A Framework for Quality and Safety of Human Organs Intended for Transplantation

Version 1 – December 2014

Produced by the Quality and Safety Framework Group,
Organ Donation and Transplant Ireland, Health Service Executive
in conjunction with the Health Products Regulatory Authority

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INTRODUCTION

The European Directive on the Quality and Safety of Organs Intended for Transplantation (EU Directive 2010/53/EU) was adopted by the European Parliament and Council on 7th July 2010 and transposed into Irish legislation by S.I. No. 325 of 2012; EUROPEAN UNION (QUALITY AND SAFETY OF HUMAN ORGANS INTENDED FOR TRANSPLANTATION) REGULATIONS 2012.

The Commission Implementing Directive 2012/25/EU of 9th October 2012, laying down information procedures for the exchange, between Member States, of human organs intended for transplantation, sets out requirements for the transmission of information when organs are exchanged between Member States. These additional requirements are transposed into Irish legislation in S.I. No. 198 of 2014, EUROPEAN UNION (QUALITY AND SAFETY OF HUMAN ORGANS INTENDED FOR TRANSPLANTATION) (AMENDMENT) REGULATIONS 2014.

The State works to ensure that organ donation and transplantation are appropriately promoted, regulated and monitored in the interests of patient safety and public transparency.

Primarily, this will be achieved by;

- Establishing an organisational framework in which procurement and transplant services are adequately resourced to operate, monitor and report, and through which quality and safety are ensured both for recipients and living donors;
- Establishing a system of authorisation and inspection of procurement organisations and transplantation centres.

The Health Products Regulatory Authority (HPRA) and the Health Service Executive (HSE) have been appointed as the Competent Authorities for implementation of different aspects of this legislation. The HSE has established Organ Donation Transplant Ireland (ODTI) as the delegated body responsible for the implementation of the obligations applicable to the HSE under the Directive and national regulations.

Part 3, Regulation 12, of S.I. No 325 of 2012 lays down provisions for the development of a framework for quality and safety of human organs intended for transplantation.

ODTI in consultation with the HPRA is required to ensure that a framework for quality and safety is established to cover all stages of the chain from donation to transplantation or disposal, in compliance with the rules laid down in the Regulations and the Directive.

The framework for quality and safety is required to provide for, and include details on, the roles and responsibilities regarding the adoption and implementation of operating procedures for:

a) The verification of donor identity;

b) The verification of the details of the donor's or the donor's family's consent;

c) The verification of the completion of the organ and donor characterisation in accordance with Regulation 15 and the Annex to the Directive;

d) The procurement, preservation, packaging and labelling of organs in accordance with Regulations 13, 14 and 16;

e) The transportation of organs in accordance with Regulation 16;

f) Ensuring traceability, in accordance with Regulation 18, guaranteeing compliance with the European Union and national provisions on the protection of personal data and confidentiality;

g) The accurate, rapid and verifiable reporting of serious adverse reactions and events in accordance with Regulation 19 ;

h) The management of serious adverse reactions and events in accordance with Regulation 19.

In respect of the operating procedures referred to in points (f), (g) and (h), the framework for quality and safety is also required to include the responsibilities of procurement organisations, transplantation centres and European organ exchange organisations, as appropriate.

The framework for quality and safety is intended to cover all aspects of the transplantation process, from the beginning of potential donor identification, for both living and deceased donors, until the long term outcome of transplantation.

The framework for quality and safety shall also be used to ensure that the healthcare personnel involved at all stages of the chain from donation to transplantation or disposal are suitably qualified or trained, and competent, and that training programmes for such personnel are developed.

In carrying out prescribed activities, procurement organisations and transplantation centres should comply with the requirements of the framework for quality and safety.

Specifically in relation to clinical decisions, European legislation in this area respects the decision of the clinician. The requirements under the legislation relate to documentation of the decision made based on the information available at time of transplant.

The 'Guide to the quality and safety of organs for transplantation' is published by the European Directorate for the Quality of Medicines & Health Care of the Council of Europe (EDQM), the 5th edition of which has been referenced as a basis for the development of the framework for quality and safety.

THE QUALITY AND SAFETY FRAMEWORK

PART I – REQUIREMENTS FOR QUALITY MANAGEMENT SYSTEMS

Principle:
Careful attention should be paid to all aspects of the quality of the entire process from donation to the transplantation or disposal of organs, in order to ensure best possible outcomes for patients and to maintain public and professional confidence in their safety and efficacy. This section outlines the general principles of quality management systems. Detailed specifications are outlined in the relevant sub sections.

Assurance of the quality of organs depends on two distinct aspects:

- the quality management systems which enable the organs to meet requirements.
- the requirements or standards for the organs (which are outlined in the various chapters of the Council of Europe Guide)

A number of quality management systems, such as the International Standard ISO 9000 family, can be applied throughout the transplant chain, from donor identification to allocation and transplantation of organs, including appropriate follow up.

It is important to note however, that having an appropriate Quality Management System is not predicated on ISO accreditation. In order to be compliant with the requirements of the Organs Directive and national regulations, each procurement organisation or transplantation centre should demonstrate compliance with the requirements for quality management systems as outlined in this section. In addition, the requirements outlined in the various chapters of the Council of Europe Guide should be considered.

