Blood and Transplant
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Donor Characterisation Manual

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SUMMARY OF CHANGES

- Removal of reference to obsolete documents POL304, SOP5003, MPD865.
- Change to terminology to OTDT Operational Manager On call from ODMT On call.
- Pg 6 Additional signposting to MPD1100 and reminder re: visibility.
- Pg 7 and Pg 16 Advice box and instruction regarding accurate recording of patient names and where to document additional names or preferred name.
- Pg 8 Section 3.5 Additional clarity regarding requirement for additional ABG.
- Pg 11 Section 4.8 addition of Donor ID to Blood Group hard copy.
- Pg 12 Additional Safeguarding statement regarding underage sexual activity.
- Pg 18 Section 16 Clarity regarding blood test processing when donation does not proceed to transplant.
- Pg 18 Section 16.4 Clarity defining term external heart bank.
- Pg 20 Signposting to SOP5869 SARS-CoV-2 testing following withdrawal of POL304.
- Pg 27 Clarification that even in the circumstance of a CT thorax a CXR is required for characterisation.
- Pg 30 Body Map, new process for abdominal girth measurement and rounding height and girth measurements to nearest 0.5cm.
- Pg 32 Additional information regarding types of implantable devices.
- Pg 40 Section 7 reworded to reflect new judicial process and SOP6633

INTRODUCTION

POLICY

Organ donation requires a thorough suitability assessment, known as characterisation, performed by a SN. It is ultimately the implanting surgeon's decision to accept an organ for transplant.

The Quality and Safety of Organs Intended for Transplantation Regulations (2012) stipulates that the procurement of organs shall be carried out only after all the requirements relating to the characterisation of the donor are completed.

PURPOSE

This manual centralises all guidance relating to donor assessment and characterisation, outlining the role and responsibilities of the SN. The exception is documents relating to microbiology, which can be located in Clinical Microbiology Manual **SOP6514**. This manual is intended to support both adult and paediatric organ donation, however please be cautious to use in conjunction with **SOP5874** for specific details regarding the paediatric process.

A minimum data set must be collected for each donation. It is imperative that the SN acts in accordance with guidance from the Advisory Committee for the Safety of Blood, Tissues and Organs (SaBTO) in addition to national guidance from NHSBT. The SN must access all relevant sources of information to determine and obtain the most complete medical and social history possible. These sources of information may include, but are not limited to:

- Patient's medical notes from the current admission
- Patient's medical notes from previous admissions (where possible)
- General Practitioner information
- Communication with specialist practitioners
- Communication with the patient's family to obtain key information about the patient's medical, social, behavioural and travel history.

Characterisation requires the SN to undertake a full physical examination and assessment of the patient, including ascertaining physical parameters, and the undertaking of diagnostic testing procedures. It is vital that the SN **only** undertake those aspects of the physical assessment process in which they have received the appropriate training **and** feel confident and comfortable to do so. **This manual is to be utilised by a qualified and trained SN. Expert advice must be sought for any area of practice in which the SN does not have the necessary experience, knowledge and training. If the SN is in training, this manual is to be utilised under supervision.**

When establishing donor suitability there is a requirement to assess for clinical absolute or organ specific contraindications as per **POL188**, this may be identified at any point in characterisation. In the circumstance of identifying an absolute contraindication stand down donation. If assessment has identified an organ specific contraindication proceed with characterisation of other potential transplantable organs.

Where required expert advice on transplant potential can be sought from a clinician in the form of a suitability phone call (screening) as per **SOP6589**. Lead Nurse (LN) or OTDT Operational Manager on call on call are able to provide support and guidance in decision making in clinically complex cases should this be required.

In the event of standing down on organ donation consider suitability for tissue donation and referral to the NRC as per **SOP5024**. Ensure relevant information is documented to support tissue services assessment.

TECHNOLOGY AND DOCUMENTATION

DonorPath is designed to be a complete clinical record of assessment, actions and communications. It includes the function to upload clinically significant documents, images and videos, limiting the requirement for unnecessary alternative written communications (e.g. email or messaging) which is visible to Transplant Centres via the TransplantPath application.

Voice record clinical conversations, documenting the time and date they occur on DonorPath or **FRM4212** in line with **SOP3649**.

In the case of DonorPath, TransplantPath or IT failure complete **FRM4212**, **FRM4211, FRM4193** as stipulated in **SOP3925**.

⚠ Advice

All clinically significant information must be communicated on the CDDF (wifi symbol) area of DonorPath to ensure interface with TransplantPath.

Care should be taken when uploading/copying documents and use of highlighters discouraged due to difficulty reading results.

RESPONSIBILITIES

- **Specialist Nurses (SN)** – To undertake a comprehensive patient assessment and perform all functions outlined within the donor characterisation process. To collate, deliver and explain all necessary information to the Recipient Centre Points of Contact, Tissue Establishments, Hub Operations and other relevant healthcare professionals.
- **Lead Nurse (LN) / OTDT Operational Manager on call** – Advise and guide the SN should they require support.
- **Transplant Centres** – To review information on TransplantPath and request additional appropriate diagnostics to inform clinical decision-making regarding organ suitability.
- **Organ Allocations Specialists (OAS)'s** – Collaborate with SN in the registration call, following Stop Pause Check method to accurately document blood group and other information for offering.
- **Donor Family Care Service (DFCS)** – Receive, share and file relevant results or information.

MEDICAL NOTES REVIEW

1.1. A thorough review of medical notes should be conducted by the SN, including but not limited to:

a) Patient's medical notes from the current admission
b) Patient's medical notes from previous admissions (where possible)
c) General Practitioner information
d) Blood results
e) Imaging
f) Clinic letters

1.2. Where possible the assessment of medical notes should occur prior to undertaking conversations with the donor family.

1.3. Many sites have electronic medical records. If the SN is familiar with the Trust/Health Board electronic system a thorough assessment should be performed. In the circumstance of the SN being unfamiliar or unable to access the medical record assistance should be sought from either the embedded SN or record reviewed with an individual who has access and is familiar with the system.

1.4. There may be circumstances where consideration of accessing medical records from sites outside the donating hospital would assist with donor characterisation, all reasonable attempts should be made to access this information, and clear communication regarding requests and responsibilities documented. Documenting on a handover form only is not an acceptable practice and risks information not being accessed in a timely manner.

1.5. In the event that the SN is unable to access a section of the patients record this should be clearly documented on DonorPath.

1.6. Upload **all relevant documents** to DonorPath as an attachment (visible in DonorPath, TransplantPath and TissuePath as per wifi symbol) see **MPD1100** for guidance.

BLOOD & URINE TESTS REQUIRED FOR ORGAN DONATION

2. INITIAL ASSESSMENT

⚠ Caution

Care must be taken to ensure ALL documented names (including spelling) match on laboratory samples, request forms AND DonorPath. In the circumstance of discrepancies, it results in samples being rejected and delay to process.

In situation of a patient being known by another name, it is important to document both in Assessment - "admission details" AND Pathway - "family contacts – other relevant notes".

2.1 There is a requirement for additional blood testing including: Group & Save, FBC, U&Es, LFTs, Amylase, HbA1c and clotting screen. As clinically indicated or requested consider CRP, eGFR, Gamma GT, glucose, blood cultures.

2.2 Request full set of routine blood results (if >12 hours old).

2.3 Review the results, including the trends and discuss any abnormal results with the medical practitioner caring for the patient.

2.4 Identify any actions/interventions if required for abnormal results.

2.5 HbA1c must be completed for all organ donors. If the result is pending at the time of donor registration/offering, please document that this is pending under the LFTs section 'other' free text box.

2.6 Document the results on DonorPath, communicating to Hub Operations & RCPoC(s) if required. Ensure RCPoC(s) are aware of any actions/interventions for abnormal results.

2.7 Request repeat or additional testing as requested by the RCPoC(s).

2.8 Request urine dipstick and send MC&S if indicated + urinary protein creatinine ratio if appropriate.

2.9 Upload all relevant documents to DonorPath as an attachment (visible in DonorPath, TransplantPath and TissuePath).

2.10 Ensure admission blood and urine tests are uploaded to DonorPath in an area visible on TransplantPath and TissuePath. Admission results must not be deleted or replaced in the fields. Admission bloods are an important measure of function and clinical journey.

3. ARTERIAL BLOOD GASES (ABGS)

3.1 Review previous ABGs, **including any ABGs performed during neurological death testing.**

3.2 For CT offering the ideal standard for assessment is a reference gas on ventilator settings of:

FiO2 100%, PEEP 5cmH2O (PEEP up to 8cmH2O acceptable).

3.3 An ABG should be obtained 20 minutes after ventilatory adjustments. If this is not able to be performed, for example due to clinical condition of the patient and following discussion with the clinical team, document detail on DonorPath.

3.4 Return to baseline settings, or agree requirements with clinical team, following completion. If the donating unit have a requirement for undertaking the reference ABG in a different way please follow local protocols and document on DonorPath, for communication with RCPoC(s).

3.5 During any cardiothoracic offering and following acceptance 100% ABGs will be required where clinically indicated, such as:

- Change in clinical condition, desaturation/increased FiO2
- Treatment instituted e.g. for hypokalaemia
- Period of physiotherapy
- A repeat gases 90 minutes before team are due to leave base so that if there is a significant deterioration this can be addressed
- Additional request from accepting centre

3.6 Any additional ABG results should be reviewed, documented on DonorPath and any interventions required discussed with the medical practitioner and communicated to the RCPoC/s.

