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## Changes in this version

Section 8 – update to 20cm rule for Great Ormond Street.  
Update to link for POL188 on Step 2.

## Policy

*This policy has been created by the Cardiothoracic Advisory Group (CTAG) on behalf of NHSBT.*

*This policy previously received approval from the Transplant Policy Review Committee (TPRC). This committee was disbanded in 2020 and the current governance for approval of policies is now from Organ and Tissue Donation and Transplantation Clinical Audit Risk and Effectiveness Group (OTDT CARE), which will be responsible for annual review of the guidance herein.*

Last updated: *April 2023*

Approved by OTDT Care: *April 2023*

The aim of this document is to provide a policy for the allocation and acceptance of donated hearts to adult and paediatric recipients on the UK national transplant list. These criteria apply to all proposed recipients of organs from deceased donors.

In the interests of equity and justice all centres should work to the same allocation criteria. Non-compliance with these guidelines will be handled directly by NHSBT, in accordance with *POL198: NHS Blood and Transplant Organ Donation and Transplantation: Policy on Non-compliance with Selection and Allocation policies*.

<http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>

It is acknowledged that these guidelines require regular review and refreshment. Where they do not cover specific individual cases, mechanisms are in place for the allocation of organs in exceptional cases that ensure equity and fairness.

The guidance in this document describes how hearts donated by deceased donors are allocated.

### 1. Policy Overview

#### 1.1. **Rationale**

The rationale for this policy is the need to balance the importance of optimising outcomes for patients by selecting the most appropriate recipient for the heart, with the need to give priority to the sickest candidate (while ensuring risk of transplantation is within acceptable limits (estimated >75% chance of survival within 1 year)).

#### 1.2. **Basis of Allocation**

There are three tiers of heart allocation: the Super-Urgent Heart Allocation Scheme (SUHAS), the Urgent Heart Allocation Scheme (UHAS) and the Non-Urgent Heart Allocation Scheme (NUHAS). Selection criteria for these three schemes are documented in the *NHS Blood and Transplant Heart Transplantation: Selection Criteria and Recipient Registration*. **POL229** (<http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>)

Hearts are allocated to individual named patients on a national basis for those on the super-urgent and urgent lists. For patients on the non-urgent list, hearts are allocated on a centre basis for local allocation.

#### 1.3. **Patient Criteria**

Patients meeting criteria for transplantation with organs from deceased donors must be registered with NHS Blood and Transplant. Selection criteria for heart transplantation are

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detailed in the *NHS Blood and Transplant Heart Candidate Selection Policy POL229*.

(<http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>)

The person requesting registration is accountable for the accuracy of the information provided. NHSBT will ensure that patients meet registration criteria and refer back those where the criteria are not met.

#### 1.4. **Transplant Centres**

There are seven heart transplant centres in the UK: Birmingham, Great Ormond Street Hospital, Glasgow, Harefield, Manchester, Newcastle and Papworth. Newcastle transplant adult and paediatric patients, and Great Ormond Street transplant paediatric patients only. The remaining centres transplant adult patients only.

### 2. Donor Information

An adult heart donor is defined as being a patient aged 16 years or above at the time of death. A paediatric heart donor is defined as being a patient aged less than 16 years at the time of death. Contraindications to organ donation are reviewed regularly and revised as needed.

**POL188** *Clinical contraindications to approaching families for possible organ donation*

(<https://www.odt.nhs.uk/deceased-donation/best-practice-guidance/procedural-documents/>)

includes heart specific contraindications. As with all guidelines, these should be used with clinical judgement.

### 3. Recipient Information

Transplantation is associated with risk. It is the responsibility of the surgeon to ensure that the potential transplant recipient understands and accepts the risks associated with organ transplantation as well as the benefits. Obtaining informed consent is a process which involves the whole multi-disciplinary team. NHSBT and the British Transplantation Society have given advice on consent in **POL191** *Guidelines for consent for solid organ transplantation in adults*.

(<http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>)

#### 3.1. **Adult Patients**

An adult patient is generally defined as being a patient aged 16 years or above at the time of registration.

#### 3.2. **Paediatric Patients**

A paediatric patient is defined as being a patient aged less than 16 years at the time of registration. A paediatric patient who reaches their 16<sup>th</sup> birthday while on the waiting list will retain their paediatric status.

#### 3.3. **Small Adult Patients**

A Small Adult is defined as being a patient with a body weight of 30 kg or less at the time of listing. Paediatric patients and Small Adults will generally receive offers for hearts available from a paediatric donor before adult patients.

A centre may request, through the Cardiothoracic Advisory Group (CTAG) Adjudication Panel, registration of a Small Adult, weighing between 30 kg and 40 kg, when there are specific reasons to justify inclusion in this priority group (such as excess fluid retention which may not reflect lean body mass). In such cases, indication for Small Adult listing should be marked on the registration form.

#### 3.4. **Patient Categories**

There are three patient categories for which a patient can be registered. Table 1 indicates which patient category (Paediatric, Small Adult or Adult) a patient is classed in depending upon the registered status of the patient (i.e. by age and whether they are registered as a Small Adult) and which type of centre they are registered at. The type of centre is important because generally a 15 year old patient, for example, registered at an adult centre will, by definition, be of adult size and hence require adult sized organs, whereas generally a 15 year old patient at a paediatric centre will require specialist paediatric treatment and hence paediatric sized organs. However, in some cases, a 'large paediatric' at a paediatric centre may require adult sized organs in which case the patient's medical team may decide to register the patient on the adult list. This must be indicated on the registration form and applies to the UHAS and SUHAS only. A patient will only have one classification and cannot be 'dual listed' to receive offers as part of more than one scheme.