The quality management system in place at a procurement organisation or transplant centre must be fully documented and must ensure that all critical processes are specified in appropriate instructions and are carried out in accordance with relevant standards and specifications. Management should review the system at regular intervals to verify its effectiveness and introduce corrective measures if deemed necessary.

Quality is the responsibility of all personnel involved in the organ transplantation process. A systematic approach to quality management should be implemented and maintained throughout the entire process, including:

- personnel and organisation
- premises equipment and materials
- selection, procurement, preservation, preparation and transportation
- quarantine and release or disposal;
- documentation and record keeping
- assessment and mitigation of risks
- quality control
- contractual arrangements
- traceability
- management of serious adverse reactions and events
- complaints

- recall
- investigation and reporting of non-conformance
- self assessment, internal and external auditing
- management review system
- continual improvement
- a system of donor and recipient follow-up

Donor selection, procurement, manipulation and distribution of organs should be subjected to a comprehensive risk assessment. Where appropriate, a "process flow" diagram listing all relevant steps, processes, reagents, tests and equipment can form the basis for the assessment exercise. Risk mitigation strategies should then be developed to protect transplantation associated products, patients, personnel and the process itself, as well as other linked or proximal processes.

Risks might, for example, derive from:

- donor selection and screening;
- procurement procedures, preservation and transport;
- biological properties of procured organs;
- the absence of standardised quality control tests;
- the use of potentially infective materials;
- the condition of the recipient.
- failure to utilise a transplantable organ

Auditing of all aspects of the quality management system and the specific requirements for the quality and safety of organs for transplantation, as outlined in this framework, is an essential tool to verify and ensure compliance and to facilitate improvements in practices on an ongoing basis.

Requirements:

1. Personnel and Organisation

1.1 The procurement organisation / transplantation centre should have an adequate number of personnel with appropriate qualifications and practical experience. Senior management should determine and provide adequate and appropriate resources (human, financial, materials, facilities and equipment) to implement and maintain the quality management system and continually improve its effectiveness.

1.2 Key personnel in procurement organisations and transplantation centres must include a Responsible Person (RP) who is responsible for all activities carried out at the organisation, along with a documented delegate who takes over this responsibility in their absence.

1.3 Each relevant organisation must have an identified medical specialist /advisor, who may or may not be the RP. In addition, the organisation should include an independent quality assurance function (Quality Manager).

1.4 The procurement organisation / transplantation centre should have an organisational chart in place showing the hierarchical structure of the organisation and clear delineation of lines of responsibilities. The position of the Responsible Person (RP) and delegate, the quality function within the operations and all staff involved in the provision of the service should be highlighted.

1.5 All members of staff, including the RP and delegate, should have specific duties, including reference to legislative requirements recorded in written job descriptions and adequate authority to carry out their responsibilities. Job descriptions should be signed and dated by the incumbent.

1.6 Tasks and responsibilities assigned to an individual should be clearly defined, understood and documented. The responsibilities placed on any one individual should not be so extensive as to present any risk to quality or safety.

1.7 The procurement organisation / transplantation centre must ensure that training is provided for all personnel whose duties and activities could affect the quality and safety of organs for transplantation. All personnel must receive initial and continuing training relevant to the duties assigned to them.

1.8 Healthcare personnel directly involved in the processes involved in donation to transplantation must be properly qualified or trained, and competent to perform their tasks. Specific training programmes must be developed for such personnel**.**

1.9 Training methods must be defined and documented and training records must be maintained.

1.10 Training plans including induction, refresher and continued training must be developed for individual staff members and a defined ongoing competency assessment programme must be implemented for relevant personnel.

1.11 Personnel must also be trained in quality principles relevant to their duties and in the broad ethical and regulatory framework in which they work.

2. Non-conformances

Non-conformance includes deviations, incidents, accidents, and Serious Adverse Reactions and Events (SAR/Es).

2.1 Procedures should be in place describing the actions to be taken in the event of non-conformance with established criteria or procedures. Such events should be appropriately logged, documented, investigated and reported as required (Ref. Section 11.)

2.2 The systems in place for the management of non-conformances should be linked as appropriate to the systems in place for the management of Serious Adverse Reactions and Events (SAR/Es).

2.3 An associated system to ensure corrective and preventive actions should be in place. Appropriate corrective actions and/or preventative actions (CAPAs) should be identified and taken in response to investigations, including the need to consider a recall of organs, tissues and cells or the need to quarantine materials.

2.4 An appropriate level of root cause / systems analysis should be applied during the investigation of non-conformances. This can be determined using Quality Risk Management principles. In cases where the true root cause(s) of the issue cannot be determined, consideration should be given to identifying the most likely root cause(s) and to addressing those.

2.5 Where human error is suspected or identified as the cause, this should be justified having taken care to ensure that process, procedural or system based errors or problems have not been overlooked, if present. The process should be reviewed to minimise the risk of recurrence of human error.

2.6 The effectiveness of corrective actions and/or preventative actions should be monitored and assessed, in line with Quality Risk Management principles.