4. BLOOD GROUP

Important Information

When a patient has received multiple blood product transfusions their ABO group may be recorded on a hospital system as an O blood group, when this is not their true biological blood group. To mitigate the risk of ABO incompatible organ transplantation occurring because of this, confirmation is required from the donor hospital transfusion laboratory to exclude an inconclusive/indeterminate result.

- Even when a patient has a previous confirmed blood group sent within the donor hospital, a new sample must be sent to confirm blood group for the purpose of organ donation.

- Whenever the blood group is discussed verbally (such as biomedical scientist (BMS) or during registration call with Hub Operations), use the phonetic alphabet below.

Phonetic alphabet	
A	**Alpha**
B	**Bravo**
O	**Oscar**

Sending a Group and Save sample

4.1 Request a Group and Save as per donor hospital policy. Document on the request that the Group and Save is ‘for the purpose of solid organ transplantation’.

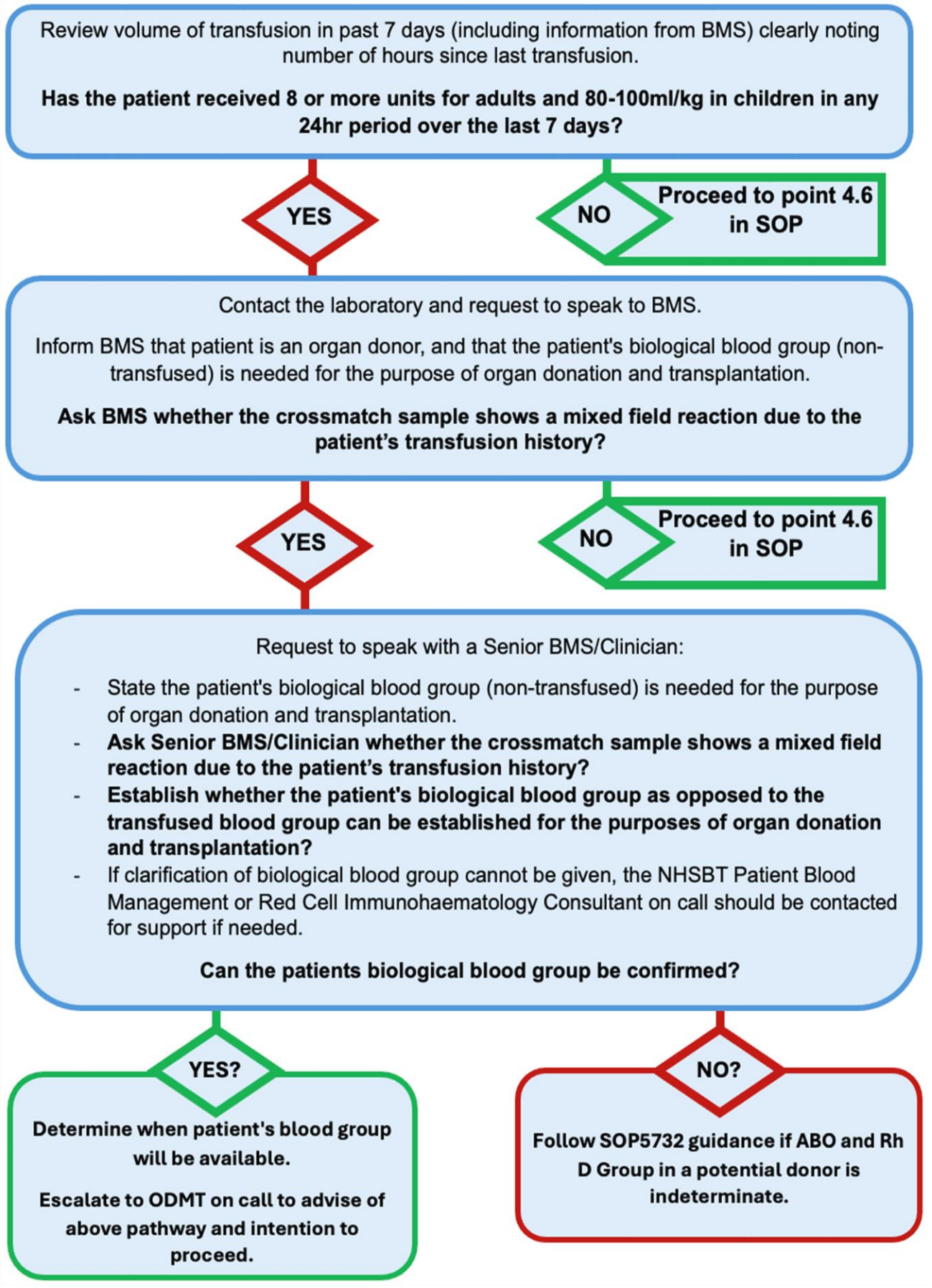
4.2 Contact the laboratory to inform them a sample for Group and Save is being sent and that the patient's biological blood group (non-transfused) is needed for the purpose of organ donation and transplantation.

4.3 Ask the BMS to give you the details of all blood products issued for the patient as recorded on the laboratory system. Document in DonorPath.

4.4 Check the information from the BMS against the transfusions recorded in the patients record. If pre-hospital transfusion or major haemorrhage packs may have been given, confirm with the BMS if this is recorded in the laboratory system.

Blood group on hospital system

4.5 Once blood group is available on hospital electronic system, follow flow chart below:


Review volume of transfusion in past 7 days (including information from BMS) clearly noting number of hours since last transfusion.
Has the patient received 8 or more units for adults and 80-100ml/kg in children in any 24hr period over the last 7 days?
YES
NO
Proceed to point 4.6 in SOP
Contact the laboratory and request to speak to BMS.
Inform BMS that patient is an organ donor, and that the patient's biological blood group (non-transfused) is needed for the purpose of organ donation and transplantation.
Ask BMS whether the crossmatch sample shows a mixed field reaction due to the patient's transfusion history?
YES
NO
Proceed to point 4.6 in SOP
Request to speak with a Senior BMS/Clinician:
- State the patient's biological blood group (non-transfused) is needed for the purpose of organ donation and transplantation.
- Ask Senior BMS/Clinician whether the crossmatch sample shows a mixed field reaction due to the patient's transfusion history?
- Establish whether the patient's biological blood group as opposed to the transfused blood group can be established for the purposes of organ donation and transplantation?
- If clarification of biological blood group cannot be given, the NHSBT Patient Blood Management or Red Cell Immunohaematology Consultant on call should be contacted for support if needed.
Can the patients biological blood group be confirmed?
YES?
Determine when patient's blood group will be available.
Escalate to ODMT on call to advise of above pathway and intention to proceed.
NO?
Follow SOP5732 guidance if ABO and Rh D Group in a potential donor is indeterminate.

Review of hard copy blood group

4.6 Once blood group is confirmed, get a hard copy blood group. Instructions on how to do this is in the Regional Donor Handbooks located on File Director.

4.7 Read all information on the hard copy blood group. If there is any information that is unfamiliar, not clear, or unexpected this must be discussed with the BMS.

Confirmation of hard copy blood group - 1st independent check

4.8 Add the Donor ID to the hardcopy (for use by transplant centres only).

4.9 Confirm the 3 points of ID (name, date of birth, and NHS / hospital / CHI number (Scotland)) on the blood group hard copy are the same as on the patient's medical notes.

4.10 Confirm the 3 points of ID (as per point 4.9) on the blood group hard copy are the same as on the patient identity band.

4.11 Open the donor record on DonorPath and confirm the 3 points of ID (as per point 4.9) on the blood group hard copy are the same as on DonorPath.

4.12 Enter the confirmed blood group into DonorPath from the hardcopy.

4.13 Write on hard copy blood group 'confirmed PID and entered onto DonorPath' and sign including date and time.

Confirmation of hard copy blood group – 2nd independent check (validation)

To be completed by a healthcare professional (HCP) or second Specialist Nurse independently to the first Specialist Nurse that entered the blood group.

4.14 Repeat steps 4.9 – 4.11 above.

4.15 Confirm the blood group documented on DonorPath is the same as the blood group on the hardcopy.

4.16 Write on hard copy blood group 'confirmed PID and blood group entered on DonorPath match the hardcopy' sign including date and time.

Once hard copy blood group confirmed

4.17 Upload the signed hard copy of the blood group to 'Blood Group' section on DonorPath prior to registering the patient with Hub Operations.

4.18 The patient's hard copy blood group must be checked against DonorPath by the incoming SN at handover.

5. ESSENTIAL CHARACTERISATION BLOODS

Pregnancy β-HCG blood test

Patients with reproductive capacity between the ages of 12 and 55 years (before their 56th birthday) should be considered as patients who could potentially be pregnant.

Establishing pregnancy status is mandatory and a β-HCG blood test is required to exclude pregnancy (unless the individual is already known to be pregnant or documented total abdominal hysterectomy with bilateral salpingo-oophorectomy). A urine sample is not acceptable, in line with recommendation from National Organ Donation Committee.

