

NHS BLOOD AND TRANSPLANT

PANCREAS ADVISORY GROUP

PANCREAS TRANSPLANT OUTCOME

LAY SUMMARY

This paper summarises pancreas graft survival, kidney graft survival, and patient survival following pancreas transplants performed in the UK in recent years.

After simultaneous pancreas and kidney (SPK) transplants carried out in 2023–2024, about 90% of pancreas grafts were functioning one year after the transplant. This was similar in the previous two years, and similar for transplants with organs from donors after brain death (DBD) or donors after circulatory death (DCD). One year after SPK transplants, 95–99% of kidney grafts were functioning, regardless of the donor type or time period. One year after SPK transplants, 96% of patients were alive, this was similar for both donor types and time periods.

INTRODUCTION

- 1 For information, national data on outcomes following vascularised pancreas transplantation are presented.

DATA & METHODS

- 2 Data were obtained from the UK Transplant Registry for deceased donor simultaneous pancreas and kidney (SPK) transplants performed in the UK between 1 January 2021 and 31 December 2024 and pancreas only transplants performed in the UK between 1 January 2018 and 31 December 2024. Pancreas after kidney (PAK) transplants performed between 1 January 2015 and 31 December 2024 were also analysed. Transplants using pancreases from donors after brain death (DBD) and donors after circulatory death (DCD) were analysed separately.
- 3 Pancreas and kidney one-, two-and three-year graft and patient survival are reported and presented in **Figures 1 to 5**. Kidney three-, five-and ten-year graft and patient survival following a pancreas after kidney graft is presented in **Figure 6**. The survivor function was estimated using the Kaplan-Meier method. Graft survival is measured from the date of transplant to graft failure, censoring for death with a functioning graft or, if functioning, the date of last known follow-up. Patient survival is measured from date of transplant to patient death, censoring for patients who were alive at their last known follow-up.

RESULTS

- 4 Pancreas graft survival at 1 year following a first SPK transplant was 89% for DBD and 91% for DCD transplants performed between 2023 and 2024. There was no evidence of a difference in these survival rates when compared to transplants performed between 2021 and 2022. Three-year pancreas graft survival following first SPK transplant in 2021-2022 was 86% for DBD and 85% for DCD transplants. One-year kidney graft survival following first SPK transplant was similar in both periods from both DBD and DCD donors, ranging between 95% and 99% in these cohorts. The one-year patient survival was similar between the periods 2021-2022 and 2023-2024, as well as between DBD and DCD transplants, at either 95% or 96% for these groups.

- 5 There was no evidence of a difference in one-year pancreas graft survival following a pancreas only transplant from DBD donors between the periods 2018-2020 and 2021-2024, 80% and 68% respectively, $p=0.44$. There was also no evidence of a difference in one-year pancreas graft survival following a pancreas transplant alone (PTA) compared to a pancreas after kidney transplant (PAK) from DBD donors, at 75% and 76% respectively. However, there were only a small number of transplants in these groups.
- 6 For first pancreas after kidney transplants performed between 2015-2024, there was no evidence of a difference in one-year pancreas graft or patient survival between pancreas after living kidney (PALK) and pancreas after deceased kidney (PADK) transplants, $p=0.54$ and $p=0.28$, respectively. However, there were only a small number of transplants in these groups.
- 7 For patients receiving a pancreas transplant in the last 10 years, after already having received a kidney transplant, there was weak evidence of a difference in the three-year kidney graft survival. Kidney graft survival at 3 years after the pancreas transplant was 76% for PADK transplants compared to 100% in PALK transplants. There was also weak evidence of a difference in three-year patient survival from time of pancreas transplant between PADK and PALK transplants, at 74% and 100% respectively. However, there were only a small number of transplants in these groups.

Shaminie Shanmugaranjan
Statistics and Clinical Research

April 2026

1 Simultaneous kidney/pancreas transplants - donor after brain death (DBD)

Figure 1 shows pancreas graft survival and kidney graft survival in recipients receiving their first simultaneous kidney/pancreas (SPK) transplant performed from donors after brain death, January 2021 – December 2022 and January 2023 – December 2024. Pancreas graft, kidney graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.1**. Results are for adult patients only.