Status of patient	Adult Centre (Harefield, Papworth, Birmingham, Manchester, Glasgow)	Adult & Paediatric Centre (Newcastle*)	Paediatric Centre (GOSH)
<b>Aged under 16</b>	Adult	Paediatric	Paediatric
<b>Aged 16 or above (not Small Adult)</b>	Adult	Adult	Paediatric
<b>Small Adult</b> Aged 16 or above and weight ≤30kg or Aged 16 or above, weight between 30-40kg and agreed by Adjudication Panel	Small Adult	Small Adult	Paediatric
<b>Large paediatric</b> Aged under 16 at a paediatric centre where it has been decided that they should be granted adult status	N/A	Adult	Adult

\* Newcastle is counted as both an adult centre and a paediatric centre in this document.

#### 4. Allocation Zones

In many aspects of the heart offering sequence (Section 5), 'zonal centre' priority is given to the patients at a centre when the donor is located within the centre's allocation zone. Each transplant centre has been assigned an allocation zone, with the exception of Great Ormond Street. This means that every donating hospital is assigned to one of the transplant centre allocation zones, based on geography and donor density. Allocation zones are reviewed annually by CTAG and arrangements made to ensure equity for patients by adjusting the allocation zone boundaries to reflect the demand for transplantation at each centre.

The current list of hospitals in each heart allocation zone can be found on-line at <https://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/allocation-zones/>

#### 5. Heart Offering Sequence

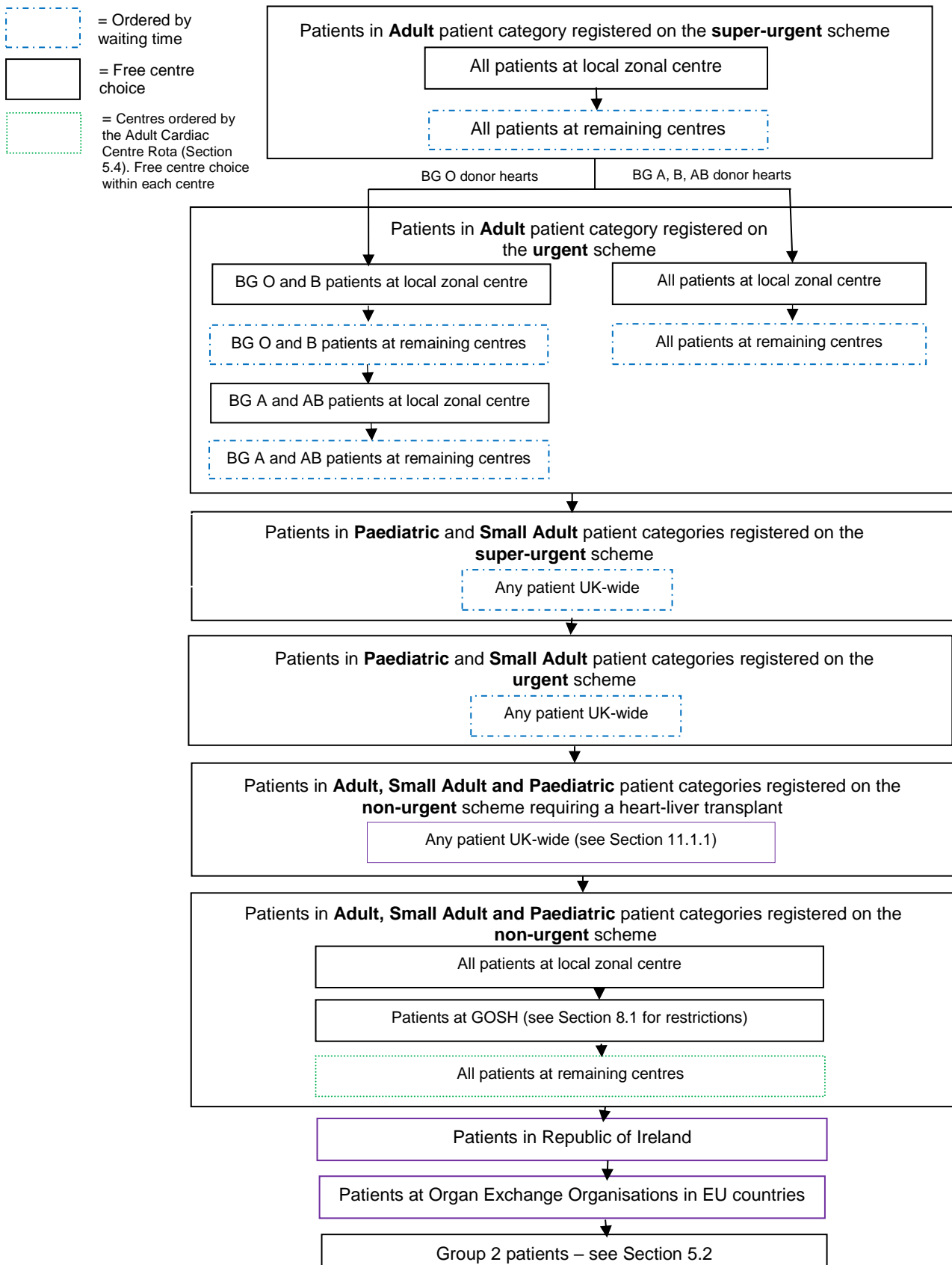
##### 5.1. Group 1 Patients

Offers are made to centres in the priority order indicated in Figure 1 for a DBD adult donor, Figure 2 for DCD adult donor, Figure 3 for a DBD paediatric donor and Figure 4 for a DCD paediatric donor. All diagrams describe the offering sequence for Group 1 patients only; the final step in the offering sequence is to offer to Group 2 patients (as described in Section 5.2).