2.7 Where it is considered that a non-conformance other than a SAR/E may have the potential to impact another procurement organisation or transplantation centre, the details of the non-conformance should be formally communicated to them so that they may undertake such investigations and actions as they may consider necessary.

2.8 Data should be routinely analysed to identify quality problems that may require corrective action or to identify trends that may require preventative action.

3. Change Control

3.1 Arrangements should be in place for the prospective evaluation of planned changes, and their approval prior to implementation, taking into account regulatory notification and approval where required.

3.2 Any changes to the processes, materials, equipment and facilities that may impact the quality and safety of organs should be reflected in documentation and where relevant, written procedures.

3.3 After implementation of any change as per 3.2 above, an evaluation should be undertaken to confirm the quality objectives were achieved and that there was no unintended deleterious impact.

3.4 Where temporary and time limited changes are implemented, provisions should be in place to ensure and verify the changes are reversed as appropriate.

4. Complaints

4.1 There should be written procedures describing the action to be taken, including the need to consider a recall, in the case of a complaint concerning any aspect from donation to transplant, from any source, including; donating hospitals and transplantation centres, patients, staff, third party health professionals, transplantation centres in other jurisdictions and third party service providers.

4.2 All complaints should be logged, documented, carefully investigated and dealt with in a timely manner and immediate actions taken as required.

4.3 All the decisions and measures taken as a result of a complaint should be recorded and referenced to the relevant complaint.

4.4 A mechanism to track and trend complaints should be established.

5. Contractual arrangements

5.1 Where steps influencing the quality or safety of organs intended for transplantation, i.e. prescribed activities, are outsourced to a third party, there should be a contract or service level agreement (SLA) in place that describes the roles and responsibilities of all parties in maintaining the quality chain and the quality requirements for the service provided.

5.2 Written agreements should be in place for at least the following third parties;

- Testing laboratories;
- Procurement services independent of the transplantation centre;
- Transport companies;
- Donor hospitals;
- Any service provided by / for an organisation in another country

5.3 Arrangements should be appropriately defined, agreed and controlled in order to avoid misunderstandings which could result in a service of unsatisfactory quality or compromise the quality of an organ.

5.4 Agreements should allow for onsite audits of contracted third parties, other than authorised procurement organisations or transplantation centres, to confirm their compliance with expectations.

5.5 Procurement and transplantation centres should instruct third parties undertaking prescribed activities on the requirement to immediately communicate non-conformances including SAR/Es, to the relevant procurement organisation or transplantation centre.

6. Documentation and record-keeping

6.1 A register of documents within the Quality Management System should be maintained. Documentation should be version-controlled and cover at least the following items:

- A quality manual; a document that gives an overview of the quality related activities of the procurement organisation / transplantation centre;
- Specifications for organs, critical materials;
- Standard operating procedures (SOPs) for all activities that influence the quality and safety of organs and tissues and cells, including the quality management system itself (e.g. document control, change control, recall, complaints, non conformance, contractual arrangements; internal and external audits, SAR/Es);
- Identification of risks and a risk mitigation plan;
- Records on processes performed (e.g. notes on donor selection, procurement reports and quality control);
- Training and competency records of personnel.

6.2 There should be written policies, procedures, protocols, reports and the associated records of actions taken or conclusions reached, where appropriate, for the following examples:

- Validation and qualification of processes, equipment and systems;
- Equipment installation and calibration;
- Maintenance, cleaning and sanitation;
- Investigations of complaints, non-conformances and SAR/Es;
- Internal audits;
- Supplier audits.

6.3 Documents should be approved by appropriate and authorised persons, and should not be handwritten, except for those parts where data have to be entered. Any alterations made to a record should be dated and signed. The system of document control should ensure that only the current version of the documentation is in use and that all relevant personnel have access to the correct version.

6.4 The main objective of the system of documentation utilised should be to establish, control, monitor and record all activities which directly or indirectly impact on all aspects of the quality and safety of organs for transplantation.

6.5 Documentation should enable all steps and all data affecting the quality and safety of the organs to be checked and traced, from the donor to the recipient and *vice versa*. Written documentation ensures that work is standardised and prevents errors that may result from oral communication. Where oral communication is necessary, subsequent written confirmation should be documented.

6.6 Documents relating to donor and organ characterisation must be retained for at least 30 years in accordance with Article 10 (3) (b) of the European Directive 2010/53/EU and Regulation 18 (4) of S.I. No. 325. International and national regulations on data protection must be taken into consideration.

6.7 Data can also be stored in soft-copy form, for instance on computer or microfilm. Users should only have access to those categories of data for which they are authorised.

6.8 Computerised systems should be validated. Decisions on the extent of validation of data integrity, reliability and availability should be based on a justified and documented risk assessment.

6.9 The hardware and software of computers should be regularly checked to ensure reliability. Only authorised persons should make changes to computerised systems and any such changes should be validated before use. In addition, appropriate hardware and software should be in place to guarantee secure back-up. Facilities should have an alternative system that ensures continuous operation in the event that computerised data are not available.

6.10 Data should be secured by both physical and electronic means against damage. Stored data should be checked for accessibility, readability and accuracy. Access to data should be ensured throughout the retention period.

