

NHS BLOOD AND TRANSPLANT

LIVER ADVISORY GROUP

Adult National Liver Offering Scheme: Proposed Logistics

NHS Blood and Transplant (NHSBT) have developed criteria for assessing allocation systems for deceased-donor solid organs for transplantation¹. Consideration of these criteria with reference to the current system for allocating organs to patients on the elective liver transplant waiting list has led to the development of a National Liver Transplant Offering Scheme for those patients registered for elective liver transplantation². This document along with the accompanying figures aims to describe the framework within which the Adult National Liver Transplant Offering Scheme will operate. It is not intended to be a standard operating procedure (SOP) rather it provides a basis for the development of an SOP by which offering of liver allografts can take place.

The framework within which the National Liver Transplant Offering Scheme will function may be considered in three parts:

1. Position of the National Liver Transplant Offering Scheme within the hierarchical structure of liver allograft allocation as defined by NHSBT liver allocation policy³.
2. The process by which liver allograft offering will be undertaken utilising the National Liver Transplant Offering Scheme.
3. The process by which allocation and offering of liver allografts that have not been accepted in a timely fashion through the standard processes of the National Liver Transplant Offering Scheme will occur. This will constitute the "Fast-Track" offering process.

Registration of Patients For Elective Liver Transplant

Patients for registration on the national elective liver transplantation waiting list will be selected according to NHSBT policy⁴.

In addition to the information that is currently required at the time of registration for elective liver transplantation patients will be noted to accept/decline the following

1. Donation after cardiac death (DCD) liver allograft
2. Split liver allograft

This will inform the offering sequence determinations allowing individuals to opt out and not receive offers in specific situations. This information may be updated by transplant centres at any time should the individual's circumstances change.

¹ http://www.odt.nhs.uk/pdf/Assessment_of_allocation_policies_for_organ_from_deceased_donors.pdf

² http://www.odt.nhs.uk/pdf/advisory_group_papers/LAG/Allocation_System.pdf

³ http://www.odt.nhs.uk/pdf/liver_allocation_policy.pdf

⁴ http://www.odt.nhs.uk/pdf/liver_selection_policy.pdf

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Hierarchy of Liver Registrations

Donation after brain-stem death (DBD) liver allografts will be offered with the following priority. The current hierarchy⁴ is maintained under the proposed system

1. Super-urgent⁵
2. Hepatoblastoma⁵
3. Multi-organ
4. National Liver Offering Scheme - Elective
 - a. Split
 - b. Whole organ

DCD liver allografts will be offered with the following priority

1. Super-urgent⁶
2. National Liver Offering Scheme – Elective

Split liver allocation process

Liver allografts meeting the criteria for splitting will be offered according to agreed NHSBT liver allocation policy^{3,7}.

The extended right lobe or full right liver allograft will be offered through the National Liver Transplant Offering Scheme after the left lateral section/left liver has been placed.

- The paediatric centre accepting the split will determine the precise nature of the split, and hence the nature of the liver allograft to be allocated through the National Liver Transplant Offering Scheme.
- Sequential offering of left and right sided liver allografts may prolong the offering sequence but transplant centres will know precisely what they are being offered in terms of the right sided liver allograft. Similarly sequential offering will also ensure that if all paediatric centres decline the left-sided liver allograft then all potential recipients for a full graft will be considered in the offering sequence.
- This sequential offering process should not necessarily determine where the liver splitting process is undertaken. The process through which the liver allograft is split should aim to maximise the outcomes for both individuals that have been allocated the split liver allografts.

⁵ If a donation after brain stem death (DBD) liver allograft is split for a paediatric super-urgent or hepatoblastoma patient the contralateral liver allograft will be offered through the National Liver Offering Scheme.

⁶ At the present time the NHSBT liver allocation policy allows for the use of DCD liver allografts in super-urgent patients allowing for units to continue receiving offers after having accepted a DCD allograft up until such time as the DCD liver allograft is deemed transplantable. Currently, the offering of DCD liver allografts to patients on the super-urgent list is not mandated.

