

NHS BLOOD AND TRANSPLANT

RETRIEVAL ADVISORY GROUP

NEPHRECTOMY TIMINGS

LAY SUMMARY

This paper looks at how long it takes to remove kidneys from deceased donors after cold preservation has started, using new data collected across the UK between July and December 2025. It compares these timings for different types of donors and depending on whether other organs (such as the liver or pancreas) were also removed. Overall, most kidney donors also donated other abdominal organs, and the time to remove kidneys was generally longer when other organs were retrieved. Further work is planned to understand whether these timing differences affect transplant outcomes for patients.

INTRODUCTION

- 1 Since mid June 2025, the time of donor nephrectomy has been captured on the Kidney Donor Information form for all deceased kidney donors. This paper looks at the duration from cold perfusion to nephrectomy by donor type, comparing by what organs have been retrieved in the first six months of data collection. Hepatectomy times are also provided for comparison.

METHODS

- 2 All deceased kidney donors in the UK, 1 July 2025 – 31 December 2025, were considered. Cases where the interval was negative or over 120 minutes were assumed to be erroneous and treated as missing. For those that also donated the liver, the interval from start of in-situ cold perfusion to hepatectomy was also calculated, with cases over 120 minutes considered erroneous and treated as missing. Nephrectomy timings were calculated for left and right kidneys separately. Donors were grouped by what abdominal organs were retrieved and nephrectomy interval compared between donor groups using the Kruskal-Wallis test.

RESULTS

- 3 There were 660 kidney donors in the period, with 534 (81%) donating at least one other abdominal organ. **Table 1** shows the organs donated by donor type.

Table 1 Donors considered, by donor type and abdominal organs donated

Abdominal organs donated	DBD	Donor type Standard DCD	A-NRP	Total
Kidney only	21	95	10	126
Kidney and pancreas	2	11	0	13
Kidney and liver	163	131	72	366
Kidney, liver, and pancreas	80	53	22	155
Total	266	290	104	660

DBD donors

- 4 Left and right nephrectomy timings for the 266 DBD donors are shown in **Table 2**. For both left and right kidneys, there was a significant difference in duration from in-situ cold perfusion to nephrectomy by what abdominal organs were donated. Of the 243 DBD donors who also donated their liver, 222 had duration from start of in-situ cold perfusion to hepatectomy reported. For these donors, the median duration of hepatectomy was 27 minutes (IQR: 22-34).

Table 2 Start of in-situ cold perfusion to nephrectomy duration for DBD donors considered, by abdominal organs donated

Abdominal organs donated	Number retrieved	Left kidney Number reported	Median (IQR) (mins)	Number retrieved	Right kidney Number reported	Median (IQR) (mins)
Kidney only	21	21	34 (29-46)	21	21	33 (29-38)
Kidney and pancreas	2	2	-	2	2	-
Kidney and liver	163	159	42 (34-52)	160	158	37 (30-45)
Kidney, liver, and pancreas	79	78	44 (38-57)	80	79	46 (37-54)
p-value*			0.0009			<0.0001
Total	265	260	42 (34-52)	263	260	39 (32-48)

* Excludes kidney and pancreas donors due to small numbers

Standard DCD donors

- 5 Left and right nephrectomy timings for the 290 standard DCD donors are shown in **Table 3**. For both left and right kidneys, there was a significant difference in duration from in-situ cold perfusion to nephrectomy by what abdominal organs were donated. Of the 184 standard DCD donors who also donated their liver, 171 had duration from start of in-situ cold perfusion to hepatectomy reported. For these donors, the median duration of hepatectomy was 35 minutes (IQR: 29-43).

Table 3 Start of in-situ cold perfusion to nephrectomy duration for standard DCD donors considered, by abdominal organs donated

Abdominal organs donated	Number retrieved	Left kidney Number reported	Median (IQR) (mins)	Number retrieved	Right kidney Number reported	Median (IQR) (mins)
Kidney only	93	91	43 (32-52)	93	91	36 (29-47)
Kidney and pancreas	11	11	55 (41-99)	11	11	55 (38-94)
Kidney and liver	126	124	51 (40-61)	130	129	45 (39-56)
Kidney, liver, and pancreas	53	53	53 (44-69)	53	53	53 (42-63)
p-value*			<0.0001			<0.0001
Total	283	279	49 (38-59)	287	284	45 (36-56)

* Excludes kidney and pancreas donors due to small numbers

A-NRP donors

- 6 Left and right nephrectomy timings for the 104 A-NRP donors are shown in **Table 4**. For both left and right kidneys, there was a significant difference in duration from in-situ cold perfusion to nephrectomy by what abdominal organs were donated. Of the 94 A-NRP donors who also donated their liver, 87 had duration from start of in-situ cold perfusion to hepatectomy reported. For these donors, the median duration of hepatectomy was 32 minutes (IQR: 27-40).

Table 4 Start of in-situ cold perfusion to nephrectomy duration for A-NRP donors considered, by abdominal organs donated

Abdominal organs donated	Number retrieved	Left kidney Number reported	Median (IQR) (mins)	Number retrieved	Right kidney Number reported	Median (IQR) (mins)
Kidney only	9	8	40 (31-48)	10	9	36 (23-37)
Kidney and pancreas	0	-	-	0	-	-
Kidney and liver	72	71	45 (36-53)	71	71	42 (37-51)
Kidney, liver, and pancreas	22	21	47 (34-52)	22	21	46 (38-48)
p-value*			0.5257			0.0073
Total	103	100	45 (36-52)	103	101	42 (37-50)

* Excludes kidney and pancreas donors due to small numbers

NEXT STEPS

- 7 Return of three month follow-up forms was insufficiently complete to allow outcomes by nephrectomy duration to be analysed. Various outcomes within 3 months post kidney transplant will be analysed in the coming months and reported back to the Retrieval Advisory Group at the October 2026 meeting.

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May 2026