7. Contents of the Procurement Organisation / Transplant Centre files

Donor files should be structured in a fashion that allows ease of review of the donation-transplantation processes by all healthcare professionals. It should allow individuals to identify if data are missing from the file and facilitate the internal audit process.

7.1 The Procurement Organisation donor file should contain as a minimum:

- A potential donor offer form including details of the unique identifier applied
- The consent of the living donor or the assent / consent of the next of kin for deceased donation
- A record of the decision to contact the coroner
- A record of donor characterisation
- The confidential health lifestyle questionnaire
- Clinical details of the donor at the time of procurement
- Haemodilution details, when required
- Virology, Serology and Molecular Reports
- Details of procurement teams
- A description of the organs and tissues and cells procured
- Documentation of any non-conformance or SAR/E associated with procurement
- A means to identify the recipient(s) and transplantation centre(s) utilising organs and tissues and cells

7.2 The Transplantation Centre donor file should contain as a minimum:

- A means to identify the donor
- A means to identify the recipient
- The consent of the living donor or the assent / consent of the next of kin for deceased donation
- The confidential health lifestyle questionnaire
- Virology, Serology and Molecular Reports

- A checklist and details of procurement equipment and materials / procurement report / including a copy of the labelling applied
- Details of receipt of the organ at the transplant centre
- Any other tests on the donor / organ performed by the transplantation centre
- Description of quality of the organ on receipt in theatre
- Details of the organ preparation in the theatre
- A list of non conformances associated with the organ
- Release of the organ for use
- A record of the transplant surgery and listing of any non conformance / serious adverse event or reaction associated with the quality and safety of the organs

8. Self-assessment, internal audit and external audit

8.1 There should be periodic management review, with the involvement of senior management, of the operation of the Quality Management System, to identify opportunities for continual improvement of processes and the system itself.

8.2 Procurement organisations and transplantation centres should have a procedure in place defining the organisations approach to internal and external auditing. This should include procedures for performing the audit, reporting of deficiencies and implementation of corrective and preventative actions.

8.3 All audits should be documented and recorded. Clear procedures need to be in place to ensure that the suggested corrective actions are undertaken appropriately. These actions and their completion should be recorded.

8.4 Audits should be scheduled and conducted in an independent way by designated, trained and competent persons.

8.5 A process of third party supplier evaluation should be in place to confirm their compliance with expectations. SLAs in place with contracted third party suppliers should allow for onsite audits. (Ref.: Section 5, "Contractual arrangements")

PART II – REQUIREMENTS FOR THE QUALITY AND SAFETY OF ORGANS FOR TRANSPLANTATION

9. Traceability

Principle:
There must be a system that enables the path taken by each donation to be traced from the donor to the recipient or disposal and *vice versa*. This system must allow for organs or tissues and cells to be definitively traced to their source and to their destination. The system must fully respect the confidentiality of both donor and recipient while allowing for the traceability of all records relating to all steps from donation to transplantation or disposal. Confidentiality and data security measures should be in compliance with European Union and national provisions.

Requirements:

9.1 Each donor and associated organs, tissues and cells must be assigned a unique identifier that may also serve as a lot/batch number to identify them during all steps, from collection to distribution and utilisation. This unique number should be used to link the donor to all tests, records, grafts and other material and, for tracking purposes, to the recipient.

9.2 There should be a system to record the batch number of all critical materials, consumables and reagents that come in contact with the organ.

9.3 There should be a system to record the date and the identities of personnel involved for each significant step of the chain from donation to transplantation.

9.4 There should be regular audits of the system to ensure traceability as part of the internal audit system.

10. Recall and Tracing of Organs

Principle:
A recall of an organ or tissues and cells is a set of actions taken by a procurement organisation or transplantation centre in order to remove an organ or tissues and cells from distribution prior to transplantation.

In the event of a recalled organ having been transplanted, it is necessary to trace and monitor the recipients involved.

Requirements:
10.1 There must be written procedures for tracing and/or recalling organs and associated tissues and cells suspected of not satisfying the required quality and safety requirements.

10.2 All recalls should be logged, documented, carefully investigated and dealt with in a timely manner.

10.3 The effectiveness of communication between procurement organisations and transplantation centres and the arrangements for recalls should be evaluated regularly.

10.4 Where it is considered that a recall may have the potential to impact another procurement organisation or transplantation centre, including those involved in organ exchange overseas, the details of the recall should be communicated to them without delay so that they may undertake such investigations and actions as they consider necessary.

11. Vigilance System / Serious Adverse Reactions and Events (SAR/Es)

Principle:

A programme of Vigilance and Surveillance (V&S) is essential for ensuring quality and safety of organs for transplantation. While the quality management system focuses on preventing errors and maintaining consistent quality standards on organs for transplantation, occasionally residual risks or procedural errors result in graft failures, disease transmissions or situations where donors or patients were exposed to risk, even if not harmed. The main objective of an organ V&S system is the comprehensive prevention of these residual risks or procedural errors. The immediate preventive action is on affected or potentially affected patients. However, there is an additional prevention strategy based on the concept of surveillance; the analysis of pooled data may provide indicators and information on stratification of the risks that might be very useful for future risk management and interpretation of the cases reported.