Figure 1 Graft survival after first SPK transplants from donors after brain death, 1 January 2021 – 31 December 2024

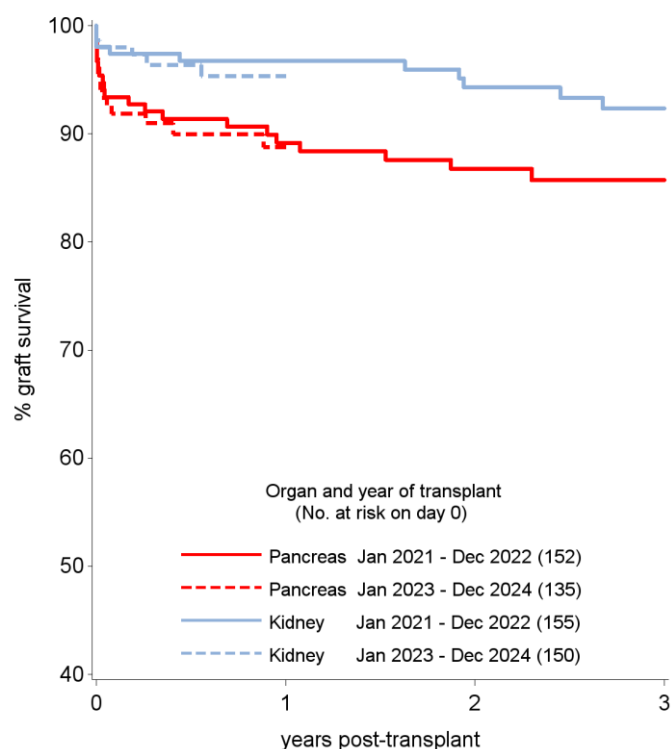


Table 1.1 Graft and patient survival after first SPK transplant from a DBD, 1 January 2021 to 31 December 2024

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)				
		One year		Two year		Three year
Pancreas graft survival (one year, p=0.86)						
Jan 2021 - Dec 2022	152	89	(83 - 93)	87	(80 - 91)	86 (79 - 91)
Jan 2023 - Dec 2024	135	89	(82 - 93)			
Pancreas patient survival (one year, p=0.88)						
Jan 2021 - Dec 2022	152	96	(91 - 98)	94	(89 - 97)	94 (89 - 97)
Jan 2023 - Dec 2024	136	96	(91 - 99)			
Kidney graft survival (one year, p=0.60)						
Jan 2021 - Dec 2022	155	97	(92 - 99)	94	(89 - 97)	92 (86 - 96)
Jan 2023 - Dec 2024	150	95	(90 - 98)			

2 Simultaneous kidney/pancreas transplants - donor after circulatory death (DCD)

Figure 2 shows pancreas graft survival and kidney graft survival in recipients receiving their first simultaneous kidney/pancreas (SPK) transplant performed from donors after circulatory death, January 2021 – December 2022 and January 2023 – December 2024. Pancreas graft, kidney graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.2**. Results are for adult patients only.

Figure 2 Graft survival after first SPK transplants from donors after circulatory death, 1 January 2021 – 31 December 2024

