

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 2015 and 31 March 2019. 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 a significant improvement in one-year pancreas graft survival following first SPK transplants from DBD donors between the time periods 2015-2017 cf. 2017-2019, $p=0.03$. For DCD donors there was not a significant difference in one-year pancreas graft survival between the time periods, $p=0.73$. Three-year pancreas graft survival following first SPK transplant in 2015-2017 was 85% and 86% for DBD and DCD donors, respectively. Following first SPK transplant from a DBD donor, there was no significant difference in one-year patient survival between the time periods 2015-2017 cf. 2017-2019, $p=0.07$.
- 5 There was no significant difference in one-year pancreas graft survival following pancreas only transplants from DBD donors between the time periods 2015-2017 cf. 2017-2019, 76% and 88% respectively, $p=0.59$.
- 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, $p=0.49$.

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 2015 - March 2017 and April 2017 - March 2019. 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 transplant from donors after brain stem death, 1 April 2015 to 31 March 2019

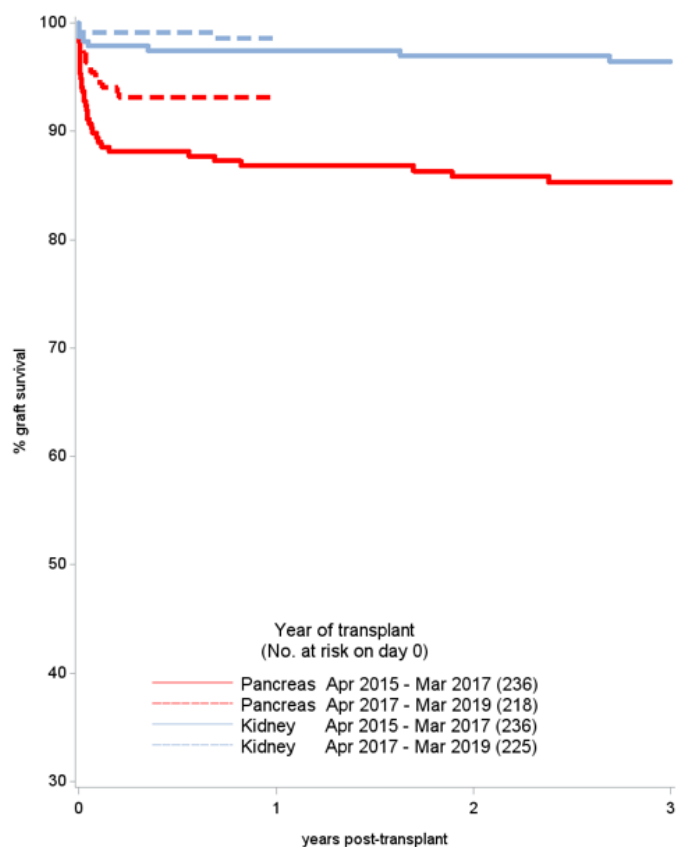


Table 1.1 Graft and patient survival after first SPK transplant from a DBD, 1 April 2015 to 31 March 2019

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=0.03)					
Apr 2015 - Mar 2017	236	87 (82 - 91)	86 (81 - 90)	85 (80 - 89)	
Apr 2017 - Mar 2019	218	93 (89 - 96)			
Pancreas patient survival (one year, p=0.07)					
Apr 2015 - Mar 2017	236	97 (93 - 98)	96 (93 - 98)	95 (91 - 97)	
Apr 2017 - Mar 2019	218	99 (96 - 100)			
Kidney graft survival (one year, p=0.36)					
Apr 2015 - Mar 2017	236	97 (94 - 99)	97 (94 - 99)	96 (93 - 98)	
Apr 2017 - Mar 2019	225	99 (96 - 100)			

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 2015 - March 2017 and April 2017 - March 2019. 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 transplant from donors after circulatory death, 1 April 2015 to 31 March 2019

