

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

INTRODUCTION

- 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 which is presented to CTAG every 6 months.
- 2 This report considers heart-lung transplant recipients who were transplanted during the period of 1 January 2011 (the beginning of the CUSUM monitoring period) to 31 October 2017 (to allow time for 90-day follow-up information to be received). Similarly to the monthly CUSUM charts, this report excludes other 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 31 October 2017.
- 4 Additionally, this paper now includes a section on patients registered for an urgent heart-lung transplant. Such registrations must be approved by the CTAG Adjudication Panel.

TRANSPLANTS

- 5 **Table 1** shows the number of heart-lung transplants at each centre between 1 January 2011 and 31 October 2017 and the number of deaths within 90 days post-transplant. Nationally there were 28 heart-lung transplants in the time period, ranging from 2 to 6 per year (although in the full 2017 calendar year there were 9).

Patient group	Centre	Number of transplants	Number of deaths within 90 days post-transplant
Adult	Newcastle	3	1
	Papworth	15 ¹	2
	Harefield	4 ²	2
	Birmingham	2 ¹	0
	Manchester	3	0
Paediatric	Newcastle	1	1
Total		28	6

¹ Papworth and Birmingham each had one patient who was registered urgently (Papworth patient died within 90 days of transplant)

² Harefield had one patient who was registered urgently and one who was registered as super-urgent (super-urgent patient died within 90 days of transplant)

6 **Table 2** shows the primary disease group for these 28 heart-lung transplant recipients.

Centre	Primary Disease						
	Congenital Heart Disease	Primary Pulmonary Hypertension	Cystic Fibrosis	Bronchiectasis	Dilated cardiomyopathy - other	Hypertrophic cardiomyopathy	Other
Adult							
Newcastle	2	1	0	0	0	0	0
Papworth	1	5	3	1	0	0	5
Harefield	0	1	0	0	0	1	2
Birmingham	0	0	0	0	1	0	1
Manchester	0	3	0	0	0	0	0
Paediatric							
Newcastle	1	0	0	0	0	0	0
Total	4	10	3	1	1	1	8

REGISTRATIONS

7 **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: 0.8 to 3.4 years). Of the 70 adult and 8 paediatric registrations, 6 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.

Age group	Centre	Number of registrations	Number of deaths on list	Number of transplants
Adult	Birmingham	8	3	2
	Glasgow	1	0	0
	Harefield	9	1	5 ^a
	Manchester	14	3	5 ^{b,c}
	Newcastle	10	3	3
	Papworth	28	9	14 ^d
Total		70	19	29
Paediatric	GOSH	7	3	2 ^e
	Harefield	1	0	0
Total		8	3	2
TOTAL		78^f	22	31

^a 1 of the 5 patients transplanted at Harefield received a bilateral lung transplant
^b 1 of the 5 patients transplanted at Manchester received a heart only transplant
^c 1 of the 5 patients transplanted at Manchester received a bilateral lung transplant
^d 2 of the 14 patients transplanted at Papworth received a bilateral lung transplant
^e 2 patients transplanted at GOSH received a bilateral lung transplant
^f Includes 7 urgent registrations and 1 super-urgent registration

URGENT HEART-LUNG PATIENTS

- 8 Since 1 January 2011, up to the end of February 2018, there have been eight urgent and two super-urgent heart-lung block registrations. Only two were prior to 2017, and it is not known whether approval was given from the CTAG Adjudication Panel. The two super-urgent registrations were not approved by the CTAG Adjudication Panel. **Table 4 (removed as patient identifiable)** provides the details of these patients, as well as a further two patients that were submitted to the CTAG Adjudication Panel but were rejected (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). **Appendix removed as patient identifiable.**

SUMMARY

- 9 Combined heart-lung transplantation remains uncommon, with a maximum of 9 in 2017. Patients wait on average longer than for routine lung transplantation or urgent heart transplantation.
- 10 Urgent heart-lung registration is becoming more common, with 8 in the last year. Although not formally approved, there have been two super-urgent listings resulting in very quick transplants.

ACTION

- 11 Given the increase in patients registered for urgent heart-lung block transplantation, clarity is required on how the listing of these patients should be managed.

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