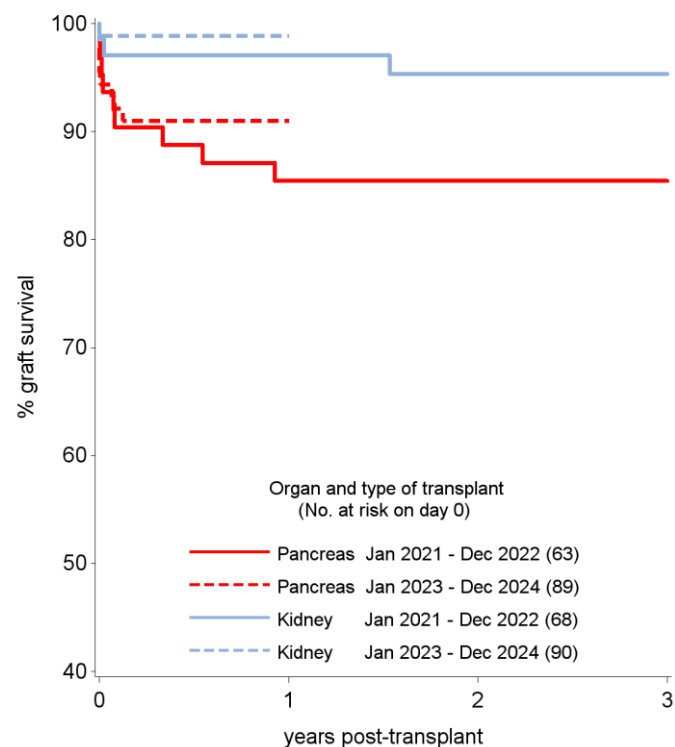


Table 1.2 Graft and patient survival after first SPK transplant from a DCD, 1 January 2021 to 31 December 2024

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)					
		One year		Two year		Three year	
Pancreas graft survival (one year, p=0.39)							
Jan 2021 - Dec 2022	63	85	(74 - 92)	85	(74 - 92)	85	(74 - 92)
Jan 2023 - Dec 2024	89	91	(83 - 95)				
Pancreas patient survival (one year, p=0.75)							
Jan 2021 - Dec 2022	64	95	(86 - 98)	95	(86 - 98)	95	(86 - 98)
Jan 2023 - Dec 2024	90	96	(87 - 99)				
Kidney graft survival (one year, p=0.41)							
Jan 2021 - Dec 2022	68	97	(89 - 99)	95	(86 - 98)	95	(86 - 98)
Jan 2023 - Dec 2024	90	99	(92 - 100)				

3 Pancreas only transplants – donor after brain death (DBD)

Figure 3 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from DBD donors, January 2018 – December 2020 and January 2021 – December 2024. There were too few DCD donor pancreas only transplants in each time period to analyse ($n < 5$). Graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.3**. Results are for adult patients only and survival estimates should be interpreted with caution due to small numbers.

Figure 3 Graft survival after first pancreas only transplant from deceased donors, by donor type and year, 1 January 2018 – 31 December 2024

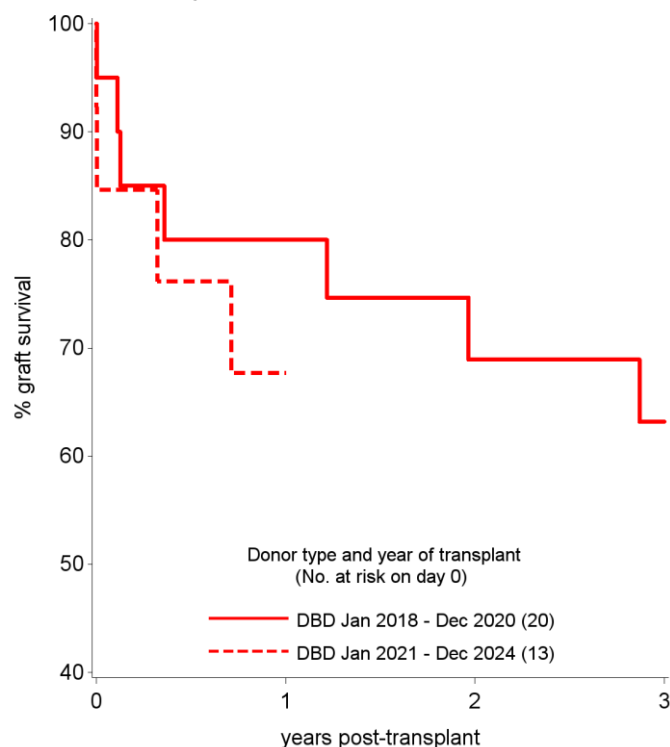


Table 1.3 Graft and patient survival after first pancreas only transplant, 1 January 2018 to 31 December 2024

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)			
		One year	Two year	Three year	
DBD graft survival (one year, p=0.45)					
Jan 2018 - Dec 2020	20	80 (55 - 92)	69 (43 - 85)	63 (38 - 81)	
Jan 2021 - Dec 2024	13	68 (35 - 87)			
DBD patient survival (one year, p=0.46)					
Jan 2018 - Dec 2020	21	94 (67 - 99)	89 (61 - 97)	82 (54 - 94)	
Jan 2021 - Dec 2024	13	100 -			

4 Pancreas only transplants by transplant type – donor after brain death (DBD)

Figure 4 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from DBD donors, January 2018 – December 2024. There were too few DCD donor pancreas only transplants in each time period to analyse ($n < 5$). Graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.4**. Results are for adult patients only and survival estimates should be interpreted with caution due to small numbers.

