

NHS BLOOD AND TRANSPLANT
PANCREAS ADVISORY GROUP
PANCREAS TRANSPLANT OUTCOME

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 and include deceased donor simultaneous pancreas and kidney (SPK) and isolated pancreas transplants performed in the UK between 1 April 2017 and 31 March 2021. Transplants using pancreases from donors after brain death (DBD) and donors after circulatory death (DCD) are analysed separately.
- 3 Pancreas and kidney one, two and three year graft and patient survival are reported and presented in **Figures 1 to 5**. The survivor function was estimated using the Kaplan-Meier method. Graft survival is measured from 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 There was an improvement in one-year pancreas graft survival following first SPK transplants from DBD donors and DCD donors between the time periods 2017-2019 cf. 2019-2021, although neither were statistically significant $p=0.62$, $p=0.40$, respectively. Three-year pancreas graft survival following first SPK transplant in 2017-2019 was 89% for DBD and 92% for DCD donors. One-year kidney graft survival following first SPK transplant in 2019-2021 was 96% for DBD and 100% for DCD donors.
- 5 There was no significant difference in one-year pancreas graft survival following pancreas only transplants from DBD donors between the time periods 2017-2019 cf. 2019-2021, 88% and 90% respectively, $p=0.85$.
- 6 Further, there was not a significant difference in one-year pancreas graft survival between pancreas transplants alone (PTA) and pancreas after kidney transplants (PAK) from DBD, $p=0.46$.

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, April 2017 - March 2019 and April 2019 – March 2021. 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.

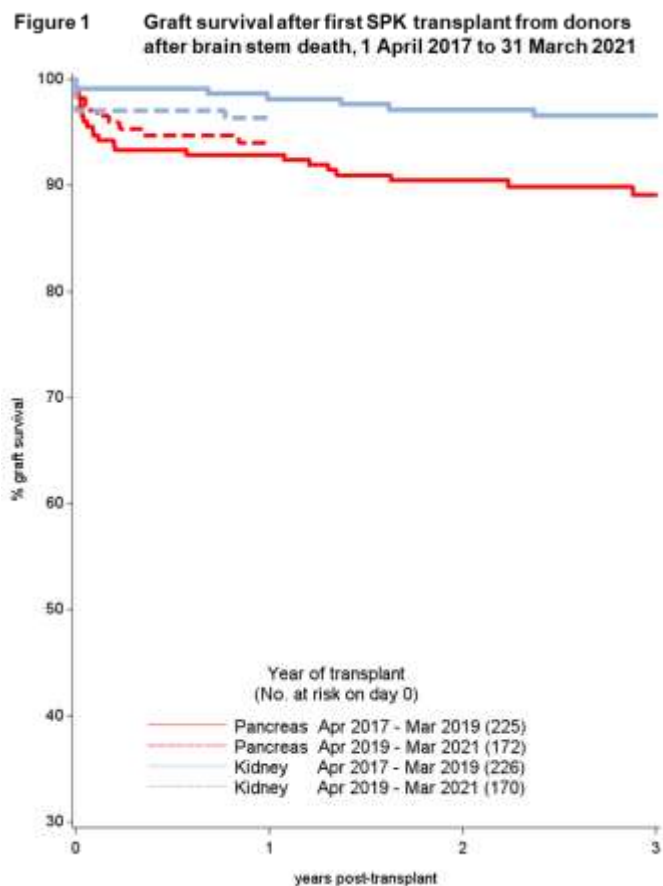


Table 1.1 Graft and patient survival after first SPK transplant from a DBD, 1 April 2017 to 31 March 2021

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=0.62)							
Apr 2017 - Mar 2019	225	93	(89 - 96)	90	(86 - 94)	89	(84 - 93)
Apr 2019 - Mar 2021	172	94	(89 - 97)				
Pancreas patient survival (one year, p=0.08)							
Apr 2017 - Mar 2019	225	100	(97 - 100)	97	(94 - 99)	97	(93 - 99)
Apr 2019 - Mar 2021	173	97	(93 - 99)				
Kidney graft survival (one year, p=0.24)							
Apr 2017 - Mar 2019	226	98	(95 - 99)	97	(94 - 99)	97	(93 - 98)
Apr 2019 - Mar 2021	170	96	(92 - 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, April 2017 – March 2019 and April 2019 – March 2021. 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.