Appropriate communication and co-ordination between procurement organisations and transplantation centres are of utmost importance for efficient vigilance. Any organisations or bodies involved in donation and transplantation activities should have operating procedures in place that describe how to collect, report, investigate and communicate notifications. The identification of a local co-ordinator, who has responsibility for V&S specified in their job description, is an effective measure.

The reporting of serious adverse events and reactions represents important learning opportunities that can help all procurement organisations, transplantation centres and regulatory authorities, and not just those involved in the incident in question, to improve their processes and to achieve higher levels of safety and quality.

As set down in S.I. No. 325 of 2012:

"serious adverse event" means any undesired and unexpected occurrence associated with any stage of the chain from donation to transplantation - :

(*a*) that might lead to the transmission of a communicable disease,

(*b*) that might lead to death or life-threatening, disabling or incapacitating conditions for patients, or

(*c*) which results in, or prolongs, hospitalisation or morbidity;

"serious adverse reaction" means an unintended response, including a communicable disease, in the living donor or in the recipient, that might be associated with any stage of the chain from donation to transplantation -:

(*a*) that is fatal, life-threatening, disabling or incapacitating, or

(*b*) which results in, or prolongs, hospitalisation or morbidity.

Requirements:

11.1 Each procurement organisation or transplantation centre must have in place operating procedures for the management of a serious adverse event or a serious adverse reaction, and which define:

- Relevant and necessary information to be recorded concerning serious adverse events that may influence the quality and safety of organs and that may be attributed to the testing, characterisation, procurement, preservation and transport of organs, as well as any serious adverse reaction observed during or after transplantation, which may be connected to those activities;
- The management measures taken with regard to such a serious adverse event or reaction.

11.2 The procedures in place should ensure that:

- Staff responsibilities for the management of SAR/Es are clearly defined.
- Immediate actions can be taken to ensure risk limitation, including:
  - o effective use of traceability information to ensure all organs, tissues and cells related to a particular donor or donation can be identified and recalled if necessary;
  - o effective communication with other establishments or third parties affected or implicated in the SAR/E.

11.3 Serious adverse reactions and events that may influence the quality and safety of organs must be reported simultaneously and without delay to ODTI and HPRA.

11.4 Arrangements must be in place to make endeavours to follow-up living donors:

- for the purposes of identifying and managing any event potentially relating to the quality and safety of the donated organ and any serious adverse reaction in the living donor that may result from the donation;
- to identify, report to ODTI and HPRA, and manage any such event / reaction.

11.5 All records associated with a SAR/E must be retained for 30 years after donation.

12. Procurement Organisations and Transplantation Centres

Principle:

As set down in Directive 2010/53/EC and S.I. No. 325 of 2012:

"Procurement Organisation" means a healthcare establishment, a team or a unit of a hospital, a person, or any other body which undertakes or coordinates the procurement of organs, and is authorised to do so by the HPRA in accordance with these regulations."

Prescribed activities related to the procurement of organs include the following;

- Organ donation;
- Donor characterisation (including donor testing);
- Organ characterisation;
- Organ procurement;
- Organ preservation;
- Making arrangements for the transport of an organ.

"Transplantation Centre" means a healthcare establishment, a team or a unit of a hospital or any other body which undertakes the transplantation of organs and in the case of transplantation centre in the State is authorised to do so by the HPRA in accordance with these regulations."

Prescribed activities related to the transplantation of an organ may include the following;

- Donor characterisation;
- Organ characterisation;
- Organ preservation;
- Organ transplantation;
- Making arrangements for the transport of an organ;

Requirements:

12.1 Before proceeding to transplantation, transplantation centres are required to verify that;

- The donor and organ characterisation are completed and recorded;
- The conditions for the preservation and transport of organs have been maintained in accordance with this Framework.

12.2 Procurement organisations / transplantation centres are required to establish and maintain a Quality Management System in accordance with the requirements set out in Part I of this Framework.

12.3 Procurement organisations / transplantation centres are required to demonstrate compliance with the requirements set out in Part II of this Framework.

12.4 A prescribed activity may only be carried out by, in or on behalf of a procurement organisation or transplantation centre acting in accordance with an authorisation granted by the HPRA, subsequent to the HPRA having satisfied itself that such prescribed activity shall be carried out by persons complying with the requirements of relevant national regulations and the Directive. Notwithstanding this, a procurement organisation or a transplantation centre carrying out a prescribed activity on the coming into force of those regulations may continue to carry out such prescribed activity provided that it has submitted an application for authorisation to the HPRA no later than 6 weeks after the signing of those regulations and only until the HPRA has made a decision on that application.

12.5 Procurement organisations / transplantation centres are required to notify the HPRA in writing of any substantial changes they intend to make in the prescribed activities it is authorised to perform, or in relation to the nominated Responsible Person, and obtain authorisation of the change from HPRA in advance of the change being implemented. Procurement organisations / transplantation centres should also notify ODTI of the application.

13 Premises, Equipment and Materials

Premises

Principle:

Premises should be designed, located, constructed, adapted and maintained to suit the operations to be carried out. Their layout and design should aim to minimise the risk of errors and permit operations to proceed in an orderly sequence, and should allow for effective cleaning and maintenance in order to avoid any adverse effect on the quality and safety of the organs intended for transplantation.