Figure 4 Graft survival after first pancreas only transplant from deceased donors, by donor and transplant type, 1 January 2018 – 31 December 2024

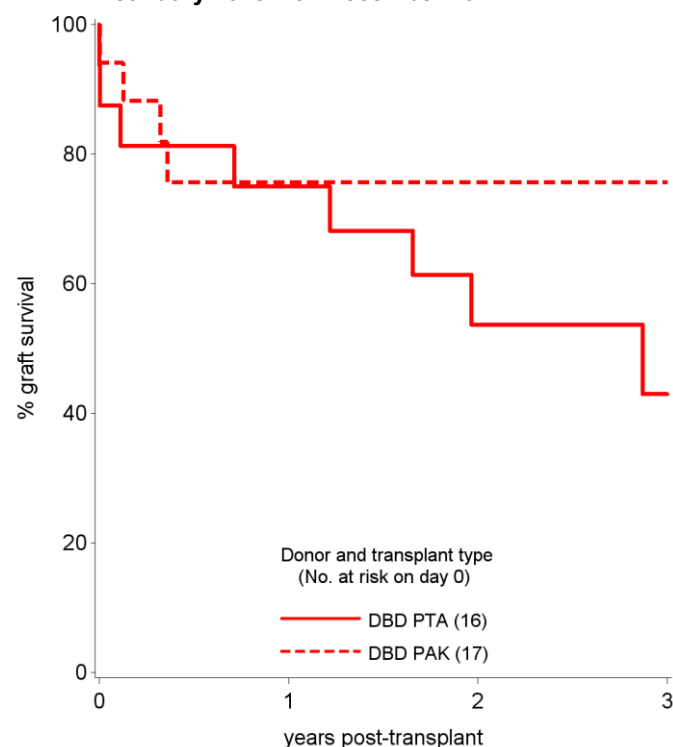


Table 1.4 Graft and patient survival after first pancreas only transplant by transplant type, 1 January 2018 to 31 December 2023

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)					
		One year		Two year		Three year	
DBD graft survival (one year, p=0.91)							
PTA	16	75	(46 - 90)	54	(26 - 75)	43	(16 - 67)
PAK	17	76	(47 - 90)	76	(47 - 90)	76	(47 - 90)
DBD patient survival (one year, p=0.32)							
PTA	17	100	-	100	-	100	-
PAK	17	93	(59 - 99)	86	(54 - 96)	78	(46 - 92)

5 Pancreas after kidney transplants by kidney donor type – deceased donors

Figure 5 shows pancreas graft survival in recipients receiving their first pancreas after kidney transplant performed from deceased (DBD and DCD) donors, January 2015 – December 2024. Graft and patient survival estimates and confidence intervals are shown at one year, two years and three years in **Table 1.5**. Results are for adult patients only and survival estimates should be interpreted with caution due to small numbers.

Figure 5 Graft survival after deceased donor pancreas after kidney transplant by kidney donor type, 1 January 2015 – 31 December 2024