5.1 As part of the donor characterisation process, SN should confirm with the relevant HCP whether a β-HCG blood test has already been performed on the patient during this admission to hospital.

5.2 If β-HCG blood test has not been performed during current admission the SN must inform the next of kin/nearest relative/partner that for donation to proceed and as part of routine donor assessment a blood test will be required to exclude pregnancy.

5.3 Request test.

5.4 Upload result to DonorPath. Refer to Establishing Pregnancy Status and Pregnancy in Donation **MPD891** for specific guidance regarding documentation and actions in circumstance of positive result.

The local hospital is the default laboratory for performing the ß-HCG blood test. If there are difficulties accessing a β-HCG blood test, engage with local key stakeholders and laboratory staff to seek options for processing including transfer to alternative local laboratory if required.

⚠ Caution

Safeguarding concerns related to underage sexual activity must be raised with the treating clinical team, with a view to following the Trust/Health Board's established safeguarding escalation pathway.

6. MICROBIOLOGY, TISSUE TYPING AND ADDITIONAL BLOOD TESTING

Blood sample volumes, as agreed with ALL laboratories in UK:

Test	Volume Adult	Volume Paediatric	Sample Type
HLA	6mls	3mls	EDTA
Microbiology*	14mls	Agree volume with lab proportionate to age/size	Clotted
Additional Blood Testing	15mls	Agree volume with lab proportionate to age/size	EDTA

*Where maternal microbiology is required a further sample to accompany any tissue donation should be taken prior to retrieval in line with JPAC guidelines.

	Potential Donor	Bloods for HLA	Bloods for Microbiology
England, Wales & NI	Criteria met for deemed (Not registered a decision) Opted Out	Cannot be taken without discussion & agreement from family. Result will only be released after written consent has occurred.	Cannot be taken without discussion & agreement from family or as part of completion of consent. The sample will only be processed after written consent has occurred.
	Expressed opt-in decision On ODR Family expressed decision	May be taken and sent to laboratory. Result will only be released after written consent has occurred.	May be taken and sent to laboratory. The sample will only be processed after written consent has occurred.
Scotland	DBD donors – confirmatory DDNC testing has been carried out.	Cannot be taken without discussion & authorisation from family, until after duty to inquire, and checking for unwillingness or change of mind. Result will only be released after written authorisation has occurred.	Cannot be taken without discussion & authorisation from family, until after duty to inquire, and checking for unwillingness or change of mind. The sample will only be processed after written authorisation has occurred.
	DCD donors – or prior to DDNC testing	Cannot be taken without discussion & authorisation (for donation & Type A PDPs) from family, until after duty to inquire, and checking for unwillingness or change of mind. Result will only be released after written authorisation has occurred.	Cannot be taken without discussion & authorisation (for donation & Type A PDPs) from family, until after duty to inquire, and checking for unwillingness or change of mind. The sample will only be processed after written authorisation has occurred.

For further guidance on sending and requesting the processing of HLA blood samples see **DAT4588**.

⚠ Caution

Large volume blood loss requiring intravenous fluid replacement therapy may result in false negative screening test results due to dilution of specific antibodies or antigens below the lower limit of detection.

Particular caution should be taken in the accurate calculation and documentation of haemodilution in adult and paediatric patients whom are receiving extracorporeal membrane oxygenation (ECMO). Where uncertainty, seek advice.

6.1 The volume of fluid that may be infused before false negative results may occur depends on the size of the individual, amount of blood loss and the nature of the infused fluid. If haemodilution calculation is >50%, a pre-dilution sample must be sought. If this sample cannot be found, then the Microbiology laboratory, RCPoC(s) & TE's must be informed and documented on DonorPath/**FRM4211**.

⚠ Caution

Particular consideration should be made when sampling from paediatric patients, especially those under 30 kgs. Cumulative sampling of as little as 5% of the total blood volume can result in cardiovascular instability. See **SOP5874** for guidance on haemodilution calculation for children.

6.2 If the patient has been transfused with blood, blood components or plasma expanders (these include but are not limited to colloid, HAS, immunoglobulin therapy etc) in the immediate pre-donation period (within 48 hours of donation) then the sample obtained prior to transfusion should be sought and tested. If a pre-transfusion sample is not available for testing, then this must be recorded in DonorPath/FRM4211 and reported to clinicians responsible for transplantation.

6.3 If a pre-transfusion/pre-dilution blood sample is obtained for microbiology testing, then there is no requirement to send an additional post-transfusion/post-dilution sample. However, if pre-transfusion/pre-dilution blood sample results are obtained AFTER post-transfusion/post-dilution results, both results should be included onto DonorPath to ensure that both are visible.

- Consider impact of transfusions/haemodilution on samples.
- Inform the relevant laboratory staff that samples are being sent and provide details of the potential donor and an estimated time of arrival of the samples.
- Confirm the contact details for the laboratory staff.
- If a pre-transfusion sample is required, ensure that the Coroner/Procurator Fiscal's permission has been sought if applicable – refer to **SOP6633**. Ensure sufficient samples remain should Coroner/Procurator Fiscal require. Ensure

date, time and location (i.e. hospital) the sample was taken is clearly written on the sample tube.

- All specimens, including maternal samples, MUST be clearly and unequivocally identified with a minimum of three key identifiers which must be cross-checked to positively identify that the information on the sample matches the patient and the information given on the request form prior to packaging and sending.

- Complete **FRM4278** and **FRM4279** and package the blood samples, including maternal samples if applicable, using the bio-pouch, with the correlating form. If a donor number has not yet been generated, ensure the DonorPath referral ID and a minimum of 3 points of PID including the donors name are used.

- Image and upload to DonorPath completed blood forms ahead of packaging for reference and in the event of any incident or follow up.

- Access Microbiology Manual **SOP6514** for guidance on receipt of microbiology results, for laboratories live with ERT and non-ERT processes and issues in event of IT failure.

- Check results entered onto DonorPath for accuracy.

7. BREAST FEEDING AND MATERNAL SAMPLES

7.1. For patients under 18 months and any child who has been breast-fed in the last 12 months, microbiological samples, including a sample to accompany tissue donation if applicable, will be required for testing from the child's mother or individual who breast fed the child as per the Medical and Social History (MaSH) rationale document INF947.

- Maternal samples must be labelled with at least 3 PID and include date, time and location (i.e. hospital) the sample was taken. These 3 maternal PID must be recorded on DonorPath and provided on all documentation including DFCS handover **FRM5499**.

8. HEV AND HHV8 TESTING

8.1. HEV and HHV8 testing is performed routinely on all donors.

8.2. For detailed guidance regarding indication and instructions regarding samples refer to **SOP6514**.

9. BBV NAT TESTING

9.1. England, Wales, Northern Ireland – If high risk factors are identified during travel, behavioural risk and sexual history assessment testing is indicated.

9.2. Scotland – BBV NAT testing is performed routinely on all donors.

9.3. For detailed guidance regarding indication and instructions refer to Microbiology Manual - **SOP6514.**

10. MALARIA AND TRYPANOSOMA CRUZI (T.CRUZI) TESTING

10.1. Risks for Malaria and T.Cruzi should be established during completion of MaSH, medical notes or GP assessment. There is a requirement to check the GDRI for advice on indication of testing.

10.2. For detailed guidance regarding indication and instructions refer to Microbiology Manual – **SOP6514**.

11. WEST NILE VIRUS TESTING

11.1. Risks for West Nile Virus should be established during the completion of MaSH, medical notes or GP assessment. There is a requirement to check the GDRI for advice on indication of testing.

11.2. For detailed guidance regarding indication and instructions refer to Microbiology Manual – **SOP6514**.

12. TROPICAL DISEASES

12.1. Including Chikungunya, Dengue, Yellow Fever and Zika.

12.2. For detailed guidance regarding indication and instructions refer to Microbiology Manual – **SOP6514**.

13. LABELLING AND TRANSPORT OF SAMPLES

13.1. Fill bottles as per manufacturers guidance to FILL line.

13.2. Collection of samples and labelling of tubes must be performed as one uninterrupted process.

13.3. Blood taken must always be labelled at the bedside by the HCP (SN or bedside nurse) who has taken the sample. Sample tubes must never be pre-labelled.

13.4. All handwritten labels must be legible with at least three PID and include date, time and location (i.e. hospital) the sample was taken. If used, pre-printed labels must adhere to hospital and laboratory requirements. Ensure documented names on bottles, forms AND DonorPath match.

13.5. Package samples in bio-pouch for transfer.

13.6. If a donor number has not yet been generated, ensure the DonorPath referral ID and a minimum of 3 PID including the donors name are used.

13.7. Identify local Virology and HLA Laboratories from Regional Handbook.

13.8. If usual Virology or HLA laboratory is not available please see **INF1583** and/or **INF1466** for details of back-up laboratories. Contact details and delivery addresses can be found in **INF1712** and **INF1713.**

13.9. Inform laboratory of pending samples, including additional samples to be forwarded on to MSL Virology/SNBTS. Ensure that any delays in obtaining and/or sending of the samples is communicated with the relevant laboratory staff.

13.10. Arrange transport of the samples to the local testing laboratories. Record estimated and actual time for collection on DonorPath.

13.11. Document conversations and actions in Sequence of Events in DonorPath.

13.12. Ensure that any additional tests triggered as part of donor characterisation are documented in a section that is visible to transplant centres.