Requirements:

13.1 Donor selection should be performed on the premises of the donating hospital where the donation process is carried out.

13.2 The procurement and transplantation of organs must take place in operating theatres which are designed, constructed, maintained and operated in accordance with adequate standards and best medical practices.

13.3 Within procurement organisations / transplantation centres, storage areas should be of sufficient capacity to allow for the orderly storage of the critical equipment, materials, consumables, instruments and reagents used in organ procurement / transplantation.

13.4 All equipment, materials, consumables, instruments and reagents that come into direct contact with the organ or can influence the quality and safety of the organ either directly or indirectly are considered critical.

13.5 Storage conditions for critical items should be controlled, monitored and checked; this includes temperature mapping and monitoring where appropriate. Alarms should be present to indicate when storage temperatures fall outside acceptable levels. Alarms should be regularly checked. The actions to be taken in response to alarms should be defined.

13.6 Storage areas should allow for the adequate segregation of those critical items in quarantine and those released for use.

13.7 There should be dedicated, secure, and monitored areas for any interim storage of organs prior to transplantation.

Equipment and Materials:

Principle:

All equipment that might influence the quality or safety of the organ should be designed, validated and maintained to suit its intended purpose and minimise any hazard to donors, recipients or operators. It should be possible to clean such equipment effectively. Maintenance, monitoring, cleaning and calibration should be documented and records should be maintained.

Detailed specifications of reagents and other materials that might influence the quality or safety of organs are required. Only materials from qualified suppliers that meet documented requirements should be used. Manufacturers should provide a certificate of compliance for every lot/batch of such materials.

Equipment and materials should conform to international standards and European and national licensing arrangements, where these exist.

Inventory records should be kept for traceability and to prevent use of materials after their expiry date.

Deviations in the quality and performance of equipment and materials should be investigated and documented promptly. The outcomes of these investigations should be reported in a timely manner to the responsible person and corrective actions taken. For relevant deviations, a notice should be sent to the manufacturer and, where appropriate, reported to the competent authority

The selection, qualification, approval and maintenance of suppliers of equipment, consumables and reagents (critical / organ contact), together with their purchase and acceptance, should be documented as

part of the quality management system. The level of oversight management should be proportionate to the risks posed by the particular equipment or materials, taking account of their source and supply chain.

Requirements:

13.8 There should be a controlled list of equipment utilised by the procurement organisation / transplantation centre. All critical equipment that might influence the quality and safety of the organ should be identified and validated.

13.9 There should be a Validation Master Plan (VMP) in place, to outline the scope of the validation activities performed by the procurement organisation / transplantation centre. This should include a defined list of equipment, facilities and processes which require validation / qualification and provide an overview of how validation / qualification will be achieved and maintained.

13.10 There should be defined protocols in place for the validation / qualification of critical equipment and processes.

13.11 There should be a system in place for the management of planned preventative maintenance (PPM), verification and calibration of each piece of critical equipment.

13.12 There should be a defined cleaning schedule in place for all pieces of critical equipment.

13.13 All documentation and records related to the validation and qualification, calibration, maintenance, and cleaning of critical equipment should be retained. It may be considered acceptable to retire certain documentation (e.g. raw data supporting validation reports) where the data has been superseded by a full set of new data.

13.14 There should be a register of all critical equipment, materials, consumables and reagents that come in contact with organs.

13.15 There should be a list of approved suppliers of such materials.

13.16 There should be a system in place for stock management and reconciliation.

13.17 Procurement and Transplantation Centres should have procedures in place for the management of critical materials to ensure that all such materials are identified as suitable and correct prior to their intended use.

13.18 Materials, instruments, consumables and reagents used in procurement and transplantation should, if approved for single use, only be used once.

13.19 When reusable materials or instruments are used in organ procurement / transplantation, they should be subject to an appropriate cleaning and sterilisation procedure for removal of infectious agents.

13.20 For traceability purposes, records of any critical materials, instruments, consumables and reagents used at any stage throughout the transplantation chain should be stored for 30 years after donation. There should be a system for tracing such materials, instruments, consumables and reagents back

to the organs procured / transplanted. As a minimum, records of the manufacturer and batch number are required to be retained for traceability.

14 Donor and Organ Characterisation

Principle:

To ensure the quality and safety of organs for transplantation from deceased and living donors, information must be available to permit characterisation of organ donors and donated organs.

Characterisation will enable the recipient centre to identify and document any risks associated with the use of an organ, in order to allocate it to a suitable recipient.

The decision to use an organ for transplantation is the responsibility of the implanting surgeon based on the information available.

Information from a potential donor's medical, family and social history, physical examination and complementary tests should be collected for the adequate characterisation of the organ and the donor. To obtain an accurate, reliable and objective history, interviews must be performed with the living donor or, in the case of deceased donation, with the relatives of the deceased donor, during which the potential risks and consequences of donation and transplantation are explained.

