

NHS BLOOD AND TRANSPLANT

Liver Advisory Group

DCD liver screening pilot – Three month review

Background

1. The DCD liver screening pilot was introduced on 1 December 2017, as part of the DCD donor assessment process to further improve donor screening and identify donors with a genuine potential to become an organ donor prior to the family approach. It was agreed by Members of LAG that the pilot would be reviewed after 3 months and the results would be presented at LAG to determine the future of the DCD liver screening.

Data

2. Data obtained from the DCD Donor Assessment and Organ Screening form and the national Potential Donor Audit (PDA) for all potential DCD referrals between 1 December 2017 and 28 February 2018. PDA data presented are as at 9 April 2018. Liver offering data was obtained, for the same time frame, from the UK Transplant Registry.

DCD liver screening activity

3. Between 1 December 2017 and 28 February 2018 there were 1649 DCD assessment forms submitted and 120 donors were screened for suitability for liver donation. Of those patients screened, 100 (83%) were deemed unsuitable for liver donation and the donation process ended. Further analysis is required to determine reasons for unsuitability.
4. The age range of screened livers was 2-83. Average age was 58. Median age 61 with 75% of screening calls for potential donors aged >50 years.
5. From the 20 donors considered suitable for liver transplantation, 11 were offered for liver transplantation, 3 of which were accepted and 1 was utilised. Of the remaining 9 donors considered suitable but not offered, 3 families were not approached, 4 were not consented and 2 were not offered for liver transplantation as the donor was latterly deemed unsuitable. The reasons for non-use are summarised in **Table 1**.

Table 1 Reasons for non-use of DCD livers deemed suitable for offering following liver screening	
Reasons	No. of potential DCD liver donors
Not offered:	9
Families not approached for consent	3
No consent ascertained	4
Liver not offered – donor unsuitable	2
Offered, not accepted:	8
Donor unsuitable – past history	3
Donor unsuitable – age	3
Prolonged time to asystole	2
Accepted, not used:	2
Donor unsuitable – age	1

6. During the first three months of the pilot scheme, a total of 263 DCD livers were offered, of which 45 were transplanted. These include those who did and did not undergo screening. Further work is required to analyse the demographics of transplanted DCD livers vs Potential DCD Liver Donors.
7. Between 1 December 2017 and 28 February 2018, 269 DCD donors were screened for suitability for kidney donation, 187 (70%) were deemed unsuitable. Of those donors considered suitable, 34 had kidneys offered for kidney transplantation, 18 had kidneys accepted and 11 screened donors had kidneys transplanted.
8. The DCD screening process has been designed so that liver screening should take place when kidney screening has deemed the donor unsuitable for kidney donation. 79 (67%) potential DCD donors were screened for liver donation where the kidneys were deemed unsuitable following kidney screening. 23 potential DCD donors were screened when the kidneys were not and the remaining 18 potential DCD donors screened for liver donation were also screened and deemed suitable for kidney donation. The reasons for which are not clear at this stage, but it may be that liver and kidney screening is concurrent in some circumstances.
9. Where local and regional liver screening has occurred the time between local (first) and regional (second) screen calls can be taken as a proxy for the length of time to perform liver screening. Of the potential DCD donors screened for liver donation, 43 had both local and regional screening calls and 35 had valid times recorded for both. The median time taken between local and regional calls was 20 mins (IQR range: 10 mins to 38 mins).

10. The number of local and regional liver screening calls made to each centre are presented in **Table 2**. King's and Birmingham provide the regional screening service, respectively, for the southern and northern transplant centres.

Table 2 Number of local and regional liver screening calls by centre		
Centre	Local call	Regional call
Newcastle	14	-
Leeds	19	-
Cambridge	26	-
Royal Free	8	-
King's	23	12
Birmingham	20	34
Edinburgh	5	-
Not reported	5	2
Total	120	48

11. The number of potential DCD donors who were screened for liver donation are presented by Organ Donation Services Team (ODST) in **Table 3**. The Eastern team screened the most donors for suitability for liver donation with a utilisation rate of 11% of all referrals for possible DCD donation.

Table 3 Utilisation of DCD liver screening process, by ODST		
ODST	No. of potential DCD liver donors screened	Percentage of referrals for potential DCD donation
Eastern	28	11.0
Northern	14	9.0
South Wales	8	8.9
South East	11	6.7
Midlands	12	5.4
North West	14	4.7
South Central	9	4.6
South West	5	4.4
Northern Ireland	3	4.2
London	6	4.0
Yorkshire	7	3.5
Scotland	3	2.7
UK	120	5.9



12. Survey of Users.

A survey of recipient co-ordinators and SN-ODs was undertaken.

11 recipient co-ordinators and 43 SN-ODs responded.

Broadly both groups felt that the information that was supplied at screening was sufficient but that sometimes information was lacking such as blood test and sometimes additional information was requested that was unavailable.

Blood group was requested in many cases but was not given. This did not appear to have a significant impact on the screening process.

The height and weight was often provided but in many cases was reported as an estimate. Again this did not appear to be significant.

There were disparities between the two groups regarding whether they explained the call was local or national and whether responses were received within 30 minutes.

There was only one reported case of asking for additional information being made available for offering that was not necessarily standard information (bacterial screening).

On the whole both groups felt that liver screening was beneficial but that it would benefit from some improvements. Including not receiving offers if Livers regarded as unsuitable, not screening without blood results. More advice on exclusions, centres being prepared to give a national view.

Both groups supported Liver screening continuing but with additional education, screening only if Kidneys unsuitable and more robust information available.

Summary

13. In the first three months of the pilot scheme, DCD liver screening has been undertaken for 120 donors. 100 (83%) were deemed unsuitable for liver donation via the DCD liver screening process. Of the 20 donors considered suitable following screening, 1 was transplanted.

14. The median time take between local and regional screening calls was 20 mins and the Eastern donation team screened the most donors.

15. The pilot has regularized a process and brought about improvements in consistency with a national approach.
16. Due to lack of consistency in how the process was followed and insufficient data it is difficult to draw any significant conclusions.
17. Liver screening has enabled formal consideration of a group of marginal potential donors. Consistent decision making has brought improvements to the care of potential donors at end of life and has identified a small number with the potential to donate their liver.
18. Furthermore the pilot is the first step in consistently collecting data relating to all potential DCD donors and building an evidence base to support decision making associated with utilization.

Action

19. The Liver Screening Pilot Working Group recommend continuing DCD Liver screening with
 - a. improved consistency in following process
 - b. further education for SN-ODs and Recipient teams
 - c. review of required information
 - d. improvement of data collection process
 - e. a planned review period
20. Members are asked to consider the information presented and determine whether DCD liver screening should continue.

Andrew Broderick
Donor Assessment and Transformation Lead

Sue Madden
Statistics and Clinical Studies

**On behalf of Liver Screening Pilot Working
Group**

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