

**NHS BLOOD AND TRANSPLANT
ORGAN DONATION AND TRANSPLANTATION DIRECTORATE**

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 January 2013 and 31 December 2016. 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.

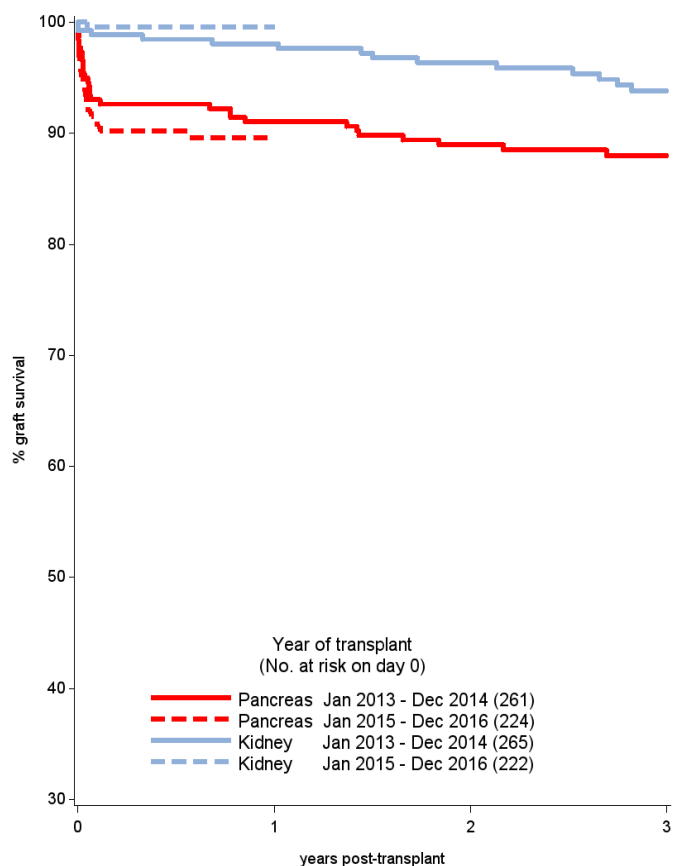
RESULTS

- 4 There was no significant difference in pancreas graft survival following SPK transplants from DBD or DCD donors between the time periods 2013-2014 cf. 2015-2016, $p=0.55$ and $p=0.5$ respectively. Three year pancreas graft survival following SPK transplant in 2013 and 2014 was 88% (95% CI: 83 – 91) for DBD donors and 79% (95% CI: 68 – 86) for DCD donors.
- 5 There was no significant difference in pancreas graft survival following pancreas only transplants from DBD and DCD donors between the time periods 2013-2014 cf. 2015-2016, $p=0.86$ and 0.67 respectively.

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 2013 - December 2014 and January 2015 - December 2016. 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 January 2013 – 31 December 2016

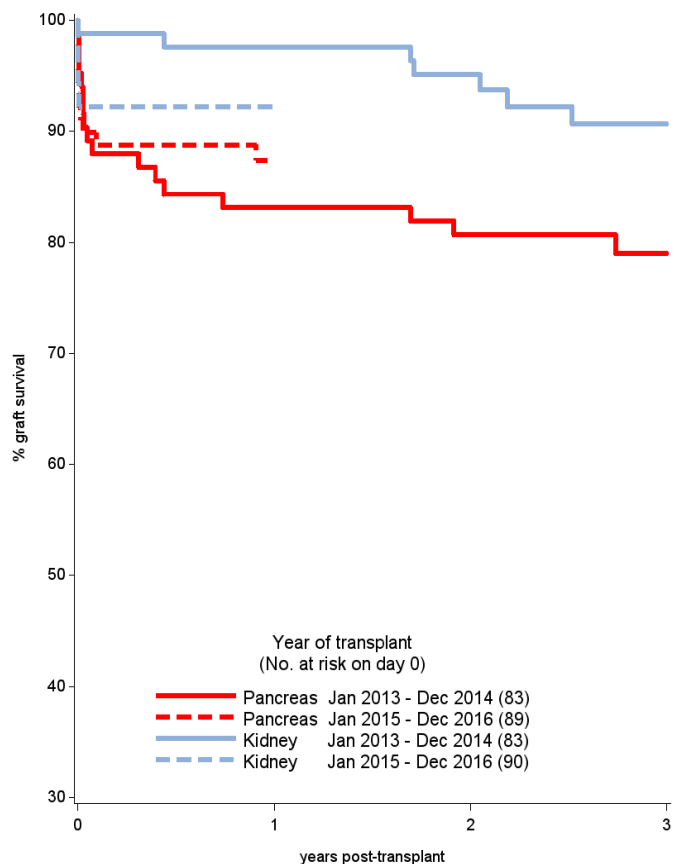


Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)			
		One year	Two year	Three year	
Pancreas graft survival (one year, p=0.55)					
Jan 2013 - Dec 2014	261	91 (87 - 94)	89 (84 - 92)	88 (83 - 91)	
Jan 2015 - Dec 2016	224	90 (85 - 93)			
Kidney graft survival (one year, p=0.17)					
Jan 2013 - Dec 2014	265	98 (95 - 99)	96 (93 - 98)	94 (90 - 96)	
Jan 2015 - Dec 2016	222	100 (97 - 100)			
Patient survival (one year, p=0.76)					
Jan 2013 - Dec 2014	263	96 (93 - 98)	96 (93 - 98)	94 (90 - 96)	
Jan 2015 - Dec 2016	223	97 (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, January 2013 - December 2014 and January 2015 - December 2016. 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 January 2013 – 31 December 2016