13.13 Ensure any additional blood tests requested are added to Post Donation Action Tracker for follow up.

14. CONTACTING LABORATORIES

14.1. In circumstances where bloods have been sent for processing and a subsequent risk factor has been identified following completion of MaSH, there is a requirement to e-mail the laboratory.

14.2. In circumstances when small samples are taken for paediatric donors <30kgs the mandatory tests will be prioritised. Note: If small samples (2mls) are sent this is sufficient for HEV ONLY.

15. RECONCILIATION (RECIEPT & CHECKING) OF ADDITIONAL TESTING RESULTS POST DONATION

15.1. The DFCS receive notification via email from reference laboratory to confirm receipt of samples. DFCS will check anticipated results from the handover **FRM5499** and update visual management system.

15.2. If no result in 7 days following donation the DFCS will follow up.

15.3. Refer to Microbiology Manual **SOP6514** for detail and information on actions when receiving microbiological blood results.

15.4. Results from additional testing may need to be recorded on DonorPath where there is no dedicated result field. In this scenario ensure clear documentation of receipt of results and actions performed in sequence of events.

16. BLOOD TESTS WHEN ORGAN DONATION DOES NOT PROCEED TO TRANSPLANT

There are circumstances in which the organ donation process does not proceed to transplantation. This may occur due to a range of factors, including:

- Withdrawal of family consent or authorisation
- An uncontrolled death
- Clinical decisions where all organs are declined for transplant, either pre, intra-operatively or post-theatre

In such cases, it is important to consider the appropriateness of continuing with blood tests that have already been retrieved and sent for processing.

16.1. In cases where organ donation stands down and HLA and routine microbiology (HIV, HCV HTLV etc) have not yet been completed please inform HLA and microbiology laboratories to stand down. TES complete their own routine microbiology.

16.2. In cases where organs have been retrieved and declined by transplanting centres and offered on for research, do not stand down any additional virology until Hub Operation have confirmed that there is no potential for transplant (e.g. if organs are optimised by novel technology and found to be subsequently transplantable) and that the researcher will not require the outstanding virology. If organs are accepted by a researcher who may go on to transplant the organ, all additional testing must continue.

16.3. If no applicable research centre requires results to be processed, stand down additional testing (HEV, HHV8, Malaria, T Cruzi, WNV) with MSL via email on NTMRL@nhsbt.nhs.uk or NSS.SNBTS-Tissues-Seniors@nhs.scot **(Scotland)** as if tissue donation is occurring, TES will request and complete their own additional testing.

16.4. If whole heart for tissue is retrieved by NORS in donor theatre, but it is the only organ/tissue donated (e.g. stand down of all organs in theatre and no other consented tissue) and is being donated to an external heart tissue bank (a non-NHSBT site; Birmingham Heart Valve Bank, Royal Brompton Heart Valve Bank and Edinburgh Heart Valve Bank) - in this situation, the SN must continue all routine and requested additional testing.

16.5. Where positive virology has been identified during donor characterisation, BBV NAT should continue to be completed by MSL/SNBTS as confirmatory testing as the patient's family may need to be informed if there is a risk to their health.

16.6. If **FRM5499** has already been sent to DFCS then please notify DFCS that donation has stood down, so they do not pursue outstanding Microbiology results.

SARS-CoV-2 Deceased Organ Donor Screening

17.1 For advice on SARS-CoV-2 testing please refer to SOP5869.

⚠ Advice

NHSBT does not recommend routine use of SARS-CoV-2 antibody results or chest CT scans for donor characterisation, specifically regarding SARS-CoV-2 status. When available, full molecular and serological testing may support assessments

INFECTION TESTING

The therapeutic use of organs for transplantation demands that their quality and safety should be such as to minimise any risks associated with the possible transmission of infections and diseases.

If any suspected infection is identified as part of the characterisation process (physical assessment, during review of medical notes, family or GP discussion) the SN should confirm that microbiological testing has been requested. If not, the SN should speak with medical practitioner to ascertain if this can be facilitated.

If the SN has instigated the testing of any microbiological samples, then they must follow up these results, document on DonorPath and ensure these results are shared with all receiving centres as per **SOP4938**.

SUITABILITY ASSESSMENT (SCREENING)

There are occasions where clinical expertise is required to establish organ suitability, in the absence of an absolute or organ specific contraindication.

It is important to assess each organ individually to establish if a suitability phone call to a transplant centre is required. Please refer to **SOP6589 Advanced Multi Organ Screening (AMOS).**

⚠ Advice

In the event of standing down on organ donation consider suitability for tissue donation and referral to the NRC as per **SOP5024**. Ensure relevant information is documented to support tissue services assessment.

TESTS AND IMAGING REQUIRED FOR ORGAN DONATION

The purpose of this section is to inform and guide the SN in requesting that relevant diagnostic imaging have been undertaken as part of characterisation, reported and appropriately uploaded to DonorPath for review by transplant centres and relevant information communicated to RCPoC as per **MPD867**.

Media (images and videos) can be uploaded to DonorPath and viewed via the TransplantPath application to assist RCPoC(s) and implanting surgeons determine if organs are suitable for organ donation.

⚠ Caution

In Scotland only, Authorisation for Pre-Death Procedures (PDPs) is required for all DCD donors or donors where authorisation is gained prior to confirming Death by Neurological Criteria. 'Type A' are routine ICU tests and 'Type B' PDPs are invasive and less common diagnostic tests requiring additional Authorisation. New diagnostic tests must only be undertaken following the Duty to Inquire (DTI) in line with Scottish Legislation.

Any requests for Coronary Angiography or CT chest in DCD donors must be escalated to the OTDT Operational Manager on call and discussed with an appropriate medical professional prior to facilitating.

⚠ Advice

In regions who are participating in image transfer via the PACS system pilot (for CT organs only) there is a requirement to follow process **PDV1184**. This does not preclude the requirement to upload basic images onto DonorPath.

18. ELECTROCARDIOGRAM (ECG)

This section applies to **ALL** potential heart donors.

18.1 Following confirmation of death using neurological criteria (DBD) or following consent authorisation to proceed with DCD heart donation:

18.2 Request the ECG once consent/authorisation for heart donation ascertained.

18.3 Inform the family why the ECG is being performed, if asked.

18.4 Ask the medical practitioner to review the ECG.

18.4.1 Request a review of the ECG from the medical practitioner. The main points that the medical practitioner should consider are:

- Evidence of ischaemia
- Presence of Q waves

18.4.2 Request that the medical practitioner document their review of the ECG in the patient's medical records.

18.5 Upload the ECG and report information onto DonorPath.

18.6 Add the report information to the Investigations section on DonorPath.

19. ECHOCARDIOGRAMS (ECHO)

This section applies to **ALL** potential heart donors.

19.1 Following confirmation of death using neurological criteria (DBD) or **following consent to proceed with DCD donation:**

19.1.1 Ask the medical practitioner if an ECHO has been performed.

19.1.2 Ask when the ECHO was performed.

19.1.3 Clarify if a report is available.

⚠ Caution

An ECHO performed days prior to confirmation of death using neurological criteria may not show a true picture of the function of the heart at the time of donation.

19.2 Has an ECHO been performed within the last 24 hours?

If No go to Step 19.3

If Yes go to Step 19.6

19.3 Ask the medical practitioner to request an ECHO.

19.3.1 Make this request following family consent/ authorisation for heart donation.

19.3.2 Inform the family why the ECHO is being performed, if required.

19.4 Will an ECHO be carried out following your request?

If Yes go to Step 19.5

If No go to Step 19.7

19.5 Ask the relevant medical **practitioner if certain minimum information can be recorded.**

19.5.1 Core information is required by the RCPoC(s)/Implanting surgeons from the ECHO, to determine if a heart is suitable for transplantation. Use INF1705 as a guide when speaking with the relevant medical practitioner.

19.5.2 Document all conversations held with the medical practitioner performing the ECHO, sign and date.

⚠ Advice

If all the information cannot be obtained, core minimum details should include: any evidence of ventricular hypertrophy or any structural abnormalities.

19.6 Upload the information onto DonorPath.

19.6.1 Include all details reported by the relevant medical practitioner.

19.6.2 Images can uploaded and will be subsequently available to be viewed by transplant centre via TransplantPath, refer to MPD1100 for guidance.

19.7 On any occasion where an ECHO cannot be performed the SN should refer to **MPD1382**, clearly documenting on DonorPath.

19.8 In circumstances where a Transthoracic ECHO is requested and supported INF1705 should be provided to support reporting.

20. CT AND MRI SCANS (INCLUDING CT ANGIOGRAMS)

This section applies to **ALL** potential donors.

CT and MRI scans may have been taken of various anatomical regions. These scans may provide detail about the quality and function of potential organs suitable for transplant – for example Thoracic and Abdominal CT scans.

20.1 Ascertain from the patient's medical **records if any CT and/or MRI scans have been performed during any recent hospital admissions.**

20.2 Review the patient's medical records.

20.3 Determine if a CT/MRI scan has been performed.

20.4 Record the date of the CT/MRI scan.

20.5 Was a CT/MRI performed?

If Yes go to Step 20.6

If No go to Step 21.1

20.6 Was the CT/MRI scan reported by a specialist radiographer?

If No go to Step 20.7

If Yes go to Step 20.12

20.7 Speak with the medical practitioner to ask if a specialist radiographer is able to review the CT/MRI scan.

20.8 There may be cases in which specialist radiologists (neurological) have presented a second report on the initial scans which may provide more detail for the recipient points of contact.