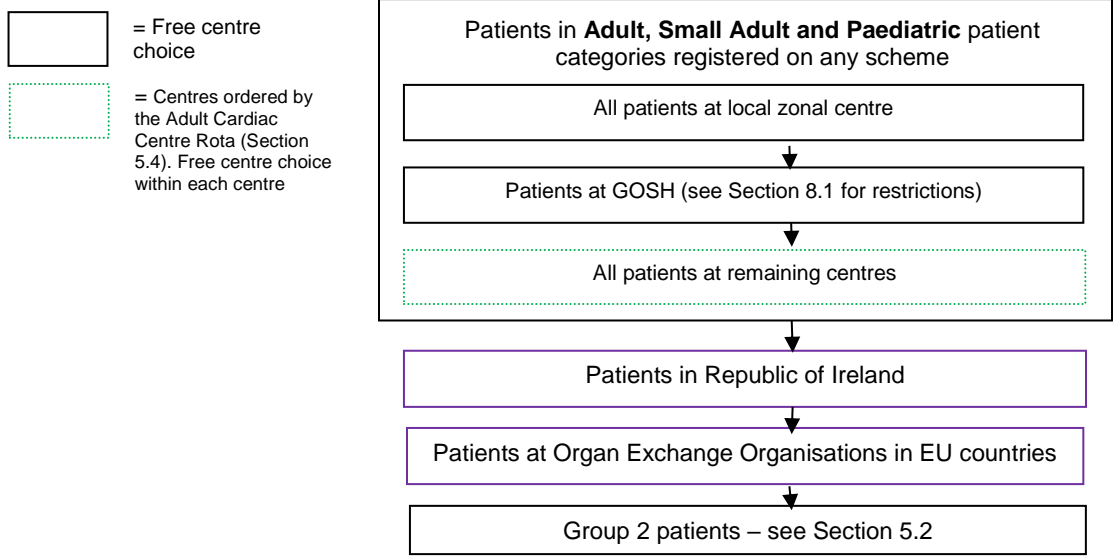
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Group 1 and Group 2 patients are defined in the Directions of NHS Blood and Transplant and reflect NHS entitlement (<https://www.odt.nhs.uk/odt-structures-and-standards/regulation/>). Please note that the current offering sequences for DCD donors as presented in Figures 2 and 4 are being used on an interim basis. Centres will have the freedom to use these organs in any patient on their waiting list.

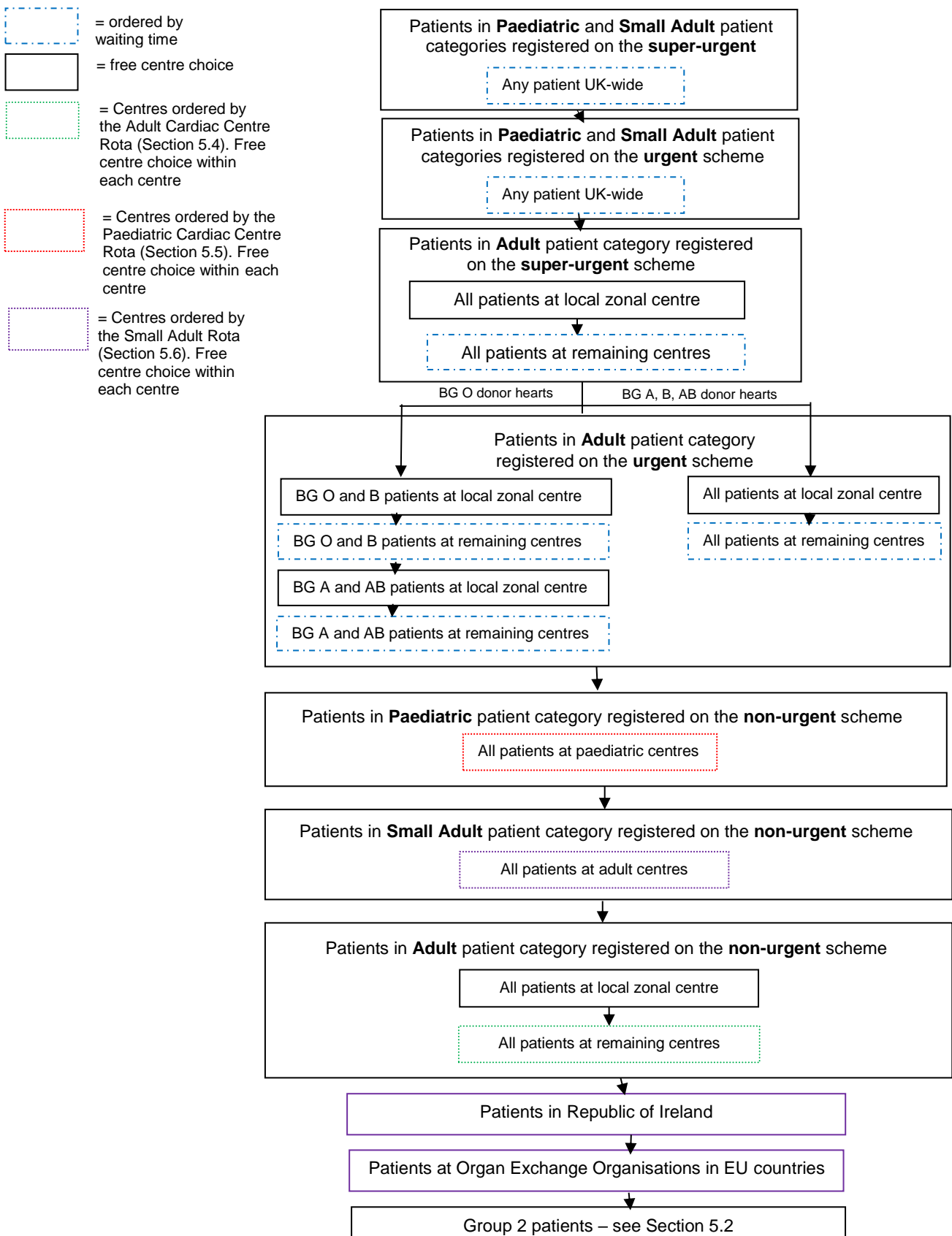
**Figure 1 Allocation for a DBD adult donor heart (donor ≥ 16 years)**