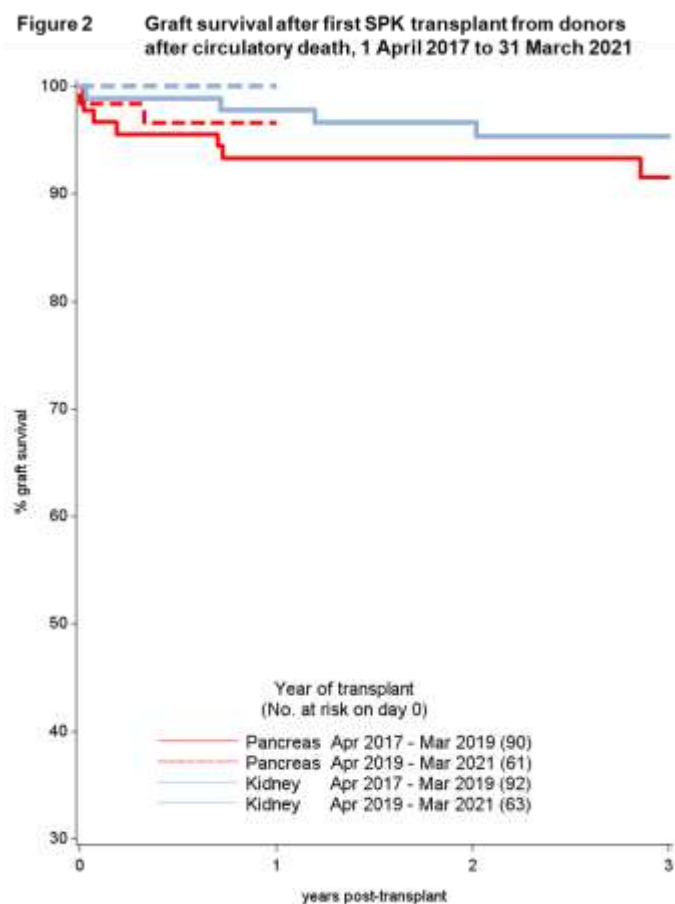


Table 1.2 Graft and patient survival after first SPK transplant from a DCD, 1 April 2017 to 31 March 2021

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=0.40)					
Apr 2017 - Mar 2019	90	93 (86 - 97)	93 (86 - 97)	92 (83 - 96)	
Apr 2019 - Mar 2021	61	97 (87 - 99)			
Pancreas patient survival (one year, p=0.34)					
Apr 2017 - Mar 2019	91	99 (92 - 100)	98 (91 - 99)	94 (84 - 98)	
Apr 2019 - Mar 2021	62	97 (87 - 99)			
Kidney graft survival (one year, p=0.26)					
Apr 2017 - Mar 2019	92	98 (91 - 99)	97 (90 - 99)	95 (88 - 98)	
Apr 2019 - Mar 2021	63	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, April 2017 – March 2019 and April 2019 - March 2021. 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 April 2017 to 31 March 2021

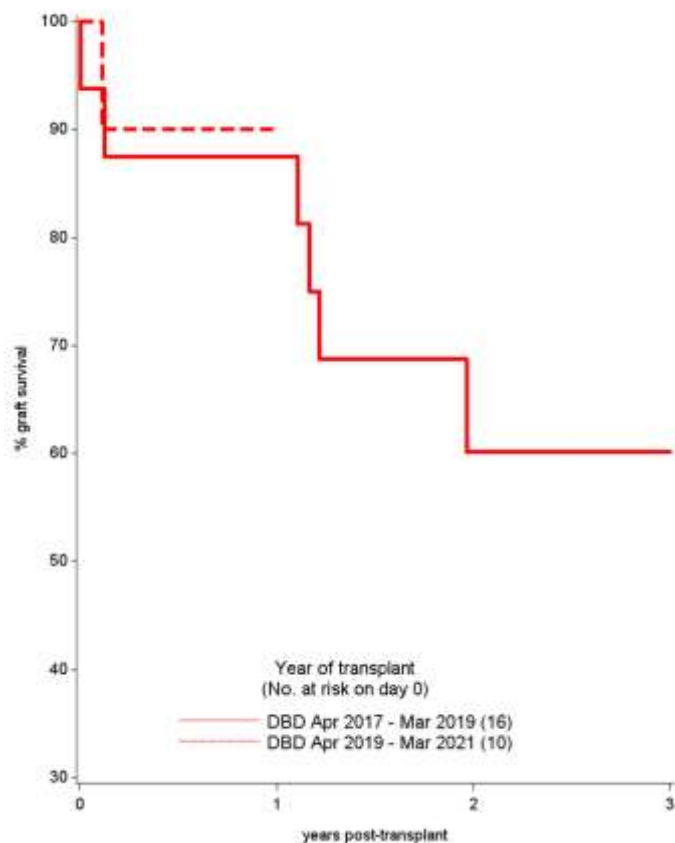


Table 1.3 Graft and patient survival after first pancreas only transplant, 1 April 2017 to 31 March 2021

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=0.85)				
Apr 2017 - Mar 2019	16	88 (59 - 97)	60 (31 - 80)	60 (31 - 80)
Apr 2019 - Mar 2021	10	90 (47 - 99)		
DBD patient survival (one year, p=0.21)				
Apr 2017 - Mar 2019	16	100 -	92 (54 - 99)	92 (54 - 99)
Apr 2019 - Mar 2021	10	89 (43 - 98)		

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, April 2017 – March 2021. 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 April 2017 to 31 March 2021

