NORS Review Implementation

Timeliness of retrieval

It has been proposed by Working Group 3 (Logistics, Quality and Reporting) of the NORS Review Implementation that there should be standards for key retrieval timings. Once approved by the National Retrieval Group these standards will form part of the new NORS contract and performance against these standards will be future KPIs.

The proposed standards for key retrieval timings are shown in Table 1. The data used to inform these standards were collected via the organ specific HTA-A forms and extracted from the UK Transplant Registry for proceeding deceased donors in the UK between 1 April 2014 and 31 March 2015. Histograms of the distribution of these data are shown below along with summary statistics and the proportion of times the standard/target was met (some validation was performed to remove obvious outliers, resulting in missing data of 2-9% across these figures).

The time of kidney or pancreas removal from the donor is not currently recorded so it is requested that these are collected on the future electronic quality forms. It will also be crucial to record time of cross-clamp for all donors, as this is currently only asked on the cardiothoracic HTA-A form.

Table 1: Proposed standards for key retrieval timings

<table>
<thead>
<tr>
<th>Figure #</th>
<th>Organ type</th>
<th>Interval definition</th>
<th>Target time</th>
<th>Target % achieved</th>
<th>Current % achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Liver, DBD</td>
<td>Time perfusion commenced → Time of hepatectomy</td>
<td>45 mins</td>
<td>90%</td>
<td>91%</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Liver, DCD</td>
<td>Time perfusion commenced → Time of hepatectomy</td>
<td>60 mins</td>
<td>90%</td>
<td>91%</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Heart</td>
<td>Time aorta cross-clamped → Time heart placed on ice in transport box</td>
<td>20 mins</td>
<td>90%</td>
<td>70%</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Lung</td>
<td>Time aorta cross-clamped → Time last lung placed on ice in transport box</td>
<td>45 mins</td>
<td>90%</td>
<td>82%</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Kidney only, DBD</td>
<td>Time in situ cold perfusion commenced → Time last kidney placed into transport box</td>
<td>90 mins</td>
<td>90%</td>
<td>89%</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Kidney only, DCD, not machine perfused</td>
<td>Time in situ cold perfusion commenced → Time last kidney placed into transport box</td>
<td>90 mins</td>
<td>90%</td>
<td>80%</td>
</tr>
</tbody>
</table>

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Statistics and Clinical Studies
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Figure 1  Distribution of time from perfusion to hepatectomy in minutes for DBD donors

90.9% on target
DBD donors
N=661
Median = 31
IQR = (24, 38)

Figure 2  Distribution of time from perfusion to hepatectomy in minutes for DCD donors

91.0% on target
DCD donors
N=232
Median = 38
IQR = (31, 47)
Figure 3  Distribution of time from aorta cross-clamp to heart in box in minutes

70.1% on target
N=167
Median = 16
IQR = (12, 22)

Figure 4  Distribution of time from aorta cross-clamp to last lung in box in minutes

81.5% on target
N=184
Median = 38
IQR = (32, 44)
Figure 5  Distribution of time from in situ cold perfusion to last kidney in box in minutes for kidney only retrievals from DBD donors

89.2% on target

DBD Donors
N=65
Median = 65
IQR = (57, 71)

Figure 6  Distribution of time from in situ cold perfusion to last kidney in box in minutes for kidney only retrievals (without machine perfusion) from DCD donors

79.5% on target

DCD Donors
N=190
Median = 70
IQR = (58, 86)