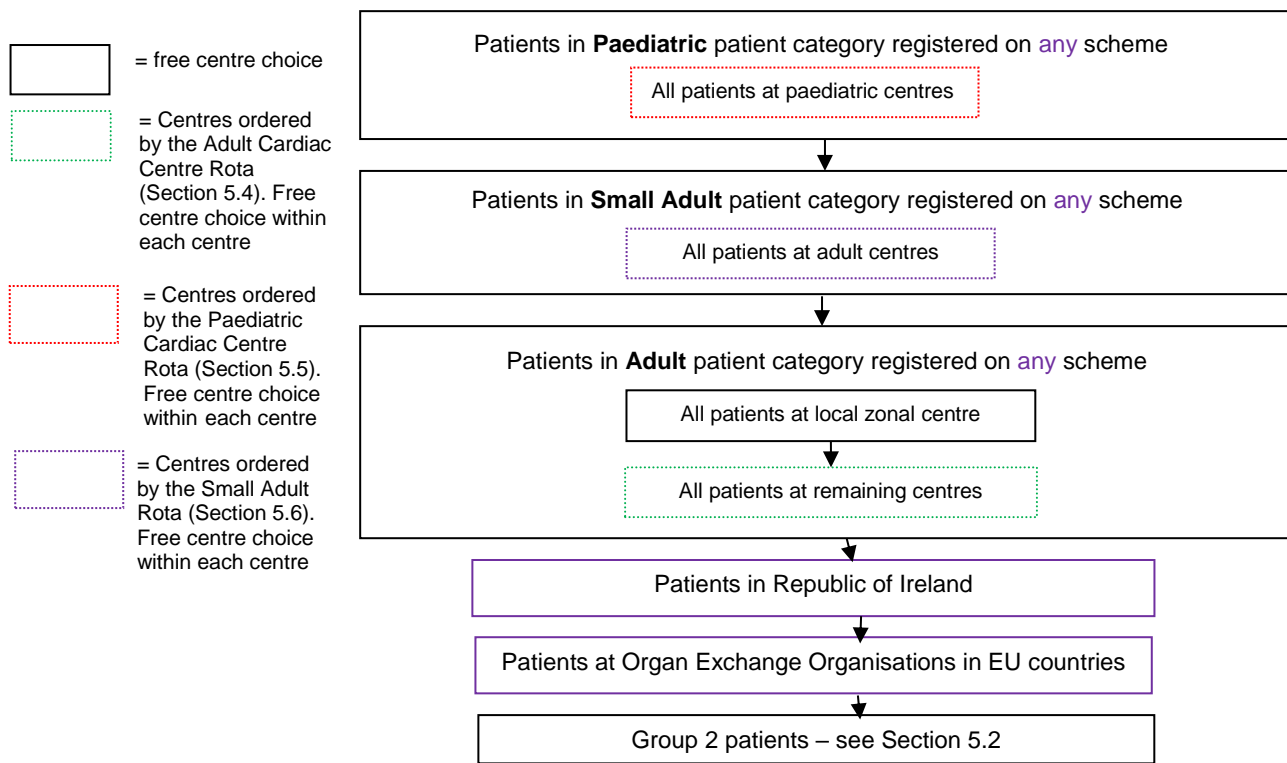
**Figure 2 Allocation for a DCD adult donor heart (donor ≥ 16 years)**



**Figure 3 Allocation for a DBD paediatric donor heart (donor < 16 years)**



**Figure 4 Allocation for a DCD paediatric donor heart (donor < 16 years)**





### 5.2. **Group 2 Patients**

Offers of adult donor hearts to Group 2 patients are made to centres in the following priority order:

1. The local zonal transplant centre
2. All other transplant centres in the UK, according to the Adult Cardiac Centre Rota (see Section 5.4)
3. Organ Exchange Organisations in EU countries