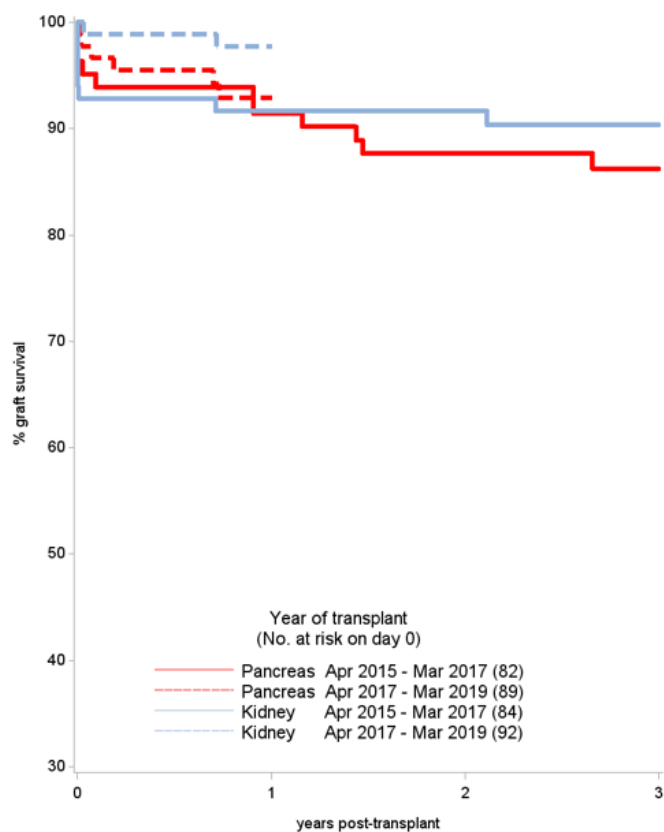


Table 1.2 Graft and patient survival after first SPK transplant from a DCD, 1 April 2015 to 31 March 2019

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=0.73)				
Apr 2015 - Mar 2017	82	91 (83 - 96)	88 (78 - 93)	86 (76 - 92)
Apr 2017 - Mar 2019	89	93 (85 - 97)		
Pancreas patient survival (one year, p=0.97)				
Apr 2015 - Mar 2017	82	99 (91 - 100)	99 (91 - 100)	97 (89 - 99)
Apr 2017 - Mar 2019	89	99 (91 - 100)		
Kidney graft survival (one year, p=0.06)				
Apr 2015 - Mar 2017	84	92 (83 - 96)	92 (83 - 96)	90 (82 - 95)
Apr 2017 - Mar 2019	92	98 (91 - 99)		

3 Pancreas only transplants – deceased donors

Figure 3 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from deceased donors, April 2015 - March 2017 and April 2017 - March 2019. 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 2015 to 31 March 2019

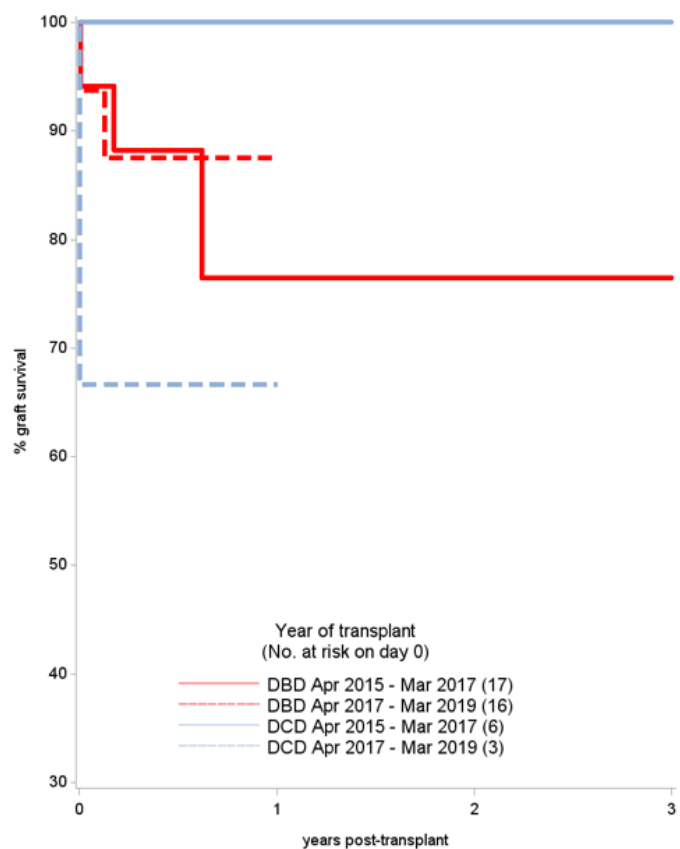


Table 1.3 Graft and patient survival after first pancreas only transplant, 1 April 2015 to 31 March 2019

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=0.59)				
Apr 2015 - Mar 2017	17	76 (49 - 90)	76 (49 - 90)	76 (49 - 90)
Apr 2017 - Mar 2019	16	88 (59 - 97)		
DBD patient survival (one year, p=0.39)				
Apr 2015 - Mar 2017	17	94 (63 - 99)	86 (54 - 96)	77 (44 - 92)
Apr 2017 - Mar 2019	16	100 -		
DCD graft survival				
Apr 2015 - Mar 2017	6	100 -	100 -	100 -
Apr 2017 - Mar 2019	3	67 (5 - 95)		
DCD patient survival				
Apr 2015 - Mar 2017	6	100 -	100 -	100 -
Apr 2017 - Mar 2019	3	100 -		

4 Pancreas only transplants by transplant type – deceased donors

Figure 4 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from deceased donors, 1 April 2015 – 31 March 2019. 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 2015 to 31 March 2019

