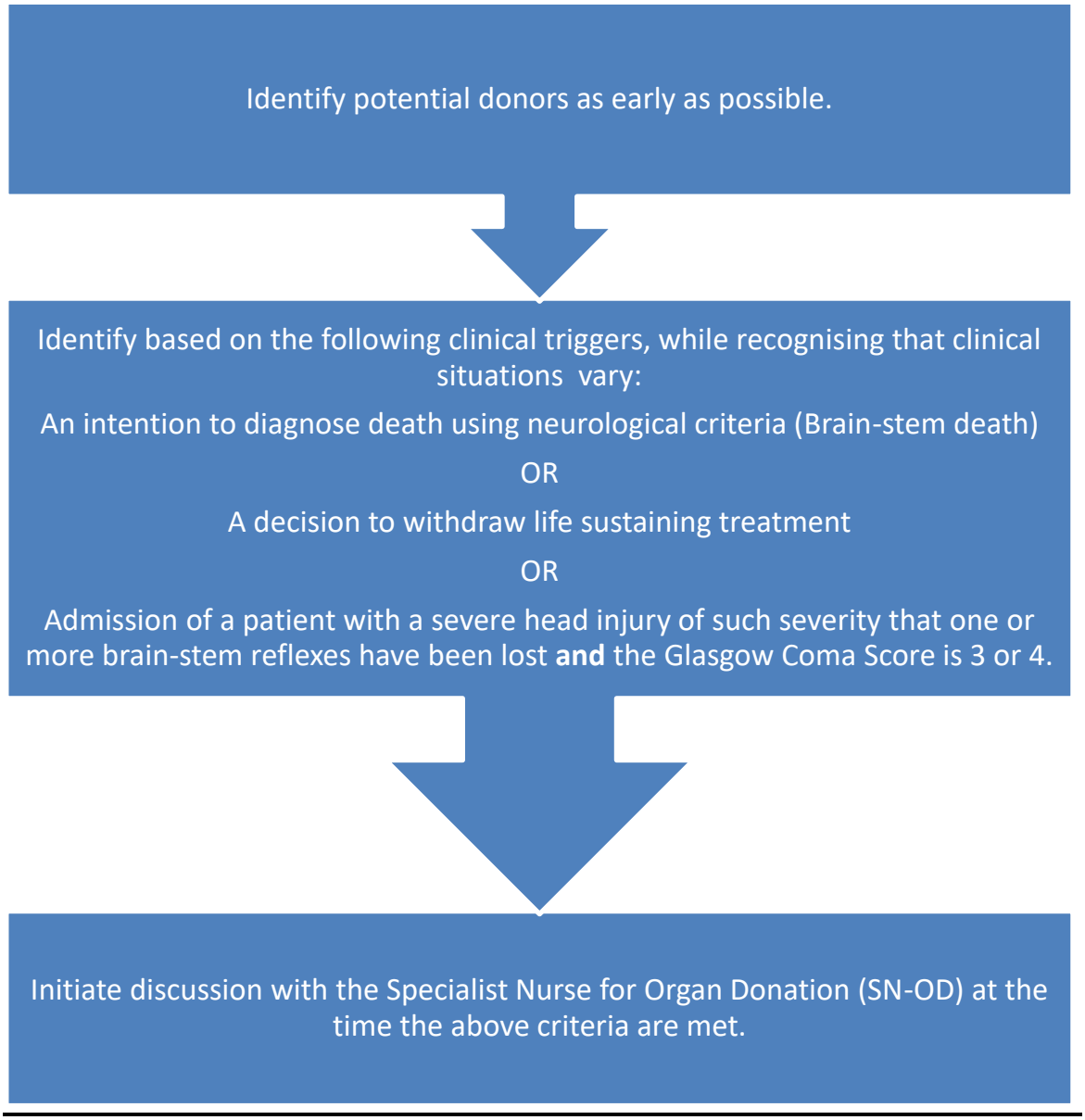
Appendix 1: Donor identification and referral pathway



Appendix 1 is based upon the following document, National Institute for Health and Clinical Excellence (December 2016). "Organ donation for transplantation: improving donor identification and consent rates for deceased organ donation." Available from https://www.nice.org.uk/guidance/cg135

