

Report: Fixed-term working group to review the allocation policy of donor hearts in the UK (POL228/17)

Clinicians at Great Ormond Street Hospital requested review of the allocation policy for adult donor hearts. After discussion at the CTAG Centre Directors Meeting, it was agreed that a FTWG would be convened to review the allocation policy of adult donor hearts as per POL228/17, with reference to the offering sequence for the three patient age categories.

Background

In the UK, there are currently three patient categories for which a patient can be registered adult, small adult and paediatric. Patients are also sub-categorised into a scheme based on their clinical urgency (super-urgent (SU), urgent (U) and non-urgent (NU)).

The current allocation scheme for adult DBD and DCD hearts (donor \geq 16 years of age) is well documented in Figures 1 and 2 of POL228/17 ([DAT/](#)).

In summary, DBD hearts are offered to patients in the SU and U adult categories first, then to the SU and U paediatric and small adult patients, followed by NU patients (zonally, then GOSH, then remaining centres). For DCD allocation hearts are offered first to adult SU patients, then paediatric SU patients, followed by centre offers (zonally, then GOSH, then remaining centres).

Scope

A FTWG was convened to:

- Review allocation scheme for adult DBD and DCD hearts, with specific reference to the prioritisation of allocation of donor hearts by patient age category.
- Provide an opinion as to whether there is a requirement to implement any change to the current allocation policy (POL228/17).

Membership

Eloise Allen (Paediatric Heart Transplant Recipient)

Sarah Aref (Adult Heart Transplant Recipient)

Paul Callan, Consultant Cardiologist (Manchester)

Jonathan Dalzell, Consultant Cardiologist (Glasgow)

Kathryn Green (Mother of Paediatric Heart Transplant Recipient)

Sern Lim, Consultant Cardiologist (Birmingham)

Maria Monteagudo, Consultant Surgeon (Harefield)

Lisa Mumford, Head of Organ Donation and Transplant Studies (NHS BT)

Mohamed Nassar, Consultant Surgeon (Newcastle (A/P))

Stephen Pettit, Consultant Cardiologist (Chair and Papworth)

Jacob Simmonds, Consultant Paediatric Cardiologist (Great Ormond Street Hospital)

Zdenka Reinhardt, Consultant Paediatric Cardiologist (Newcastle (P))

Sally Rushton, Principal Statistician, Statistics and Research (NHS BT)

Julie Whitney, Head of Service Delivery – ODT Hub (NHS BT)

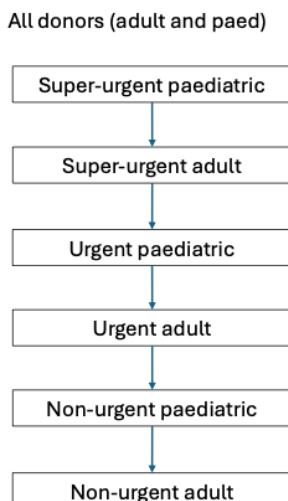
Process

Two FTWG meetings were held on Microsoft Teams (25 April and 10 July 2025). The group reviewed the paper 'Wait list outcomes and post-transplant survival for paediatric heart patients' prepared by Sally Rushton in March 2025. The group reviewed POL228/17. The group considered the Equality Act (2010) with reference to organ allocation systems.

Summary and recommendations

- 1. POL228/17 may disadvantage children on the paediatric waiting list by excluding them from potentially suitable donor organs in the adult donor pool.** This is important because children listed for urgent heart transplantation between 1 April 2018 and 31 March 2023 were 1.6 times more likely to have died by one year than adults (19% versus 12%). Death by one year is more common in younger/smaller children, compared with older/larger children.
- 2. Change to POL228/17 should be considered to reduce waiting times for children.** Greater access to adult organs for older/larger children may allow organs to cascade down to younger and smaller children. FTWG participants thought the UK general population might want care of children to be prioritised above adults where legally permissible. Adult centre representatives supported a change to allocation policy if this would improve equity of access to donor hearts for children.
- 3. Inclusion of age in organ allocation systems is believed to be lawful if clinically justified.** This is the case for liver allocation because (a) age is not the sole variable used to define whether a donor or recipient is adult or paediatric (weight also used), and (b) age is associated with differential outcomes in matching.
- 4. Allocation of super-urgent status to Berlin Heart patients is not advised.** Both paediatric centres thought this would limit access to heart transplantation for patients who are unsuitable for Berlin Heart support.
- 5. Potential sequence changes were proposed by GOSH and Newcastle.** These changes and their impact from an NHS BT operational and IT perspective are summarised below. In addition, SR proposed a third (modified GOSH) proposal which applies the current paediatric allocation sequence to both paediatrics and adults. This would be easy to implement but would prioritise paediatric urgent above adult super-urgent patients, which the FTWG considered unfair.