Offers of paediatric donor hearts to Group 2 patients are made to centres in the following priority order:

1. Transplant centres in the UK with a paediatric, according to the Paediatric Cardiac Centre Rota (see Section 5.5).
2. Transplant centres in the UK with a Small Adult registered, according to the Small Adult Rota (see Section 5.6).
3. The local zonal transplant centre for adult patients
4. Centres in the UK for adult patients, according to the Adult Cardiac Centre Rota (see Section 5.4)
5. Organ Exchange Organisations in EU countries

### 5.3. **Donor-Recipient Blood Group Prioritisation**

CTAG acknowledge that blood group O and B patients waiting for a heart transplant are disadvantaged in that they often compete against a greater number of patients for an organ, compared with blood group A and AB registered patients. The main reason for this is due to blood group compatibility (as shown in Table 2) and the distribution of blood groups in the donor population. For this reason, for O donors, in some aspects of the offering sequence, O and B patients are prioritised ahead of A and AB.

**Table 2: Donor-Recipient blood group compatibility**

Donor	Recipient			
	O	A	B	AB
O	C	C	C	C
A	-	C	-	C
B	-	-	C	C
AB	-	-	-	C

C= Compatible

### 5.4. **Adult Cardiac Centre Rota**

Donor hearts are allocated to non-urgent patients in the Adult category (see Table 1) on a centre basis. After the zonal centre (and GOSH in the case of adult donor hearts), the order in which centres are prioritised follows the Adult Cardiac Centre Rota, as follows:

- All adult centres are ordered in reverse-chronological order of last transplant date for non-urgent Adult patients when organs (from an adult or paediatric donor, DBD or DCD) are accepted and used from outside of their own allocation zone.
- If a centre accepts and uses an organ from within their own zone, it does not move position on the rota.
- As each centre carries out a transplant for non-urgent Adult patients using an organ donated from within the UK and imported from another zone, it will be moved to the bottom of the rota.
- A centre transplanting an organ donated from outside the UK will retain its place and not be moved to the bottom of the rota.
- A centre accepting a heart-lung block for transplant into a non-urgent Adult patient will be rotated to the bottom of both the Adult Cardiac Centre Rota and the Adult Lung

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Centre Rota (see **POL230**: Donor Lung Distribution and Allocation policy <http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>).

### 5.5. **Paediatric Cardiac Centre Rota**

Donor hearts are allocated to non-urgent patients in the Paediatric category (see Table 1) on a centre basis. The order in which centres are prioritised follows the Paediatric Cardiac Centre Rota, which consists of the two paediatric transplant centres and is calculated as follows:

- Paediatric centres are ordered in reverse-chronological order of last transplant date for non-urgent Paediatric patients when organs (from an adult or paediatric donor, DBD or DCD) are accepted and used.
- As each centre carries out a transplant for a non-urgent Paediatric patient using an organ donated from within the UK, it will be moved to the bottom of the rota.
- A centre transplanting an organ donated from outside the UK will retain its place and not be moved to the bottom of the rota.
- A centre importing a heart-lung block for transplant into a non-urgent Paediatric patient will be rotated to the bottom of both the Paediatric Cardiac Centre Rota and the Paediatric Lung Centre Rota (see **POL230**: Donor Lung Distribution and Allocation policy <http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>).

### 5.6. **Small Adult Rota**

Donor hearts are allocated to non-urgent patients in the Small Adult category (see Table 1) on a centre basis. The order in which centres are prioritised is determined by the length of time each centre's longest waiting blood group compatible Small Adult has been waiting. The centre with the longest waiting blood group compatible Small Adult will feature at the top of the rota. If a centre has more than one Small Adult waiting, they are able to select which patient to transplant as this is a centre offer.

## 6. Super-Urgent Heart Allocation Scheme

The Super-Urgent Heart Allocation Scheme (SUHAS) is available for patients in the Adult, Small Adult and Paediatric categories (see Table 1).

- For Adults, an offer is made firstly to the local zonal centre whereby the centre selects a suitable recipient from all those registered on the SUHAS at their centre.
- Allowing zonal centre priority means that a centre with a local donor may retain the heart for a super-urgent patient of any blood group even if another similar patient is waiting elsewhere; this will minimise cold ischaemia time and improve the outcome for the patient.
- If the zonal centre declines, offers are then made for each remaining patient on the national SUHAS waiting list in the order of their time spent waiting on the super-urgent list for this registration.
- For Paediatrics and Small Adults, offers are made in the order of their time spent waiting on the super-urgent list of this registration (there is no zonal priority).
- Offers are not made to adult patients who are blood group incompatible with the donor. For paediatric patients only, when a patient is registered, indication can be made to request donor heart offers from 1) compatible donors or 2) donors of any blood group.
- In addition, patients on the SUHAS can be registered with a maximum and minimum donor height and weight they are willing to accept, at the time of registration. These patients will subsequently not receive offers of donor hearts from donors that fall outside of these specified criteria.
- If a patient is suspended from the super-urgent list for more than 14 days the centre should contact ODT Hub Operations to remove them from the waiting list. If the patient needs to be re-activated after 14 days then a new registration form will be required and their waiting time will restart from zero. Centres are responsible for informing ODT Hub Operations when a patient is to be reactivated or removed.