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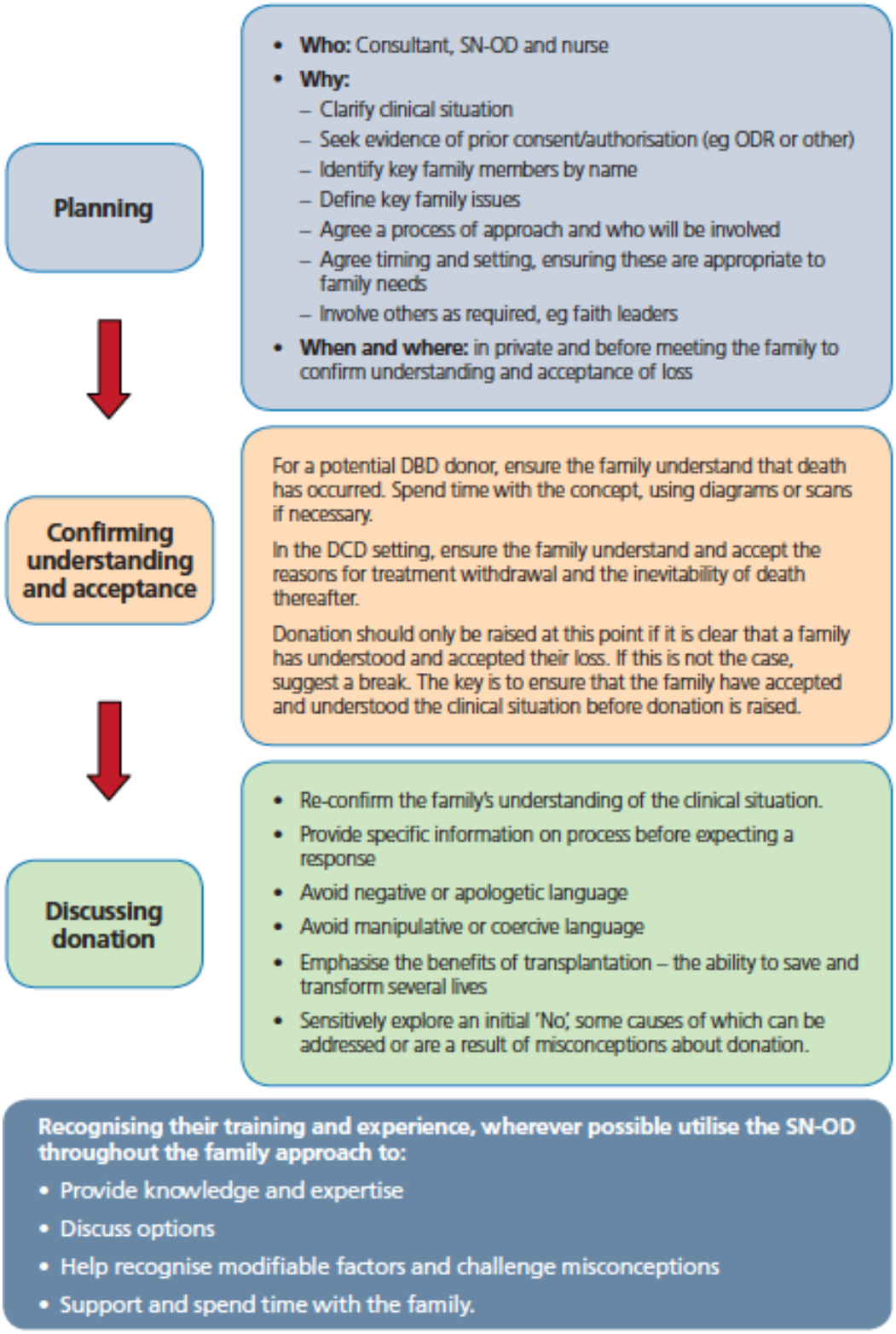
Appendix 2: Approaching the family of a potential donor



Taken from Approaching the families of potential organ donors: Best practice guidance (2013). NHSBT.