GOSH proposal



Initial IT/operational review:

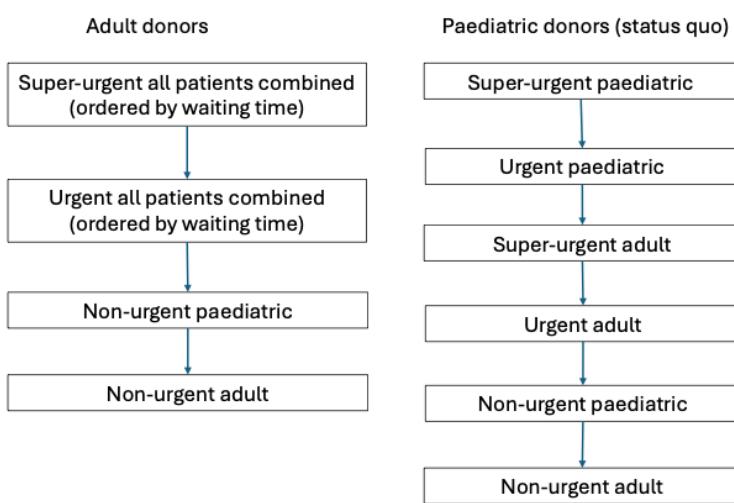
Easy to operationalise but relies on an IT change

- This proposal is similar to the current paediatric donor sequence (where SU adults are third rather than second)
- To switch to the paediatric sequence for ALL donors is a relatively simple IT change and could be done reasonably quickly, if the clinical need was demonstrated
- To implement in the order shown would require change to the matching run order and therefore more development and testing resource

Very risky to implement without an IT change

- Can't manipulate current matching run manually without huge risk of missing tiers/patients
- Paediatric rota doesn't appear for current adult donors currently so would require a separate tool (whiteboard)
- SMT/Exec level approval would be required to implement without IT change
- Offer data would be very difficult to interpret as it is automatically coded based on MR

Newcastle proposal



Initial IT/operational review:

- No perceived operational issues once programmed in the system, however the change to the adult donor sequence is more complex than GOSH proposal as requires combining super-urgent and urgent lists – how would geography be accounted for? Would we be removing zones or creating them for paed?

Impossible to implement without an IT change

- Can't combine paediatric and adult super-urgent or urgent lists based on waiting time as registration date/waiting time is not visible in the current matching run
- Paediatric rota doesn't appear for current adult donors currently so would require a separate tool (whiteboard)

7. Sequence changes could have unintended consequences. For instance, the Newcastle proposal combines the adult and paediatric lists at both super-urgent/urgent levels, and allocates organs according to waiting time. This would effectively eliminate zonal allocation in these tiers. Loss of zonal allocation would mean that an average organ will travel further, leading to greater reliance on air transport (likely to exceed capacity and increase cost), longer total ischaemic times, and potentially higher rates of primary graft dysfunction in adult recipients.

8. Modelling of proposed sequence changes is advisable. It is likely that CTAG Heart would want to understand the likely impact before agreeing changes in practice. In addition, modelling would be essential from an NHS BT operational perspective.

9. Revisions to allocation system should 'aim high' because it takes a long time to deliver change at the Hub. It would be unsatisfactory to invest time in a quick solution, only to recognise that further allocation system modifications were required in future.

10. Wider review of allocation systems may be advisable. Many of our current systems are bound by history, such as allocation zones or age categorisation. There are complex interactions between parts of the allocation sequence. The current project might be incorporated into a wider review of the allocation. The super-urgent heart allocation scheme FTWG recently concluded that the UK should move to a points-based system. However, concern was expressed that a larger project would be time-consuming, may not reach agreement and would miss a chance to help children that are waiting now.

Next steps

1. Modelling of proposed sequence changes. Sally Rushton will undertake modelling of the GOSH and Newcastle proposals for sequence changes.

2. Discussion at CTAG Heart. This report will be discussed at CTAG Heart in September 2025.

Dr Stephen Pettit
29 July 2025