## 7. Urgent Heart Allocation Scheme

The Urgent Heart Allocation Scheme (UHAS) is available for all patient categories and the offering process differs depending on whether the donor is a DBD adult (Figure 1 and Section 7.1) or a DBD paediatric (Figure 3 and Section 7.2).

- Offers are not made to adult patients ( $\geq 16$  years) who are blood group incompatible with the donor.
- When a patient is registered, indication can be made to request donor heart offers from 1) compatible donors or 2) donors of any blood group (option available to paediatric patients only).
- Patients on the UHAS can be registered with a maximum and minimum donor height and weight they are willing to accept, at the time of registration. These patients will subsequently not receive offers of donor hearts from donors that fall outside of these specified criteria.
- A patient that has moved from the SUHAS to the UHAS will retain their waiting time spent on the SUHAS which will be added on to their UHAS waiting time.
- Patients moving from the UHAS to the SUHAS will not retain any waiting time from their urgent registration.
- If a patient is suspended from the urgent list for more than 14 days the centre should contact ODT Hub Operations to remove them from the waiting list. If the patient needs to be re-activated after 14 days then a new registration form will be required and their waiting time will restart from zero. Centres are responsible for informing ODT Hub Operations when a patient is to be reactivated or removed.

### 7.1. Adult Donor Hearts

DBD adult donor hearts are offered to all patients in the UHAS adult patient category before being offered to patients in the UHAS paediatric and Small Adult patient categories (Figure 1). However, large paediatrics at paediatric centres can be registered in the adult patient category to receive offers of adult donor hearts alongside urgent adults at adult centres. Urgent heart patients in the adult patient category are ranked by 1) blood group, 2) local zonal/non-zonal centre and 3) length of time spent waiting on the UHAS for this registration. If offers for all patients in the SUHAS and UHAS adult patient category are declined, the donor heart is then offered to all UHAS patients in the paediatric and Small Adult patient category. These patients are ordered by time spent waiting on the UHAS for the current registration. There is no blood group priority and patients in the Small Adult patient category rank alongside those in the paediatric group.

### 7.2. Paediatric Donor Hearts

DBD paediatric donor hearts are offered to all patients in the SUHAS and UHAS paediatric and Small Adult patient categories before being offered to patients in the SUHAS adult patient category and the UHAS adult patient category (Figure 2). SUHAS patients in the paediatric and Small Adult category are ordered by time spent waiting on the SUHAS and UHAS patients in the paediatric and Small Adult patient category are ordered by time spent waiting on the UHAS this registration. There is no blood group priority and patients in the Small Adult patient category rank alongside those in the paediatric group. Urgent heart patients in the adult patient category are subsequently offered and are ranked by 1) blood group, 2) local zonal/non-zonal centre and 3) length of time spent waiting on the UHAS this registration.

## 8. Non-Urgent Heart Allocation Scheme

The Non-Urgent Heart Allocation Scheme (NUHAS) is available for all patient categories and the offering process differs depending on whether the donor is an adult (Figure 1, 2 and Section 8.1) or a paediatric (Figure 3, 4 and Section 8.2). Organs are allocated on a centre basis. This allows the clinicians to select the most appropriate recipient within their centre, based on need, benefit and other clinical considerations. DCD hearts are currently only offered via the NUHAS, however a centre may choose to accept for a patient that it registered in the UHAS or SUHAS.

### 8.1. **Adult Donor Hearts (DBD or DCD)**

- The order in which transplant centres are allocated donor hearts is as follows:
  - The local zonal centre
  - Great Ormond Street
  - Remaining adult centres ordered by the Adult Cardiac Centre Rota (Section 5.4), excluding the local zonal centre
- When an offer is made to Newcastle through either a zonal offer, or through the Cardiac Centre Rota offering, the centre must consider patients registered in all patient categories (Adult, Small Adult and Paediatric).
- For donors in Harefield's zone, Great Ormond Street can accept the heart after the zonal centre for any recipient. For all other donors, Great Ormond Street can only accept the heart after the zonal centre where the donor-recipient height difference is  $\leq 20$ cm. If the heart is declined by the adult centres, Great Ormond Street can accept for smaller patients when the size-matching rule will no longer apply.

### 8.2. **Paediatric Donor Hearts (DBD or DCD)**

- Organs are allocated preferentially to patients in the Paediatric category according to the Paediatric Cardiac Centre Rota (Section 5.5).
- The second tier of allocation is to patients in the Small Adult category, which are allocated according to the Small Adult Rota (Section 5.6).
- If not accepted for patients in the Paediatric or Small Adult patient categories, the heart is then allocated to non-urgent patients in the Adult patient category on a centre basis. The order in which transplant centres are offered donor hearts is as follows:
  - The local zonal centre
  - Remaining adult centres ordered by the Adult Cardiac Centre Rota (Section 5.4), excluding the local zonal centre.

## 9. Allocation of Donor Organs Within-Centre

For **zonal** super-urgent offers, **zonal** urgent offers and centre-based non-urgent offers, the centre is able to select a suitable recipient from all those listed in the relevant patient category. Selection of recipients within a centre must be done in a transparent and equitable manner with clear lines of accountability for the decision. There should be a documented audit trail so the surgeon can justify the decision.

Factors to be considered when allocating hearts within a centre include:

### 9.1. **Prospective Cross-Match**

Prospective lymphocyte cross-matching may be indicated for certain (sensitised) patients and should be discussed with the recipient Histocompatibility laboratory where practicable and clinically appropriate.