20.9 Can a specialist radiographer review the CT/MRI scan?

If No go to Step 20.10

If Yes go to Step 20.12

20.10 Document on DonorPath that a specialist review of the CT/MRI scan will not occur.

20.11 Document conversations held with medical practitioner(s). – Reasons that a specialist review will not occur can include:

- If medical practitioner does not agree to refer to a specialist radiographer to review.
- If specialist radiographer does not agree to review.
- Logistical/process issues that arise preventing specialist review from occurring.

20.12 Upload the relevant information onto DonorPath, including both medical entry reports and formal reports.

Include any details as reported by the: -

- medical practitioner

AND/OR

- specialist radiographer.

The RCPoC will be able to relay this information to the implanting surgeons to inform decision making.

If a patient has not had a CT/MRI scan this does not preclude organ donation.

21. CHEST X-RAY (CXR)

This section applies to **ALL** potential donors.

Plain film x-rays should be reviewed and a written summary of report entered onto DonorPath.

21.1 Establish whether a CXR has been undertaken on the date of **donation.**

21.2 Ask the medical practitioner and/or nursing staff date of CXR. To ensure the safety and quality of organs for transplantation a CXR **should** be taken on the day of donation to identify any possible adverse findings (e.g. tumour, tuberculosis).

21.3 Has a CXR been taken today?

If No go to Step 21.4.1

If Yes go to Step 21.6

21.4 Following confirmation of death using neurological criteria (DBD) OR following consent to proceed with DCD process, request a CXR to be taken:

21.4.1 Make this request following confirmation of consent. Advice can be sought, if necessary, from relevant RCPoC(s).

> ⚠ **Advice**
> If a CXR has been taken within the past 48 hours, there may be no valid clinical reason to perform a further CXR. The medical practitioner has the final decision to authorise a CXR.
> Even in the circumstance of a CT thorax a CXR is required for characterisation.

21.4.2 Inform the family why the CXR is being taken, if asked.

21.5 Will a CXR be taken today?

If Yes go to Step 21.6

If No go to Step 21.14

Ask the medical practitioner to review the CXR

21.6 In circumstances where a formal radiological CXR Report is available on the hospital system this should be used. The SN should document in DonorPath that this is a formal radiology report.

21.7 If a formally reported CXR is not available the SN must request this, the formal report can be requested once the CXR is available. In circumstances where it is

not possible to have a CXR reported on prior to organ offering, the SN should explore whether any admission CXR has been formally reported on and clearly document this on DonorPath.

21.8 In all other circumstances the SN must ask the medical practitioner to review the CXR. It is the responsibility of the SN to provide rationale for the review advising the medical practitioner that these results will help the RCPoC(s) and implanting surgeons. The SN should request medical practitioner comments on the following:

- To the best of their knowledge and ability determine if the lungs are suitable for donation to proceed noting any signs of infection or consolidation to the lungs.

- Determine to the best of their knowledge that there is no evidence of Tuberculosis or any other notable potential tumour / cancer by detailed review of the CXR. If there is any doubt, then expert advice should be sought from senior medical practitioners.

21.9 It is the responsibility of the SN to request that the medical practitioner clearly document their review of the CXR in the patient's medical records noting no evidence of the above.

21.10 Upload the relevant information of CXR onto DonorPath.

21.11 In circumstances of offering solid heart or lungs for transplant upload image of CXR into Media section of attachments on DonorPath refer to **MPD1100** for guidance. In situations of offering abdominal organs only and no cardiothoracic organs are on offer, a written summary of report uploaded to DonorPath is satisfactory.

21.12 Include any detail as reported by the medical practitioner as well as the role/grade of the individual reviewing the CXR. - The RCPoC(s) will be able to relay this information to the implanting surgeons to assist in the decision making process.

21.13 In circumstances where the SN requested a formal CXR report as part of donor characterisation which was not available prior to offering organs it is the responsibility of the SN to ensure the findings of this report are followed up and communicated as per **MPD881** and **SOP4938**.

21.14 Document on DonorPath reasons why CXR not performed within 48 hours**.**

21.15 Update DonorPath Communicate to RCPoC(s) as required as per SOP4938. - If a CXR is not performed within 48 hours, this does not preclude lung donation.

PHYSICAL ASSESSMENT

22. BODY MAP

This is NOT a medical examination, rather a physical examination/assessment.

Physical examination and body measurements allow the detection of clinical conditions that might contraindicate the donation and/or suggest laboratory tests to dispel doubts about the eligibility of the donor, in addition to assessing the compatibility between the size of the transplant organ and that of the recipient to prevent size mismatches.

The information required for a complete and thorough physical assessment should be obtained by the SN using a systematic approach.

HEIGHT

Action:

- Measure only on fully flat bed, remove pillow, hard mattress (fully inflated if air mattress) and with body in correct alignment.
- Use hard flat surface (e.g. clipboard) to assist and measure from heel to top of head close to patients' body.
- Measure patient twice – one HCP performs measurement whilst other observes, reverse for confirmation.
- HCP who witnessed/assisted measurements to sign **FRM5545.**

Advice:

- If patient on inflatable mattress this should be set to 'hard'. If no hard setting and it is safe and practical to do so, it should be deflated.
- Follow **MPD1382** when registering donor.
- If NORS team choose to check donor height they must follow the same procedure.
- In the circumstance of seeking guidance on alternative height estimations suggest utilisation of the British Association of Parenteral and Enteral Nutrition (BAPEN) must explan.pdf. Ensure any estimated information and the technique utilised is clearly documented.

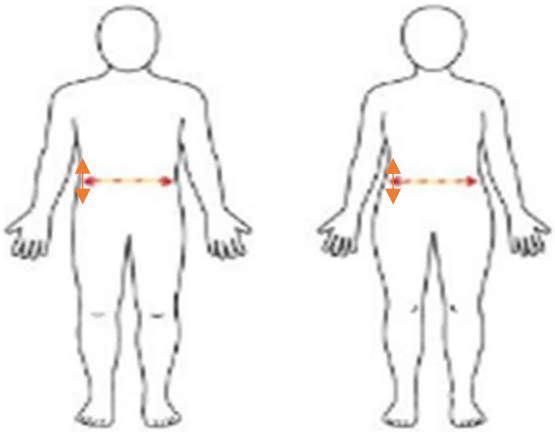
WEIGHT

Action:

- Request patient is weighed on date of donation, may only be feasible if bed has weighing facility.
- Document if weight is estimated.

Advice:

- All paediatric patients should have an accurate measured weight recorded for correct drug dosages & appropriate allocation and offering particularly of size matched.
- In circumstances when no weight is known and no resources for them to be weighed then weight should be estimated through discussions with medical practitioner and health care staff.



ABDOMINAL GIRTH

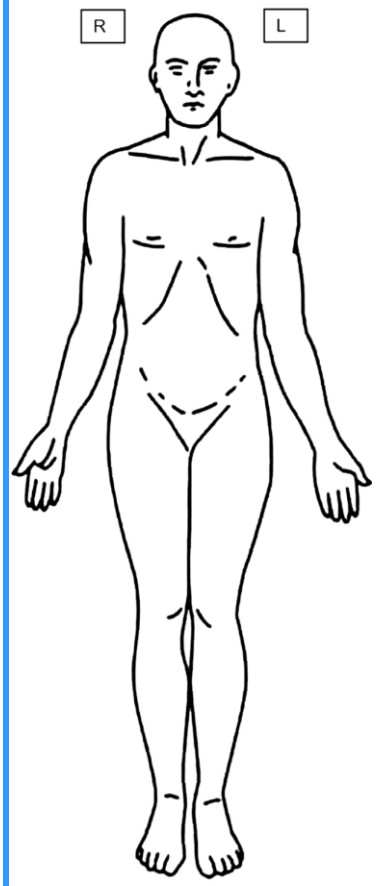
Action:

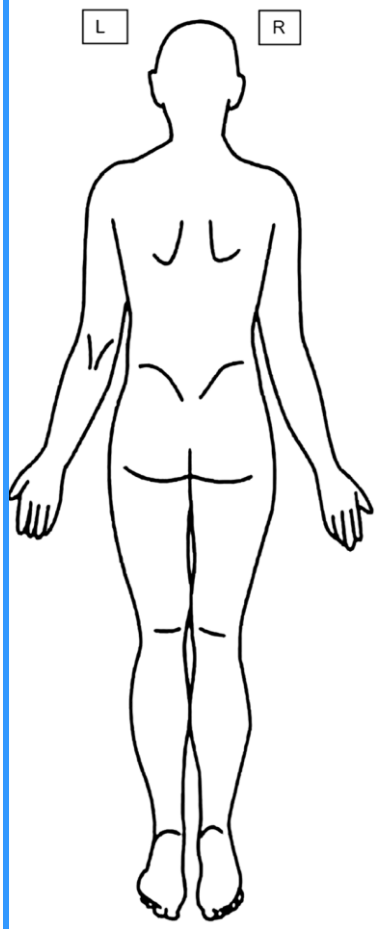
- Using your fingertips, identify the highest part of the pelvis (iliac crest) and the lowest part of the rib margin on the right side, shown in the orange arrowed lines above. Between these is the narrowest point, half way between ribs and pelvis, indicated by the tape.
- Using a good quality medical tape measure which does not stretch, measure the circumference in the middle of this gap by passing the tape around the back and front. Be careful you are at the correct position, with the tape completely straight around the back and front.
- Use the end of expiration to finalise the measurement to the nearest 0.5cm
- The tape should be snug but not indent the skin.
- Remove the tape and then repeat the measurement. If the two measurements are different by more than 3cm, repeat and use the two that are closest together.
- Calculate the average of these two measurements to the nearest 0.5cm record this figure on **FRM5545**.
- Round up or down to the nearest cm, record this figure in measurements section on DP.