⁷ Split liver transplantation currently being considered by specific FTWU and may be subject to change in the near future.

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In the circumstance where a liver allograft that has been accepted for split liver transplantation is subsequently deemed not suitable or declined for splitting then the whole liver allograft will be offered to the individual who has previously accepted the split liver allograft. If the whole graft is not suitable for the previously allocated patient then the whole liver allograft will be re-offered through the National Liver Transplant Offering Scheme if the donor retrieval procedure has not started or the Fast-Track Liver Allocation Scheme if the retrieval procedure has started.

National Liver Transplant Offering Scheme

- Offering sequence generated using the National Liver Transplant Offering Scheme by NHSBT.⁸
- Duty office makes a firm offer of the allograft to transplant centre for individual ranked number 1.
- Transplant centre has 45 minutes to accept/decline/or ask for further information or clarification⁹.
- If centre accepts liver it is deemed to be allocated to the named individual.
- If centre declines then
 - Centre provides reason for decline for the named individual.
 - Centre states whether they would accept/decline this allograft for another individual.
 - § If declined for all individuals on their waiting list the centre will not receive any further offers.
 - Duty office moves down the offering sequence by one place making a firm offer to the next individual patient and a provisional offer to the patient immediately below on the offering sequence.

⁸ The mechanism by which liver allografts are allocated to those patients with variant syndromes requires further development. One proposal is that a percentage of all liver donors (DBD and DCD donors included) are offered to patients that are solely on the liver transplant waiting list with a variant syndrome. As an example if the aim is to allocate 5% of liver allografts to those with variant syndromes then every 20th donor would be allocated to the variant syndrome allocation scheme. The percentage of liver allografts prioritized to patients with a variant syndrome will be linked to the percentage registration of patients with variant syndromes. These patients will be identified at the time of registration. The rules for allocation for patients with a variant syndrome have not yet been defined. Another proposal is for a system whereby "exception points" are allocated to individuals with a variant syndrome.

⁹ The allocation policy needs to ensure efficient offering of liver allografts through minimization of the time required for a decision but allowing for careful consideration of important issues by units in the case of complex donor details.

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§ If a provisional offer has already been made to the transplant centre then said transplant centre will have 30 minutes from the time at which a firm offer has been made within which to make a decision as to whether they would accept or decline the liver allograft. If a centre has not previously received a provisional offer then the centre will have 45 minutes to respond.

- Duty office continues down list until
 - Liver allograft is placed.
 - The liver has been declined for the first 10 patients on the offering sequence.
 - The liver has been declined for the same reason on the basis of the same donor characteristic category by three transplant centres.¹⁰
 - Retrieval has commenced.

Fast-Track Offering

The following organs will be offered on the fast track scheme

- Liver allografts declined for the first 10 patients on the offering sequence.
- The liver has been declined for the same reason on the basis of the same donor characteristic category by three transplant centres.¹⁰
- Any liver initially accepted and then declined after the retrieval has commenced.

The liver will be offered to all centres simultaneously unless they have previously declined for all recipients (see above).

Centres will have 30 minutes in which to state that they would wish to accept the liver allograft. If a liver transplant centre wishes to accept the liver allograft then the transplant centre will provide the name of the individual that they would wish to transplant with the offered liver allograft.

The liver will be allocated to the individual that is furthest up the previously defined offering sequence.

If a liver allograft is not accepted for solid organ transplantation for any patient registered on the national waiting list (Category 1 patient) then the liver allograft will be further offered according to NHSBT policy⁴.

¹⁰ It is recognized that reasons provided for decline of organs to the NHSBT duty office are not consistent and lacks standardization. It is suggested that the current FTWU examining the issue of organ utilization make recommendations with regard to standardized responses from transplant units with regard to decline of liver allograft offers. If standardization can be achieved then any new system of categorization can be used as a trigger for the Fast-Track scheme.