### 9.2. **Size**

This is important for intra-thoracic transplantation as the power output of the transplanted heart has to match the recipient. Small female donor hearts will not necessarily have the power for average sized male recipients.

### 9.3. **Logistics**

Given the consideration of ischaemic time and occasional short notice of organ availability, the logistics of recipient transplantation may come into play in the choice of potential recipient.

### 9.4. **Physiology**

Physiology is particularly important with reference to the pulmonary vascular resistance or the pressure drop across the lungs, which might be important in placing marginal donor organs.

## 10. Heart-Lung Block Allocation

### 10.1. *Non-Urgent Heart-Lung Allocation Scheme*

A non-urgent heart patient who requires a heart-lung block can register on to the Non-Urgent Heart-Lung Allocation Scheme (NUHLAS) by specifying that they also require lungs, in keeping with the criteria for the NUHAS. If the heart has not been accepted by any patient on the SUHAS or UHAS and the lungs have not been accepted for any patient on the Super-Urgent Lung Allocation Scheme or the Urgent Lung Allocation Scheme (see **POL230: Donor Lung Distribution and Allocation policy**) (<http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>), the heart-lung block is allocated according to the Non-Urgent Heart Offering Scheme (Section 8). A centre can either accept the heart-lung block for one recipient or accept the heart for one recipient. If only the heart is accepted, the lungs must be allocated according to the Non-Urgent Lung Allocation Scheme (see **POL230: Donor Lung Distribution and Allocation policy**). (<http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>)

### 10.2. *Urgent Heart-Lung Allocation Scheme*

If a patient requires an urgent heart-lung transplant and the necessary approvals are obtained (see **POL229: Heart Selection Policy** for registration procedure <http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>), the centre may register the patient onto the urgent heart-lung allocation scheme. Urgent heart-lung patients rank amongst urgent heart patients in the DBD donor heart allocation sequences above (see Figures 1 and 3). For the lung, priority is given to urgent heart-lung patients before urgent lung patients, but after super-urgent lung patients (see **POL231: Lung Candidate Selection Criteria** <http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>). If the lungs have been accepted by a centre for an urgent lung patient but another centre requires the lungs for an urgent heart-lung patient, the offer will be withdrawn from the first centre and the lungs will be re-allocated to the centre with the urgent heart-lung patient.

## 11. Other Multi-Organ Allocation

### 11.1. *Combined Heart and Liver*

#### 11.1.1. *Non-Urgent Heart and Liver Transplant*

If a patient is registered on the Non-Urgent Heart Allocation Scheme and also requires a liver, the donor heart will be allocated after all super-urgent and urgent patients but before all other non-urgent patients. This only applies to DBD adult donors (Figure 1); if a centre wishes to accept the heart and liver from a DCD donor or paediatric donor, then this should be requested at time of centre offer and may require centre-centre discussion if the liver has already been placed. The order of patients in this tier will follow the Liver Allocation Sequence, i.e. by liver waiting time, and the donor liver will be allocated before all elective liver only patients but after all super-urgent liver patients, hepatoblastoma patients and intestinal failure patients (see **POL196: Liver Allocation Policy** <https://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>).

#### 11.1.2. *Urgent Heart and Liver Transplant*

Urgent heart patients also requiring a liver must be approved by the CTAG Heart Adjudication Panel prior to listing (see **POL229: Heart Selection Policy** for registration procedure

<http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>).

If approved, the patient will appear in the UHAS and rank amongst urgent heart patients in the DBD donor heart allocation sequences above (Figures 1 and 3). The donor liver will be allocated to such patients before all elective liver only patients but after all super-urgent liver patients, hepatoblastoma patients and intestinal failure patients, however the order will follow the position of patients in the urgent heart scheme as opposed to the liver sequence.

## 11.2. Combined Heart and Kidney

### 11.2.1. Non-Urgent Heart and Kidney Transplant

If a patient is registered on the Non-Urgent Heart Allocation Scheme and also requires a kidney, the donor heart will be allocated via the NUHAS and the centre will request the kidney when responding to the centre offer. The availability of the donor kidney will be subject to any Tier A kidney patients (see **POL186**: Kidney Allocation Policy (<https://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>)).

### 11.2.2. Urgent Heart and Kidney Transplant

If a patient is registered on the Urgent Heart Allocation Scheme and also requires a kidney, the donor heart will be allocated via the UHAS and the centre will request the kidney when responding to the patient offer. The availability of the donor kidney will be subject to any Tier A kidney patients.

## 12. Offering Process

During the offering process the centre should maintain contact with the Specialist Nurse for Organ Donation. If the donor is becoming increasingly unstable and continuing with the offering sequence is likely to jeopardise other solid organ retrieval, the Specialist Nurse for Organ Donation should discuss with the Regional Manager on call whether it would be appropriate to abort the offering sequence. Wherever possible echocardiography (with a maximum wait of 3 hours) and invasive monitoring (including cardiac output studies) should be utilised to endorse this decision.

Hub Operations will offer organs to Super-Urgent, Urgent and Non-urgent patients in accordance with the agreed protocols set out in SOP5139 – Hub Operations Cardiothoracic Manual, the sequences described in this policy, and in line with POL230 Donor Lung Distribution and Allocation Policy (<http://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>).