Requirements:

14.1 The minimum mandatory information required for donor and organ characterisation is defined as the 'Minimum Data Set' and is specified in Part A of the Annex to the EU Directive. This data set must be collected for all donors.
The required data set is reproduced in Annex 1 of this document.

14.2 In cases where the minimum data set is not available, a transplantation centre may still consider using an organ for transplantation. Any decision to do so must take into account the benefit to the intended recipient of the donated organ, versus the risks posed by the lack of information available. The transplant surgeon must document the decision and the risk-benefit analysis undertaken, in the recipient's medical records.

14.3 Information in the 'Complementary Data Set' as defined in Part B of the Annex to the EU Directive must be collected when it is considered necessary by a transplant centre to permit adequate characterisation of a particular donor and donated organ. The decision to collect this information will take into account the availability of the information, and the individual circumstances of the donor and the potential recipient of the donated organ.

The required data set is reproduced in Annex 1 of this document.

14.4 Operating procedures should be in place defining the responsibilities for the collection of data and defining how the data is collected.

14.5 Donor interviews should be conducted using a medical/sexual/social history questionnaire that includes applicable contraindications/exclusion criteria and other relevant questions, and should be documented in the form of a checklist where the response/outcome for each criterion is recorded.

14.6 In the case of living donation, donor characterisation should be performed as close to the time of retrieval as feasible.

14.7 The ODTI and procurement organisations must ensure that the tests required for organ and donor characterisation shall be carried out by laboratories with suitably qualified or trained and competent personnel and adequate facilities and equipment.

14.8 The ODTI and procurement organisations must ensure that organisations, bodies and laboratories involved in organ and donor characterisation have appropriate operating procedures in place to ensure that the information on organ and donor characterisation reaches the transplantation centre in due time.

14.9 Where tissues and cells for transplantation are to be procured from a donor of both tissues and organs e.g. heart valves procured for transplantation from a deceased kidney donor; donor characterisation should additionally include those criteria defined in Schedule 1 of S.I. NO. 158 of 2006, European Communities (Quality and Safety of Human Tissues and Cells) Regulations 2006**.**

14.10 Principles of best practice should be applied to the peri-operative assessment of donor and organ characterisation.

14.11 Information on donor and organ characterisation must be received by the transplant centre within a time period that will not compromise the quality and safety of the organ.

14.12 Each transplantation centre shall ensure that they have received all relevant information about the donor and donated organ to enable a decision to be made on its suitability for transplant.

14.13 Each transplantation centre must ensure that organs have been transported appropriately and that all documentation and samples (where relevant) accompanying an organ are checked for unique identifiers.

15 Consent

15.1 Organs must not be procured in the case of a living donor unless the donor has given informed consent to the donation or the donation is otherwise permitted by law.

15.2 Organs must not be procured in the case of a deceased donor unless assent / consent to the donation has been given by the deceased donor's next of kin.

16 Preservation, preparation, packaging, labelling and transport of organs

16.1 Preservation, preparation, packaging, labelling and transportation of organs must be in accordance with clear and detailed instructions, and adherence to these instructions is required to obtain a defined quality.

16.2 During the entire process, all containers must be clearly labelled. There should be instructions concerning the type and method of labelling.

16.3 Procurement material and equipment which could affect the quality and safety of an organ must be managed in accordance with relevant European Union, international and national legislation, standards and guidelines on the sterilisation of medical devices.

16.4 With regards to transporting organs; procurement organisations and transplantation centres must ensure the following:

- The organisations, bodies or companies involved in the transportation of organs have appropriate operating procedures in place to ensure the integrity and quality of the organs during transport and a suitable transport time.

- The shipping containers used for transporting organs are labelled with the following:
    - o Identification of the procurement organisation and the establishment where the procurement took place, including their addresses and telephone numbers.
    - o Identification of the transplantation centre of destination, including its address and telephone number.
    - o A statement that the package contains an organ, specifying the type of organ and, where applicable, its left or right location and marked 'HANDLE WITH CARE' and
    - o Recommended transport conditions, including instructions for keeping the contained at an appropriate temperature and position.

  The above requirement need not be met where transportation is carried out within the same establishment.

- The organs transported are accompanied by a report on the organ and donor characterisation

16.5 The acceptable time between organ recovery and transplantation can vary depending on the nature of the organs. Therefore, there is a need to ensure that the time of release meets accepted safety standards. Safety and quality evaluation procedures should take these differences in transplant time frames into account; in particular, they should include the cold ischemia time as a composite, but very strong, quality indicator of the conditions surrounding transplantation.

17 Quality and safety aspects of living donation

17.1 Procurement organisations must endeavour to obtain all necessary information from the donor and provide him or her with the information he or she needs to understand the consequences of donation.

17.2 Organs must not be procured in the case of a living donor unless the donor has given informed consent to the donation or the donation is otherwise permitted by law.

17.3 Procurement organisations must:

- Take all necessary measures to ensure the highest possible protection of living donors in order to fully guarantee the quality and safety of organs for transplantation and
- Ensure that living donors are selected on the basis of their health and medical history, by suitably qualified or trained, and competent professionals

17.4 Selection assessments carried out may provide for the exclusion of persons whose donation could present unacceptable health risks.