⚠ CAUTION

Exercise caution and critical clinical skills in making accurate assessments of height and weight in situation of clinical conditions such as scoliosis, limb amputation, physical contractures, significant oedema, abdominal distention, systems such as colostomy, dressings or pregnancy which may present challenges in accurate measurement. Utilise information available and assessments to provide narrative which may aide transplant centres in safe decision making with clear documentation on **FRM5545**.

Consider – does the hospital have a local protocol for estimating height or weight, do historic GP records hold relevant information, are family members able to provide guidance, radiological imaging, utilisation of the British Association of Parenteral and Enteral Nutrition (BAPEN) guidance for height estimation must_explan.pdf and seeking expert advice from healthcare professional colleague such as orthotics, dietetics or radiology.





HEAD AND NECK EXAMINATION	Visible injuries, trauma or swelling to the head, face or neck. Evidence of any surgery/scars. Examine mouth and note size of ETT/Trache and placement. Nasogastric tube presence. All invasive lines (CVC, EVD, ICP Bolt etc.). Raised JVP. Neck fractures – if neck collar insitu discuss with medical practitioner if able to be removed for assessment.
CHEST EXAMINATION	Listen to chest for bilateral air entry, wheezes, crackles & secretion retention – consider requirement for intervention. Previous surgery/scars including implantable devices. Location of any existing drains, type, activity. Chest trauma. Breast assessment for all patients: physical and visual examination for any changes in the breasts and underarm areas of the body.
ABDOMINAL EXAMINATION	Visualise abdomen and note size and shape and any abnormalities. Auscultate bowel (Note hyperactive/hypoactive bowel sounds). Palpate abdomen (Is abdomen soft/distended/tense?). Date of last bowel movement. Any visual signs of pregnancy see **MPD891.**
PELVIS AND GROIN EXAMINATION	Observe and record any indications of abnormality in pelvic region, including injuries, trauma or swelling. Central cannula – what type, how many and position. Vaginal, penile or anal bleeding or discharge. Testicular assessment. External evidence of STI's.
SKIN AND BACK EXAMINATION	Observe and document any skin abnormalities including injuries, trauma, swelling and full exam for any masses/enlarged lymph nodes. Colour, temperature or skin turgor. Signs of exanthema/rashes/mottling. Moles, skin neoplasms of concern and/or Spider naevi. Healed/purulent wounds. Surgical emphysema. Injection and/or Lumbar puncture sites. Surgical/non-surgical wounds and/or scars. Puncture wounds due to suspected or known illegal drug use. Curvature or scoliosis of spine. Tattoos & piercings (location and when performed should be ascertained).
LIMBS AND DIGITS EXAMINATION	Fractures External limb fixators Missing limbs/digits Surgical/Non-surgical wound sites Soft tissue damage and swelling Muscle wastage Injection sites "Track Marks" Peripheral cannula Clubbing Micro emboli Capillary refill

22.1 Specialist clinical advice should be sought if concerns are raised. If a previously unidentified clinical condition is found e.g. suspicious mole or testicular lump, then the SN must request expert clinical guidance to quantify what impact, if any, this condition may have on organ suitability.

22.2 A copy of **FRM5545** must be completed and uploaded onto DonorPath. Any relevant information that has the potential to impact on donation and transplantation must also be accurately documented within the visible sections of DonorPath as per **MPD867**.

22.3 The findings from the physical assessment will complement the other findings undertaken during the donor characterisation process to ensure that a complete medical, physical and social history is obtained by the SN.

22.4 **IMPLANTABLE DEVICES**

In the circumstance of a cardiac implantable electronic device (CIED) – such as pacemaker, implantable cardioverter defibrillator (ICD), temporary pacing wire, implantable sensor being identified on physical assessment or medical notes review, it is essential to consider management during end-of-life care and any actions required. Management of these devices must be led by the treating clinical team, involving cardiology as required.

DCD Assessment – Suitability Assessment for DCD donation form

23. Suitability Assessment for DCD Donation

23.1 As per **SOP3781, FRM7814** should be completed and uploaded to DonorPath during initial assessment and prior to approach. Upload each assessment made. It is expected that re-assessment using **FRM7814** will be completed at various points during the DCD pathway not limited to:

a. SN handovers

b. Change in neurology

c. Change in level of support

d. Prior to offering

e. Prior to NORS mobilisation

23.2 **FRM7814** is not a decision making tool. It is to be used as an aide alongside clinical experience when assessing all DCD donors for suitability regarding imminent death. Assessment is to include the clinical condition of the patient over the last 12-24 hours. Excluding potential DBD donors that meet neurological criteria but present with preconditions or instability incompatible with testing, or family requests not to proceed with testing.

23.3 As a minimum the assessment will be undertaken by the SN & Senior treating Doctor. Other suggested professionals could include but not limited to:

a. Junior Doctor
b. Nurse in Charge
c. Bedside Nurse
d. Lead Nurse
e. Regional Head of Nursing
f. Family Liaison Nurse
g. Advanced practitioner i.e. ACCP

23.4 After each assessment re-visit the question, as the MDT utilising this form, alongside clinical experience, is DCD an appropriate pathway to proceed with? The decision on whether to proceed with donation is multifactorial and not limited to predicted time to asystole.

23.5 If post consent, there is an agreement by the MDT that DCD donation is no longer the correct pathway to pursue due to likelihood of PTA, this **must** be discussed with a Lead Nurse, cluster coordinator or OTDT Operational Manager on call if out of hours.

23.6 It is the SN's responsibility to ensure collaborative assessment takes place.

GP ASSESSMENT

24. GP Assessment

24.1 A conversation with the patients GP is essential to establish relevant clinical information relating to medical, social and behavioural history.

For details of the process and outline of responsibilities please access **SOP3632**.

PATIENT ASSESSMENT (FAMILY CONVERSATION)

25. PATIENT ASSESSMENT

25.1 A family conversation to gather key information as part of the consent/authorisation process, in relation to the patients' medical, social, behavioural and travel history assists with the identification of potential risks to the quality and safety of organs and tissues for transplantation.

25.2 The SNOD must undertake a highly sensitive conversation with the patient's family, obtaining information about medical, social, behavioural and travel history in order to gather the necessary information to relay to the RCPOC and implanting surgeons +/- tissue establishments.

25.3 Findings identified during the medical notes review and characterisation will be confirmed discussed, as appropriate, during the family conversation.

25.4 The SN should explain, if appropriate, that in order to assess which organs and/or tissues could be donated, it is necessary to ask some questions and confirm. The family should be informed that:

a. Some of the questions are of an intimate nature
b. The questions are not meant to cause offence
c. The questions are asked about all patients where donation is being considered
d. The questions are the same ones that are asked of blood donors.

25.5 The SN should identify who is the most appropriate person(s) to answer the questions on the Medical and Social History Questionnaire (MaSH). It is not necessary for ALL family members to be present for the discussion. Due to the intimate nature of the questions, the SN should exercise clinical judgement by alerting the family to the sensitive nature of some of the questions and support individuals who may wish to leave the room for all or part of the conversation.

25.6 The SN should confirm if there is anyone else who may be able to provide further information. If there is, then the SN should explain that there is a requirement to carry out the MaSH with that other person(s).

25.7 Prior to undertaking the patient assessment process, the SN should ask the family members completing if they have any issues that need to be addressed.

25.8 The SN should undertake a systematic approach to asking the questions utilising **INF947** Rationale for Medical and Social History questionnaire where required, to ensure that any potential risk to the quality and safety of organs and tissues for transplantation is minimised.

25.9 The SN should explain that as part of the donor characterisation process, that they will undertake a physical assessment and that it may be necessary to contact them

again if anything comes to light that is not explained in the history that they have provided.

25.10 In addition the SN must explain that there may be additional tests that are needed to be performed and answer any questions the family/NOK have regarding these.

25.11 To close the patient assessment family conversation the SN should determine what the family members plans are at this time and ensure contact details and expectations around next contact are clear.

26. NON PROCCEDING DONATION (FOLLOWING MEDICAL INFORMATION PROVIDED BY PATIENT FAMILY)

26.1 If an absolute contraindication is identified during the family conversations the SN must follow **MPD882** and undertake further family discussion where appropriate.

26.2 If the SN requires support in the case of a non-proceeding donation, they must contact an appropriate LN, RHN or OTDT Operational Manager on call.