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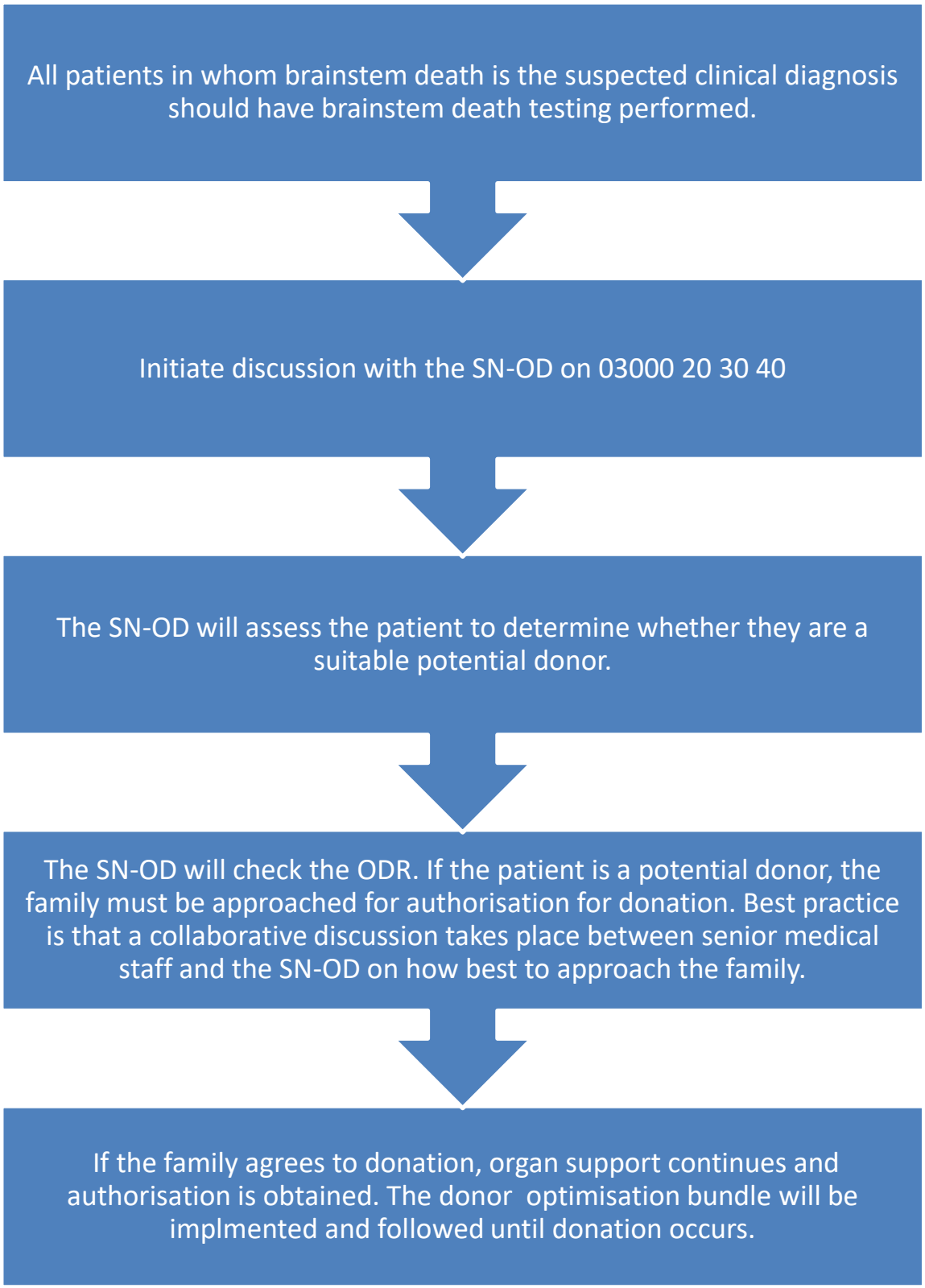
Appendix 3: Donation after Brainstem Death (DBD)/DNC pathway



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Appendix 4: Donor optimisation extended care bundle

NHS Blood and Transplant

Donation after Brainstem Death (DBD)