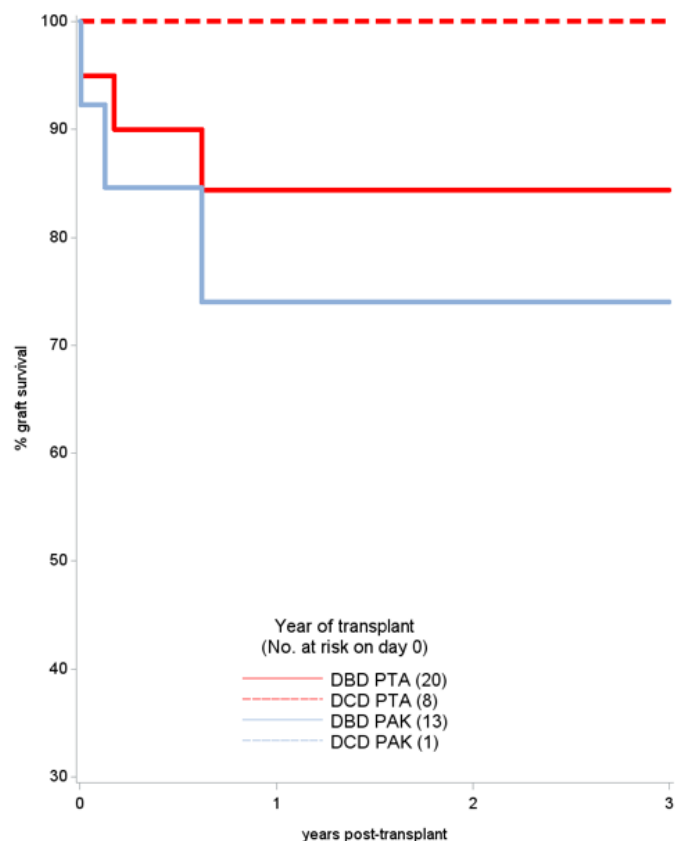


Table 1.4 Graft and patient survival after first pancreas only transplant by transplant type, 1 April 2015 to 31 March 2019

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=0.49)					
PTA	20	84 (59 - 95)	84 (59 - 95)	84 (59 - 95)	
PAK	13	74 (38 - 91)	74 (38 - 91)	74 (38 - 91)	
DBD patient survival (one year, p=0.49)					
PTA	20	95 (68 - 99)	85 (50 - 96)	85 (50 - 96)	
PAK	13	100 -	80 (20 - 97)	60 (13 - 88)	
DCD graft survival					
PTA	8	100 -	100 -	100 -	
PAK	1	100 -	- -	- -	
DCD patient survival					
PTA	8	100 -	100 -	100 -	
PAK	1	100 -	- -	- -	

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 donors, 1 April 2015 – 31 March 2019. 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 April 2015 to 31 March 2019

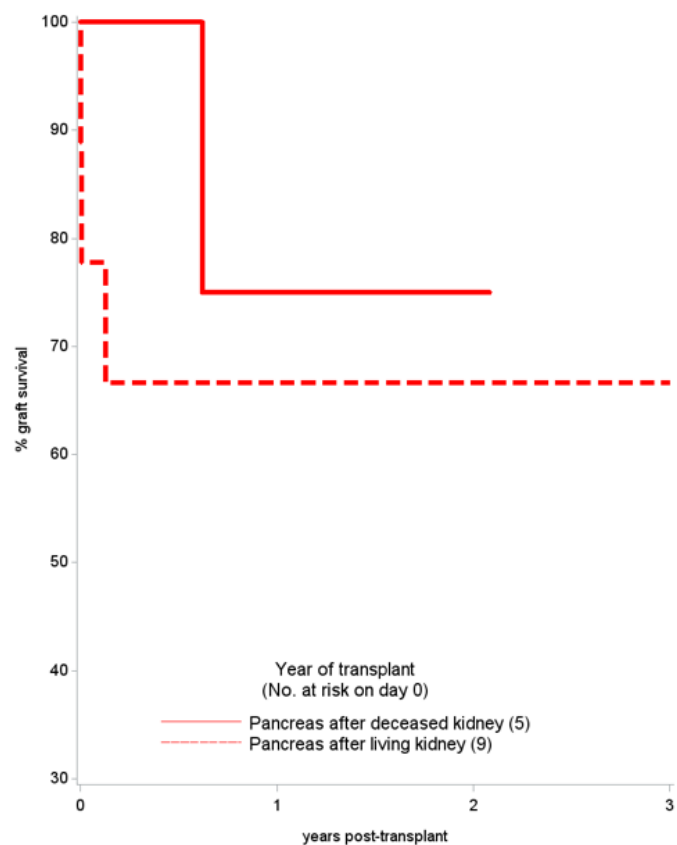


Table 1.5 Graft and patient survival after first pancreas after kidney transplant, 1 April 2015 to 31 March 2019

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=0.5)					
PADK	5	75 (13 - 96)	75 (13 - 96)	75 (13 - 96)	
PALK	9	67 (28 - 88)	67 (28 - 88)	67 (28 - 88)	
Pancreas patient survival					
PADK	5	100 -	50 (1 - 91)	0 (0 - 0)	
PALK	9	100 -	100 -	100 -	