26.3 If indicated or advised by senior colleague, the SN must complete an NHSBT incident form at the earliest opportunity post process following **SOP3888**.

26.4 Document clearly the sequence of events on DonorPath and the referral/PDA, providing clear details as to the reasons why donation could not proceed.

26.5 In the event of standing down on organ donation consider suitability for tissue donation and referral to the NRC as per **SOP5024**. Where appropriate seeking permission from the family to receive a call from NRC. Ensure relevant information is documented to support tissue services assessment.

26.6 Once the MaSH section on DonorPath is commenced it should be completed in full if there is intention to refer for tissue donation. This is because once the record is pushed through to TissuePath the NRC are unable to populate MaSH and this can inhibit tissue donation e.g. in circumstance of identifying an absolute medical contraindication during assessment and moving the donor to “non-proceeding” with an incomplete MaSH the system will transfer information to TissuePath which can no longer be edited.

APPENDIX 1

BLOOD TEST ABBREVIATIONS

Abbreviation	Full Title	Comments
Haematology		
BG (G&S)	Blood Group (Group & Save)	A new BG is required for **ALL** donors as part of characterisation. BG is required for crossmatching blood for transfusion and to support safe transplantation. CAUTION: Potential risks determining blood group associated with transfusions in last 7 days. For G&S consider date of last result – is this within the trust/health board timeframe for cross matching units for theatre?
Hb	Haemoglobin	If low consider bleeding, trauma AND confirm Hb levels required pre theatre for Cardiothoracic donation (check with accepting centres)
Plat	Platelets	Consider trauma (relevant transfusion) or portal hypertension (engorged spleen)
WBC	White Blood Cells	If raised consider sepsis
Clotting Screen		
INR	International Normalised Ratio (of PT)	If raised consider liver dysfunction
PT	Prothrombin Time	If raised consider liver dysfunction OR is the patient heparinised?
(A)PTT or PTT	(Activated) Partial Thromboplastin Time	If raised consider liver dysfunction OR thromboembolism
Biochemistry		
Na+	Sodium	Consider hypo or hypernatraemia in relation to neurological death
K+	Potassium	Consider hypo or hyperkalaemia for cardiac donation and treatment to prevent cardiac arrest
Urea	Urea	Consider either dehydration with normal creatinine or consider renal failure if anuric
Creat	Creatinine	Consider renal failure if abnormally elevated
eGFR	Estimated Glomerular Filtration Rate	If eGFR<90 consider Chronic Kidney disease staging
Liver Function Tests		
Bili	Bilirubin	Consider hepatic dysfunction if raised and if other LFTs are raised and patient is jaundiced
ALP	Alkaline phosphatase	Consider early biliary obstruction if raised ALP with normal GGT
AST	Aspartate aminotransferase	AST is also present in cardiac and skeletal muscle tissue. If ALT and AST both raised consider hepatocytic damage
ALT	Alanine aminotransferase	Consider hepatocytic damage if raised
GGT	Gamma glutamyl transferase	Consider chronic alcohol misuse with an isolated raised GGT
Alb	Albumin	Consider malnutrition or sepsis in addition to hepatic failure when albumin levels are low
TP	Total Protein	Consider hepatic and/or renal disease with low levels. Consider bone marrow disorder/myeloma with raised levels

Amy	Amylase	Consider pancreatic damage or failure if amylase levels are raised
Other Blood Tests		
CRP	C-Reactive Protein	Consider acute infection, inflammatory process, arthritis and/or lupus.
Trop (T or I)	Troponin	Consider myocardial infarction or cardiac damage. Tests are usually performed over 12-16 hrs from time of injury/insult
HbA1c	Haemoglobin A1c	Consider pre-diabetes/diabetes
βhCG	Beta Human Chorionic Gonadotropin	Consider pregnancy if elevated Additional rare causes of elevated βhCG in **MPD 891**

APPENDIX 2

ORGAN DONATION 10-POINT CHECKLIST

When attending a referral, there are ways in which we can help to expedite the donation process safely and efficiently. The 10 point checklist aide memoire is a clear guide on how this can happen.

For the paediatric version of the checklist please access **SOP5874**.

Action	The tasks can be undertaken in any order	Tick
1.	**HLA and MICROBIOLOGY:** • **Send to laboratories as per (page 13).**	
2.	**BLOOD AND URINE TESTS:** • **Request the following: BLOOD GROUP, FBC, U&E's, LFT's, Amylase, HbA1C, Clotting, CRP, eGFR, Gamma GT, Glucose.** • **Request urinalysis** (**+/- M.C&S, urine protein creatinine ratio** as clinically indicated or requested by RCPoC(s)) • **Request Blood Cultures** (as clinically indicated) • **Add outstanding results to Post Donation Actions Tracker for follow up.**	
3.	**PATIENT ASSESSMENT:** • **Body Map** - perform as early as possible to allow any potential issues to be explored. • **GP Summary** - Communication with GP and obtain a summary.	
4.	**CHECK AND PLAN:** • **Check-in with Bedside Nurse** (BSN) actions completed and outstanding. • **Check patient** ID, ODR status, current parameters, clinical treatment plan, resuscitation status. • **Meet with Consultant** to discuss end of life care and management plan (DCD/DBD/ Neurological Death Testing) • **Check Neurological Death Testing form is completed correctly (if appropriate)** • **Clarify roles and responsibilities** - Consultant/SN/Specialist Requester/Trainee SN's/BSN • **Arrange timely attendance of interpreters/social worker/chaplaincy or other support** (as appropriate).	
5.	**DONOR OPTIMISATION CARE BUNDLE:** • **Provide guidance** to BSN and Consultant in use of the document to ensure management and stabilisation for Neurological Death testing (haemodynamic and electrolyte parameters, vasopressors, diabetes insipidus and fluid management. • Consider regular suction, positioning and chest physio.	

6. HISTORY: • **Review ALL admissions** (review current and historic electronic and paper medical records, charts, blood and micro results. • Request previous hospital notes where not available.	
7. CORONER/PROCURATOR FISCAL: • **Establish requirement for Coroner/Procurator Fiscal referral** with Lead Consultant and/or Medical Examiner (England and Wales) (Note: Ensure documentation in patient medical notes) • **If required or if agreed with the Lead Consultant, contact Coroner/Procurator Fiscal** to ascertain donation lack of objection. Local guidance available in Regional Donor Handbook and National NHSBT Judicial Database. ***Note:*** *Where possible SN/Specialist Requester to be present for Coroner/Procurator Fiscal conversation to ensure any questions can be answered regards requested consent for specific organs.*	
8. RESPIRATORY TESTS: • **Request *CHEST X-RAY* (reported on/findings) and *ABG's* on 100%** • **Sputum** (as clinically indicated)	
9. CARDIAC TESTS: • **Request a *12 LEAD ECG* and *ECHO*** (<65 yrs.) for all potential cardiothoracic donors. ***Note:*** *Utilise* ***INF1705***	
10. PREGNANCY TEST: • **β-HCG blood testing** ***Note: NOT*** *appropriate until after discussion with the family- please refer to* ***MPD891****.*	

USEFUL INFORMATION

ASSOCIATED DOCUMENTS

DATs

- **DAT4588** – HLA typing requests

POLs

- **POL188** – Clinical Contraindications to Approaching Families for Possible Organ Donation

MPDs

- **MPD1100** – Guidance and Principles – Donor Related Images and Video.
- **MPD1382** – Donation Pathway Communication Touchpoints – SNODs and Hub Operations
- **MPD867** – Patient Information to be Communicated to Recipient Centre Point of Contact
- **MPD881** – Findings Requiring Additional Action
- **MPD882** – Communication with Families About Adverse Findings
- **MPD891** – Establishing Pregnancy Status and Pregnancy in Donation
- **MPD921** – Handover Between Specialist Nurses

SOPs

- **SOP3632** – General Practitioner Assessment
- **SOP3649** – Voice Recording of Organ Donor Clinical Conversations
- **SOP3781** – Receipt of Referral of a Potential Organ and/or Tissue Donor
- **SOP3888** – Reporting an Organ Donor or Transplantation Incident to NHSBT
- **SOP3925** – Manual Organ Donation Processes for a Potential Organ and/or Tissue Donor in the Event of DonorPath/IT Network Unavailability
- **SOP4938** – Sharing Clinical Information
- **SOP5024** – Tissue referral process
- **SOP5732** – Guidance in the Event That ABO and Rh D Group in a Potential Organ Donor is Indeterminate
- **SOP5874** – OTDT Paediatric Manual
- **SOP6514** – Clinical Microbiology Manual
- **SOP6589** – Advanced Multi Organ Screening (AMOS)
- **SOP6633** – OTDT Manual 6: Judicial Process

INFs

- **INF947** - Rationale Document for Medical and Social History Questionnaire
- **INF1466** - Back up Laboratories for Deceased Donor Tissue Typing Testing
- **INF1583** - Back up Laboratories for Deceased Donor Virology Testing
- **INF1712** - Out of Hours Contact Details for Back-Up Virology Laboratories
- **INF1713** - Out of Hours Contact Details for Back-up HLA Laboratories
- **INF1705** - Donor Heart Transthoracic Echo Assessment

FRMs

- **FRM4193** – Core Donor Data - SNOD
- **FRM4211** – Medical and Social History Questionnaire (MaSH)
- **FRM4212** – Organ Donation Clinical Pathway
- **FRM4278** – Virology/Microbiology Request Form
- **FRM4279** – HLA Typing Request
- **FRM5499** – SN to DFCS Handover Form
- **FRM5545** – Body Map
- **FRM6439** – SARS-Cov-2 Assessment and Screening (in deceased organ donors)
- **FRM6445** – Covid-19 Swab and Endotracheal Aspirate Request Form
- **FRM7814** – Suitability Assessment for DCD Donation

- **PDV1184** – PACs Process

INCIDENT REPORTING

Incident Reporting An incident may occur within the chain of organ donation and transplantation for which there is a legal requirement to report under the Regulations. Additionally, an incident may occur for which we may benefit from organisational or national learning. These incidents should be reported to the ODT Directorate of NHSBT using the following link https://safe.nhsbt.nhs.uk/IncidentSubmission.