17.5 The ODTI and transplantation centres must:

- Ensure that a register or record of the living donors is kept, in accordance with European Union and national provisions on the protection of personal data and statistical confidentiality;
- Endeavour to carry out the follow up of living donors and;
- Implement and maintain a system in order to comply with requirements as laid out in the Vigilance/SARE section and to identify, report and manage any event potentially relating to the quality and safety of the donated organ, and hence of the safety of the recipient, as well as any serious adverse reaction in the living donor that may result from the donation.

18 Exchange of Organs Overseas

18.1 Where a procurement organisation or transplantation centre is involved in organ exchange between Member States of the European Economic Area, operating procedures must be in place which clearly define the relevant roles and responsibilities of all parties and associated designated personnel with respect to the transmission and review of all information relevant to the quality and safety of the organs concerned.

18.2 Where some of the information regarding organ information and donor characterisation is not available for transmission prior to exchange and becomes available later, it must be transmitted in due time to allow for medical decisions.

18.3 Organ exchange with third countries must only be allowed where the organs:

- Can be traced from the donor to the recipient and vice versa, and
- Meet quality and safety requirements equivalent to those laid down in national and European legislation

APPENDIX 1

Annex I

ORGAN AND DONOR CHARACTERISATION

PART A

Minimum data set

Minimum data – information for the characterisation of organs and donors, which has to be collected for each donation.

Minimum data set

The establishment where the procurement takes place and other general data

Type of donor

Blood group

Gender

Cause of death

Date of death

Date of birth or estimated age

Weight

Height

Past or present history of IV drug abuse

Past or present history of malignant neoplasia

Present history of other transmissible disease

HIV; HCV; HBV tests

Basic information to evaluate the function of the donated organ

Annex I - *(continued)*

ORGAN AND DONOR CHARACTERISATION

PART B

Complementary data

Complementary data – information for the characterisation of organs and donors to be collected in addition to minimum data specified in Part A, based on the decision of the medical team, taking into account the availability of such information and the particular circumstances of the case, in accordance with the second subparagraph of Article 7(1).

Complementary data set

General data

Contact details of the procurement organisation/the establishment where the procurement takes place necessary for coordination, allocation and traceability of the organs from donors to recipients and vice versa.

Donor data

Demographic and anthropometrical data required in order to guarantee an appropriate matching between the donor/organ and the recipient.

Donor medical history

Medical history of the donor, in particular the conditions which might affect the suitability of the organs for transplantation and imply the risk of disease transmission.

Physical and clinical data

Data from clinical examination which are necessary for the evaluation of the physiological maintenance of the potential donor as well as any finding revealing conditions which remained undetected during the examination of the donor's medical history and which might affect the suitability of organs for transplantation or might imply the risk of disease transmission.

Laboratory parameters

Data needed for the assessment of the functional characterisation of the organs and for the detection of potentially transmissible diseases and of possible contraindications with respect to organ donation.

Image tests

Image explorations necessary for the assessment of the anatomical status of the organs for transplantation.

Therapy

Treatments administered to the donor and relevant for the assessment of the functional status of the organs and the suitability for organ donation, in particular the use of antibiotics, inotropic support or transfusion therapy.

APPENDIX 2

Membership

Name	Title and organisation
Ciara Norton Co-chair	Chief Operations Officer ODTI
Ms Anne Hayes Co-chair	Inspections Manager HPRA
Prof Jim Egan	Director ODTI
Edel Ward	Quality Manager Mater Misericordiae University Hospital / ODTI
Yvonne Williams	Quality Manager Beaumont Hospital / ODTI
Denise O'Toole	Quality Manager St Vincent's University Hospital / ODTI
Gerard Sheridan	Interim Blood Tissues and Organs Manager HPRA
Richard Forde	Blood, Tissues and Organs Inspector HPRA
Donna Harkin	Blood, Tissues and Organs Vigilance Officer HPRA
Niamh Arthur	Pharmacovigilance Manager HPRA
Laura Hickey	Blood Tissues and Organs Scientific Officer HPRA
Helen Shortt	Chief Operations Officer Beaumont Hospital
Anne Cooney	Database Manager St Vincent's University Hospital
Lars Nolke	Transplant Surgeon Mater Misericordiae University Hospital
Mary Keogan	Medical Director, NHISSOT Laboratory, Beaumont Hospital
Aoife Coffey	Transplant Co-ordinator St Vincent's University Hospital

References

European Directive 2012/25/EU of the European Parliament and of the Council of 9th October 2012 laying down information procedures for the exchange, between Member States, of human organs intended for transplantation.

European Directive on the Quality and Safety of Organs Intended for Transplantation (EU Directive 2010/53/EU), of the European Parliament and of the Council of 7 July 2010 on standards of quality and safety of human organs intended for transplantation

'Guide to the quality and safety of organs for transplantation' published by the European Directorate for the Quality of Medicines & Health Care of the Council of Europe (EDQM), the 5th edition.

S.I. No. 325 of 2012; European Union (Quality and Safety of Human Organs Intended for Transplantation) Regulations 2012.

S.I. No. 198 of 2014, European Union (Quality and Safety of Human Organs Intended for Transplantation) (Amendment) Regulations 2014.