Donor Optimisation Extended Care Bundle

Trust / Board logo – retain or remove NHSBT logo as required

Patient Name_____ Date of Birth_____

Unit Number_____ Date and Time_____

Priorities to address are

1. Assess fluid status and correct hypovolaemia with fluid boluses
2. Introduce vasopressin infusion where required introduce flow monitoring
3. Perform lung recruitment manoeuvres (e.g. following apnoea tests, disconnections, deterioration in oxygenation or suctioning)
4. Identify, arrest and reverse effects of *diabetes insipidus*
5. Administer methylprednisolone (all donors)

	Y	N/A
Cardiovascular (primary target MAP 60 – 80 mmHg)		
1. Review intravascular fluid status and correct hypovolaemia with fluid boluses	☐	☐
2. Commence cardiac output / flow monitoring	☐	☐
3. **Commence vasopressin (0.5 – 4 units/hour) where vasopressor required, wean or stop catecholamine pressors as able**	☐	☐
4. Introduce dopamine (preferred inotrope) or dobutamine if required	☐	☐
Respiratory (primary target $PaO_2 \geq 10$ kPa, pH > 7.25)		
1. Perform lung recruitment manoeuvres	☐	■
2. Review ventilation, ensure lung protective strategy (Tidal volumes 4 – 8ml/kg ideal body weight and optimum PEEP (5 – 10 cm H_2O)	☐	■
3. Maintain regular chest physio incl. suctioning as per unit protocol	☐	■
4. Maintain 30 – 45 degrees head of bed elevation	☐	■
5. Ensure cuff of endotracheal tube is appropriately inflated	☐	■
6. Patient positioning (side, back, side) as per unit protocol	☐	■
7. Where available, and in the context of lung donation, perform bronchoscopy, bronchial lavage and -toilet for therapeutic purposes	☐	☐

	Y	N/A
Fluids and metabolic management		
1. Administer methylprednisolone (dose 15 mg/kg, max 1 g)	☐	■
2. Review fluid administration. IV crystalloid maintenance fluid (or NG water where appropriate) to maintain Na^+ < 150 mmol/l	☐	☐
3. Maintain urine output between 0.5 – 2.0 ml/kg/hour (If > 4ml/kg/hr, consider *Diabetes insipidus* and treat promptly with vasopressin and/or DDAVP. Dose of DDAVP 1 – 4 mcg iv titrated to effect)	☐	■
4. Start insulin infusion to keep blood sugar at 4 –10 mmol/l (minimum 1 unit/h; add a glucose containing fluid if required to maintain blood sugar)	☐	■
5. Continue NG feeding (unless SN-OD advises otherwise)	☐	☐
Thrombo-embolic prevention		
1. Ensure anti-embolic stockings are in place (as applicable)	☐	☐
2. Ensure sequential compression devices are in place (as applicable)	☐	☐
3. Continue, or prescribe low molecular weight heparin	☐	☐
Lines, Monitoring and Investigations (if not already done)		
1. Insert arterial line: left side preferable (radial or brachial)	☐	■
2. Insert CVC: right side preferable (int jugular or subclavian)	☐	■
3. Continue hourly observations as per critical care policy	☐	■
4. Maintain normothermia using active warming where required	☐	■
5. Perform a 12-lead ECG (to exclude Q-waves)	☐	■
6. Perform CXR (post recruitment procedure where possible)	☐	■
7. Send Troponin level in all cardiac arrest cases (and follow-up sample where patient in ICU > 24 hours)	☐	☐
8. Where available, perform an Echocardiogram	☐	☐
9. Review and stop all unnecessary medications	☐	■

Signature _____ **Print Name** _____

Date _____ **Time** _____

Donor Optimisation Extended Care Bundle Version 20092012

NHSBT Donor optimisation extended care bundle taken from http://www.odt.nhs.uk/pdf/dbd_care_bundle.pdf

This care bundle is under review and may be updated

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Appendix 5: Donation after Circulatory Death (DCD) pathway

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Appendix 6 DCD Lung Donation INF 1425

INF1425 - Care of Potential Lung DCD

Appendix 7 – Tissue and eye donation flowchart

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