OTHER USEFUL LINKS

BAPEN Malnutrition Screening tool
https://www.bapen.org.uk/pdfs/must/must_full.pdf

Confidentiality: NHS Code of Practice 2003
https://www.gov.uk/government/publications/confidentiality-nhs-code-of-practice

Council of Europe: Guide to the quality and safety of organs for transplantation
https://www.edqm.eu/en/guide-quality-and-safety-of-organs-for-transplantation

Donation Actions Framework
Donation Actions Framework - ODT Clinical - NHS Blood and Transplant

Donor Optimisation
Donor_Management_and_Optimisation_-_2038763967Principles_of_Donor_Management_and_Optimisation_Handbook_V2.0.pdf - All Documents (sharepoint.com)

Human Tissue (Quality and Safety for Human Application) Regulations 2007 (Q&S Regulations) https://content.hta.gov.uk/sites/default/files/2021-06/Human%20Tissue%20%28Quality%20and%20Safety%20for%20Human%20Application%29%20Regulations%20licensing%20standards.pdf

JPAC http://www.transfusionguidelines.org/

ODT Clinical Website https://www.odt.nhs.uk

- Donor Identification and Referral
- Checklist for Healthcare Professionals

SaBTO Guidance on the Microbiological Safety of Human Organs, Tissues and Cells used in Transplantation (2023)
https://assets.publishing.service.gov.uk/media/65a95baaed27ca000d27b273/SaBTO-microbiological-safety-guidelines.pdf

SaBTO Guidance on the Transplantation of Organs from Deceased Donors with cancer or a history of cancer 2020 https://www.gov.uk/government/publications/transplantation-of-organs-from-donors-with-a-history-of-cancer

SaBTO Position statement on West Nile Virus
https://www.gov.uk/government/publications/west-nile-virus-and-solid-organ-transplantation-sabto-statement

ABBREVIATIONS

ABG – Arterial Blood Gas
BBV – Blood Borne Virus
BMS – Bio Medical Scientist
BSN – Bedside Nurse
CDDF – Core Donor Data Form
CHI number – Community Health Index number
CT – Computed Tomography Scan
CXR – Chest Xray
DBD – Donation after Brain Death
DCD – Donation after Cardiac Death
DDNC – Diagnosis of Death using Neurological Criteria
DFCS – Donor Family Care Services
DP – DonorPath
ERT – Electronic Results Transfer
ECG – Electrocardiogram
ECHO – Echocardiogram
GDRI – Geographical Disease Risk Index
HAS – Human Albumin Solution
HCP – Health Care Professional
ID – Identifying Data
JPAC – Joint United Kingdom Blood Transfusion Services Professional Advisory Committee
LIMMS system – Laboratory Information System
LN – Lead Nurse
MaSH – Medical and Social History
MSL – Microbiology Services Laboratory
NDT – Neurological Death Test
NOK – Next of Kin
NRC – National Referral Centre
OAS – Organ Allocation Specialist
ODMT – Organ Donation Management Team
ODR – Organ Donor Register
PACS – Picture Archiving and Communication System
PBM – Patient Blood Manager (NHSBT consultant)
PDA – Potential Donor Audit
PDP – Pre Death Procedure (Scotland)
PTA – Prolonged time to asystole
PID – Patient Identifiable Data
RCI – Red Cell Immuno-haematology (laboratory)
RCPoC – Recipient Centre Point of Contact
SABTO – Advisory Committee on the Safety of Blood, Tissues and Organs
SARS – Severe Acute Respiratory Syndrome
SN – Specialist Nurse
SNBTS – Scottish National Blood Transfusion Service
SNTD – Specialist Nurse Tissue Donation
TE – Tissue Establishment
TxP – TransplantPath

Training Plan for Documents:

Type of Change	Change to Existing Process	
Stakeholders who require training	**Trainee new to the process**	**Trainee trained to the previous revision.**
	Trainee Specialist nurses	Specialist nurses, Lead nurses
Knowledge required prior to training	NA	Trained to previous version
Critical aspects of process	This covers clinical characterisation process for specialist nurses to complete donor characterisation If stakeholders not trained to new version, risk of delay to process and wrong process being followed and incomplete characterisation.	

Training Plan:

	Trainee new to the process	**Trainee trained to the previous revision.**
Recommended Training Method	• Read document and full document training delivered by regional Quality Lead or Practice Development Specialist	• Read and training video cascaded by regional Quality Lead
Assessment	• FRM511 (TBTR)	• FRM511 (TBTR)
Cascade Plan	• Author trains Quality Leads or Practise Development Specialist, who then cascade training to their department.	• Author trains Quality Lead, who then cascade training to their department.

Training Score – Training Plan Risk Matrix (Collapsible – Click ▸ icon to open/close)

Use the *Training Plan Risk Matrix* to identify the training method and assessment required.

The *Process Criticality Score* is determined by the potential impact on donor/patient safety and/or product quality using the table below for guidance:

	Impact on Donor, Patient safety or product quality
1. Negligible	A process whose failure, in full or in part, **cannot** impact product quality, patient/donor safety or the ability to supply products/services.
2. Minor	A process whose failure, in full or in part, **may**: (i) impact other processes thereby indirectly impacting product quality, patient/donor safety (e.g. harm only results where multiple failures in multiple processes align) (ii) result in the discard of a small number of replaceable products and/or (iii) result in an inconvenient delay to the supply of products/services (e.g. delay of 1-3hrs of non-urgent product/service).
3. Moderate	A process whose failure, in full or in part, **may**: (i) indirectly impact product quality, patient/donor safety (e.g. harm only results where failures in more than 1 process align) (ii) result in the discard of a medium number of replaceable products and/or (iii) result in a temporary delay to the supply of products/services (e.g. delay of 4-12hours of non-urgent products/services).
4. High	A process whose failure, in full or in part, is **likely** to: (i) directly impact product quality, patient/donor safety (ii) result in the discard of a large number of replaceable products (iii) result in the discard of an irreplaceable product and/or (iv) result in a delay to patient treatment.
5. Very High	A process whose failure, in full or in part, is **certain** to: (i) directly impact product quality, patient/donor safety (ii) result in the discard of a large number of replaceable products (iii) result in the discard of an irreplaceable product and/or (iv) result in a delay to patient treatment.
Process Criticality Score	5

The *Criticality of Change Score* is determined by assessing the nature of change(s) and complexity of the process using the table below for guidance.

	Change to Trainee(s)
1. Negligible	An existing process to which no material changes are made. E.g. format changes, minor clarifications of existing practice, fixing typos.
2. Minor	An existing process to which new information is added but where changes to existing knowledge and practices are minimal. E.g. clarifications that tighten existing practices
3. Moderate	An existing process of low complexity with material changes requiring different people to take action and/or people to change the tasks they perform. E.g. new roles/responsibilities, changes to the order of existing tasks, new tasks
4. High	A new process of moderate complexity, OR

	An existing process of moderate complexity with material changes requiring different people to take action and/or changes to the way tasks are performed. E.g. New roles and responsibilities, changes to tasks and/or the order in which tasks are performed, changes in equipment/materials, changes to values, measures or settings.
5. Very High	A new process of high complexity, OR An existing process of high complexity with material changes requiring different people to take action and/or changes to the way tasks are performed. E.g. New roles and responsibilities, changes to tasks and/or the order in which tasks are performed, changes in equipment/materials, changes to values, measures or settings.
Criticality of Change Score	3

Training Plan Risk Matrix:

Process Criticality →

Criticality of Change ↓	1. Negligible	2. Minor	3. Moderate	4. High	5. Very High
1. Low	1	2	3	4	5
2. Moderately Low	2	4	6	8	10
3. Moderate	3	6	9	12	15
4. High	4	8	12	16	20
5. Very High	5	10	15	20	25

	Trainee new to the process	**Trainee trained to the previous revision.**
Process Criticality Score	5	
Criticality of Change Score	3	3
Training Score	15	15

Recommended Training Method and Assessment:

Training Score	Level of Risk	Examples of Training Methods	Examples of Assessment
1 - 3	Low	Read only	Record on FRM511 only
4 - 8	Manageable	Email, team brief, word brief	Knowledge/Observation Check & FRM511
9 - 14	Medium/Significant	Formal training package	Knowledge/Observation Check & FRM511 or FRM5076
15 - 25	High	Practical	FRM5076 or equivalent