

**NHS BLOOD AND TRANSPLANT**  
**CARDIOTHORACIC ADVISORY GROUP**  
**HEART-LUNG TRANSPLANT OUTCOMES**

**BACKGROUND**

- 1 From October 2014, the monthly CUSUM charts for the monitoring of 90-day mortality rates following lung transplantation have excluded heart-lung transplants. In order to continue monitoring activity and outcomes for these transplants, this regular paper was introduced.
- 2 This report considers heart-lung transplant patients who were transplanted during the period of 1 January 2011 (the beginning of the CUSUM monitoring period) to 30 April 2017 (to allow time for 90-day follow-up information to be received). Similarly to the monthly CUSUM charts, this report has excluded multi-organ transplants and re-transplantations.
- 3 Median waiting time to transplant and the number of deaths on the list are also provided. These outcomes are presented for patients registered for their first heart-lung transplant between 1 January 2011 and 30 April 2017. Patients who were also registered for abdominal organs are excluded from the cohort.

**OUTCOMES**

- 4 **Table 1** shows the number of heart-lung transplants at each centre between 1 January 2011 and 30 April 2017 and the number of deaths within 90 days post-transplant. Nationally there were 25 heart-lung transplants in the time period, ranging from 2 to 6 per year.

**Table 1 Heart-lung transplants between 1 January 2011 and 30 April 2017**

Patient group	Centre	Number of transplants	Number of deaths within 90 days post-transplant
Adult	Newcastle	2	1
	Papworth	15 <sup>1</sup>	2
	Harefield	2	1
	Birmingham	2 <sup>1</sup>	0
	Manchester	3	0
Paediatric	Newcastle	1	1
<b>Total</b>		<b>25</b>	<b>5</b>

<sup>1</sup> Papworth and Birmingham each had one patient who was registered urgently

5 **Table 2** shows the primary disease group for these 25 heart-lung transplant patients.

Patient group	Centre	Primary disease							
		Congenital Heart Disease	Other Heart Disease	Primary Pulmonary Hypertension	Cystic Fibrosis	Bronchiectasis	Dilated cardiomyopathy - other	Hypertrophic cardiomyopathy	Other
Adult	Newcastle	1	0	1	0	0	0	0	0
	Papworth	1	1	5	3	1	0	0	4
	Harefield	0	0	1	0	0	0	1	0
	Birmingham	0	1	0	0	0	1	0	0
	Manchester	0	0	3	0	0	0	0	0
Paediatric	Newcastle	1	0	0	0	0	0	0	0
<b>Total</b>		<b>3</b>	<b>2</b>	<b>10</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>4</b>

6 **Table 3** shows the number of patients registered for a heart-lung transplant during the analysis period and the subsequent number of deaths on the list and number of transplants. The overall median waiting time to transplant for adult patients was estimated to be 2.1 years (95% confidence interval: 1.0 to 3.1 years). Of the 62 adult and 8 paediatric registrations, 4 of these patients received a bilateral lung only transplant and 1 patient received a heart only transplant. These patients were censored at the time of transplant for the median waiting time analysis.

Patient group	Centre	Number of registrations	Number of deaths on list	Number of transplants
Adult	Birmingham	6	3	1
	Glasgow	1	0	0
	Harefield	6	1	3 <sup>a</sup>
	Manchester	11	2	4 <sup>b</sup>
	Newcastle	10	2	2
	Papworth	28	9	14 <sup>c</sup>
<b>Total</b>		<b>62</b>	<b>17</b>	<b>24</b>
Paediatric	GOSH	7	3	1 <sup>d</sup>
	Harefield	1	0	0
<b>Total</b>		<b>8</b>	<b>3</b>	<b>1</b>

<sup>a</sup> 1 of the 3 patients transplanted at Harefield received a bilateral lung transplant  
<sup>b</sup> 1 of the 4 patients transplanted at Manchester received a heart only transplant  
<sup>c</sup> 2 of the 14 patients transplanted at Papworth received a bilateral lung transplant  
<sup>d</sup> 1 patient transplanted at GOSH received a bilateral lung transplant

## URGENT HEART-LUNG PATIENTS

- 7 In the time period, 4 of the 70 patients registered for a heart-lung transplant were placed onto the urgent heart list whilst requiring both heart and lungs. Two of these patients are known to have been submitted to the CTAG Adjudication Panel and clinical details of these patients can be found in **Appendix A1 (removed as patient identifiable)**. **Table 4** details the outcomes of these four patients. All patients received transplants, with two receiving heart-lung transplants, one a heart only transplant and one a bilateral lung transplant. The urgent heart-lung transplant performed by Birmingham in 2015 as mentioned in **Table 1** is not included in this summary as the patient was not activated on the lung list prior to receiving their transplant.

<b>Patient Number</b>	<b>Centre</b>	<b>Date put on urgent list</b>	<b>Outcome of urgent listing</b>	<b>Approved by CTAG Adjudication Panel?</b>
1	Papworth	February 2017	Received heart-lung transplant in March 2017	Yes
2	Harefield	February 2017	Received heart-lung transplant in May 2017	Yes
3	GOSH	September 2016	Received a bilateral lung transplant in October 2016	Unknown
4	Manchester	May 2015	Received a heart only transplant in August 2015	Unknown

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