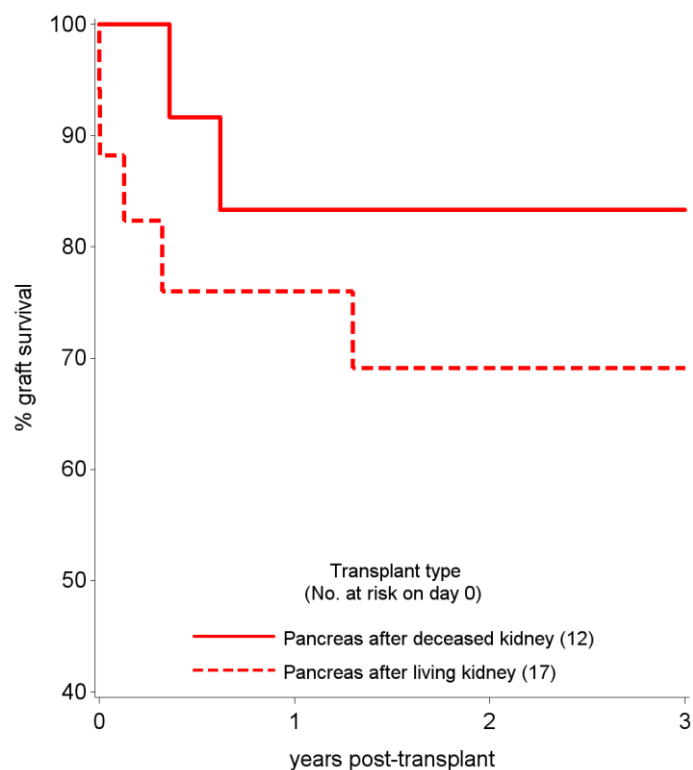


Table 1.5 Graft and patient survival after first pancreas after kidney transplant, 1 January 2015 to 31 December 2024

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)					
		One year		Two year		Three year	
Pancreas graft survival (one year, p=0.54)							
PADK	12	83	(48 - 96)	83	(48 - 96)	83	(48 - 96)
PALK	17	76	(48 - 90)	69	(41 - 86)	69	(41 - 86)
Pancreas patient survival (one year, p=0.28)							
PADK	12	92	(54 - 99)	83	(46 - 95)	64	(30 - 85)
PALK	17	100	-	100	-	100	-

Figure 6 shows kidney graft survival from time of pancreas transplant in recipients receiving their first pancreas after kidney transplant performed from deceased (DBD and DCD) donors, January 2015 – December 2024. Graft and patient survival estimates and confidence intervals are shown at three years, five years and ten years in **Table 1.6**. Results are for adult patients only and survival estimates should be interpreted with caution due to small numbers.

Figure 6 Kidney graft survival after deceased donor pancreas after kidney transplant by kidney donor type, 1 January 2015 – 31 December 2024

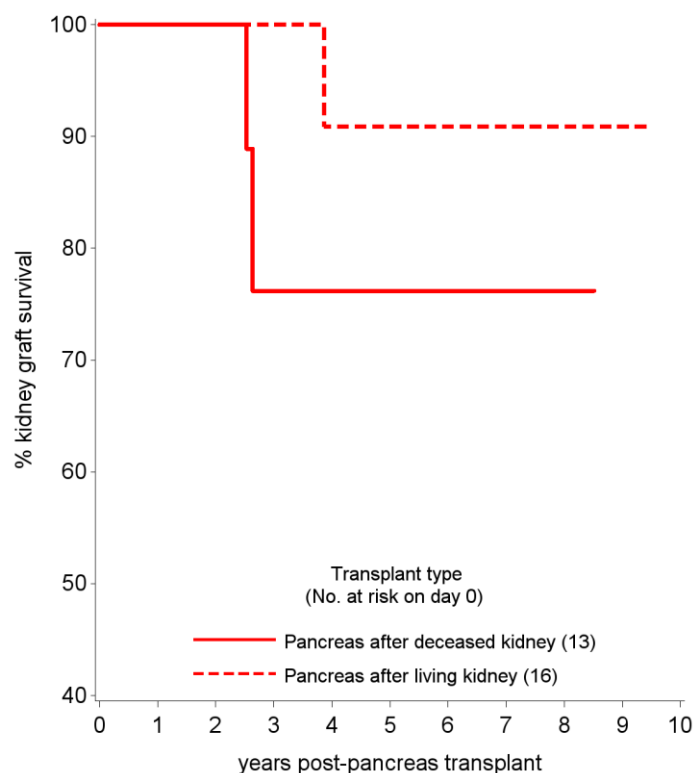


Table 1.6 Kidney graft and patient survival after first pancreas after kidney transplant, 1 January 2015 to 31 December 2024

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)					
		Three year		Five year		Ten year	
Kidney graft survival (three years, p=0.06)							
PADK	13	76	(33 - 94)	76	(33 - 94)	76	(33 - 94)
PALK	16	100	-	91	(51 - 99)	91	(51 - 99)
Kidney patient survival (three years, p=0.04)							
PADK	12	74	(39 - 91)	74	(39 - 91)	37	(2 - 79)
PALK	16	100	-	100	-	64	(15 - 90)