When first receiving an offer of a donor organ, centres should consider all patients on their list and advise ODT Hub Operations of their decision; whether they would like to accept for the patient for whom the offer is being given, or for a different patient lower down in the offering sequence. Centres should also consider any combined heart-lung recipients (urgent or non-urgent) and inform ODT Hub Operations if the donor is suitable for any such patient. If declining the offer, the reason for decline must be reported to ODT Hub Operations for auditing purposes.

Super-urgent/urgent named patient offers are usually made sequentially while non-urgent offers are made via a Group Offer. At all times the order of patients in the sequence will be honoured and an organ will only be allocated to a patient lower in the sequence if the organ has been declined for all patients above them. If at Group Offer stage, a centre would like to accept the organ for a super-urgent or urgent patient that did not appear in the matching run (for example, due to the size restrictions in place for that patient), the organ will be allocated to the super-urgent/urgent patient over a non-urgent patient.

Offering times:

- Named-patient offers                      45 minutes
- Group offers – Heart or Lung            45 minutes
- Heart Lung Block group offer            60 Minutes
- Fast Track offer                              45 minutes

A centre must only state that they wish to accept if, following full centre discussion, they have identified a specific patient who is suitable for the organ. Once a centre has been identified as the highest ranked accepting centre, additional time to re-consider the offer will not usually be granted so as to minimise delays to the donation process.

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If the heart is declined at retrieval, it may be fast-tracked as per Section 15. In the case of the heart being deemed un-transplantable before knife to skin, Hub Operations will fast track the offer, but if, on visualisation of the heart, the accepting centre clinician and retrieval surgeon agree that the heart is not usable for any patient on the national waiting list, then the heart will not be offered on.

A centre wishing to accept an organ will retain its place on the heart allocation sequence while a decision is pending. If a centre chooses to decline the offer of an organ, it will retain its place in the centre rota.

### 13. Back-up Offering

Guidance on requesting a back-up offer for an accepted organ, where a centre may have concerns about going ahead with the transplant, are provided in **INF1606: Cardiothoracic – Logistic Back-up Offering** (<https://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>).

### 14. Organs from Deceased Donors in Gibraltar

Organs from deceased donors in Gibraltar will be facilitated using the same donor characterisation process as a UK donor and all information can be viewed on EOS. Due to the logistical issues encountered with a flight time of 3 hours, these organs will be offered simultaneously to every centre and centres will have 45 minutes to respond by telephone to Hub Operations if they wish to accept. After 45 minutes, if more than one centre wishes to accept, the organ will be allocated according to the offering sequence.

### 15. Fast Track Offer Scheme

The Fast Track Offer Scheme is initiated in two scenarios:

1. When a heart is available at short notice from a UK donor, i.e.:
  - aortic cross-clamp is expected within 90 minutes of the referral to NHSBT, or
  - the heart has already been removed or is in the process of removal, and
2. When a heart is available from Europe.

The scheme operates as follows:

- Offers of hearts meeting the Fast Track offer scheme criteria will be made to all centres simultaneously.
- Centres must respond to a Fast Track offer to Hub Operations within 45 minutes of the offer if they wish to accept. Hub Operations will not follow-up those centres that do not respond within this time. Centres not responding will be deemed to have declined the offer.
- After 45 minutes, if more than one centre wishes to accept, the heart will be allocated according to the offering sequence, taking into account the urgency of the potential recipients.
- Group 1 patients will be allocated organs before Group 2 patients. Centres accepting for Group 2 patients must wait until the 45 minutes have lapsed to ensure no centre is accepting for a Group 1 patient.

### 16. Blood-borne Positive Donor Virology Scheme

The positive donor virology scheme is initiated when NHSBT is notified that a donor has an initial positive result for any of the markers listed below:

- Hepatitis B surface antigen (not **Hepatitis B** core antibody positive alone, with negative HBsAG)
- Hepatitis C antibody
- HIV 1 and 2 antibody
- HTLV 1 and 2 antibody

The scheme operates as follows:

- Offers of hearts meeting the positive donor virology scheme criteria will be made to all centres simultaneously that have confirmed they wish to be included in the scheme.
- Centres must respond to a positive donor virology offer to Hub Operations within 45 minutes of the offer if they wish to accept. Hub Operations will not follow-up those centres that do not respond within this time. Centres not responding will be deemed to have declined the offer.
- After 45 minutes, if more than one centre wishes to accept, the heart will be allocated according to the offering sequence, taking into account the urgency of the potential recipients.

## 17. Super-Urgent Liver Pathway

Recipients listed for super-urgent liver transplants are at risk of rapid and fatal deterioration during the time between listing and transplantation. The deterioration may occur over hours meaning that the recipient may become untransplantable. To expediate the offering of cardiothoracic organs when offered from the same donor, if a liver is accepted for a super-urgent recipient, all cardiothoracic organ offering will be made via group offer in accordance with the allocation sequence described herein. Heart only group offers will be given 45 minutes and heart-lung block group offers will be given 60 minutes.

## 18. Acceptance of Allocated Organs

It is the responsibility of the recipient surgeon to decide whether to accept an organ and this decision will depend on both donor and recipient factors. Organs from all donors will carry some degree of risk and the risks associated with transplantation must be balanced against the benefits of transplantation and the risks of awaiting a further offer. The recipient is entitled to decline organs from donors with particular characteristics and these wishes should be respected.