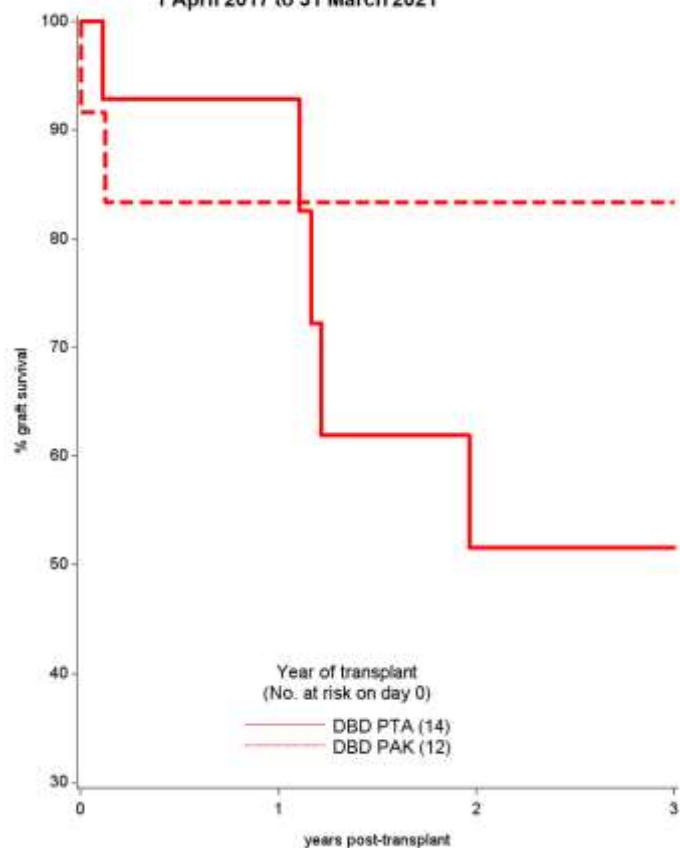


Table 1.4 Graft and patient survival after first pancreas only transplant by transplant type, 1 April 2017 to 31 March 2021

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=0.46)				
PTA	14	93 (59 - 99)	52 (19 - 77)	52 (19 - 77)
PAK	12	83 (48 - 96)	83 (48 - 96)	83 (48 - 96)
DBD patient survival (one year, p=0.25)				
PTA	14	100 -	100 -	100 -
PAK	12	90 (47 - 99)	79 (38 - 94)	79 (38 - 94)

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, April 2017 – March 2021. 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.

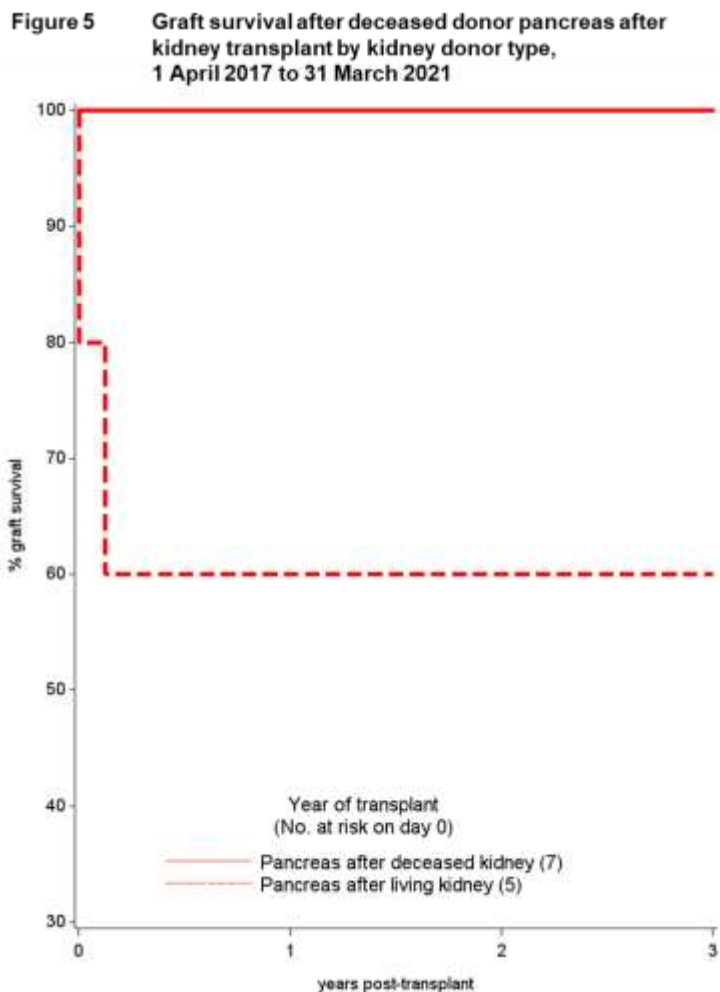


Table 1.5 Graft and patient survival after first pancreas after kidney transplant, 1 April 2017 to 31 March 2021

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)		
		One year	Two year	Three year
Pancreas graft survival				
PADK	7	100	100	100
PALK	5	60 (13 - 88)	60 (13 - 88)	60 (13 - 88)
Pancreas patient survival				
PADK	7	86 (33 - 98)	69 (21 - 91)	69 (21 - 91)
PALK	5	100	100	100