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)					
Jan 2013 - Dec 2014	83	83 (73 - 90)	81 (70 - 88)	79 (68 - 86)	
Jan 2015 - Dec 2016	89	87 (78 - 93)			
Kidney graft survival (one year, p=0.11)					
Jan 2013 - Dec 2014	83	98 (91 - 99)	95 (88 - 98)	91 (81 - 95)	
Jan 2015 - Dec 2016	90	92 (84 - 96)			
Patient survival (one year, p=0.33)					
Jan 2013 - Dec 2014	83	100 (-)	99 (91 - 100)	97 (88 - 99)	
Jan 2015 - Dec 2016	89	99 (91 - 100)			

3 Pancreas only transplants – deceased donors

Figure 3 shows pancreas graft survival in recipients receiving their first pancreas only transplant performed from deceased donors, January 2013 - December 2014 and January 2015 - December 2016. 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.

Figure 3 Graft survival after first pancreas only transplant from deceased donors, by donor type and year, 1 January 2013 – 31 December 2016

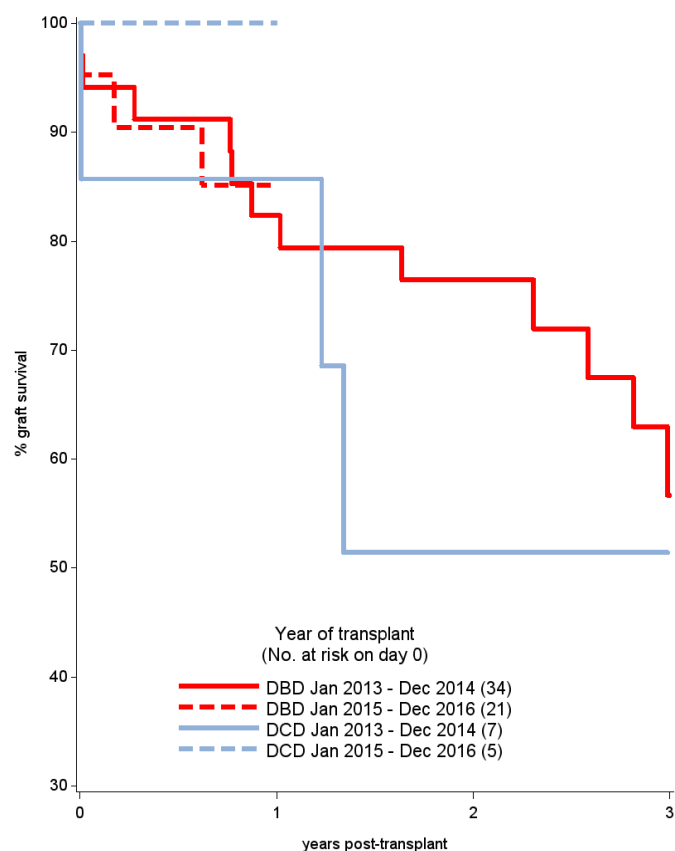


Table 1.3 Graft and patient survival after first pancreas only transplant, 1 January 2013 to 31 December 2016

Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)			
		One year	Two year	Three year	
DBD Pancreas graft survival (one year, p=0.86)					
Jan 2013 - Dec 2014	34	82 (65 - 92)	76 (58 - 87)	57 (35 - 74)	
Jan 2015 - Dec 2016	21	85 (61 - 95)			
DBD Patient survival (one year, p=0.67)					
Jan 2013 - Dec 2014	34	97 (80 - 100)	97 (80 - 100)	92 (71 - 98)	
Jan 2015 - Dec 2016	21	95 (68 - 99)			
DCD Pancreas graft survival (one year, p=0.4)					
Jan 2013 - Dec 2014	7	86 (33 - 98)	51 (12 - 81)	51 (12 - 81)	
Jan 2015 - Dec 2016	5	100 (-)	100 (-)	100 (-)	
DCD Patient survival					
Jan 2013 - Dec 2014	7	100 (-)	100 (-)	33 (1 - 77)	
Jan 2015 - Dec 2016	5	100 (-)	100 (-)	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 January 2013 – 31 December 2016. 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.

Figure 4 Graft survival after first pancreas only transplant from deceased donors, by donor and transplant type, 1 January 2013 – 31 December 2016

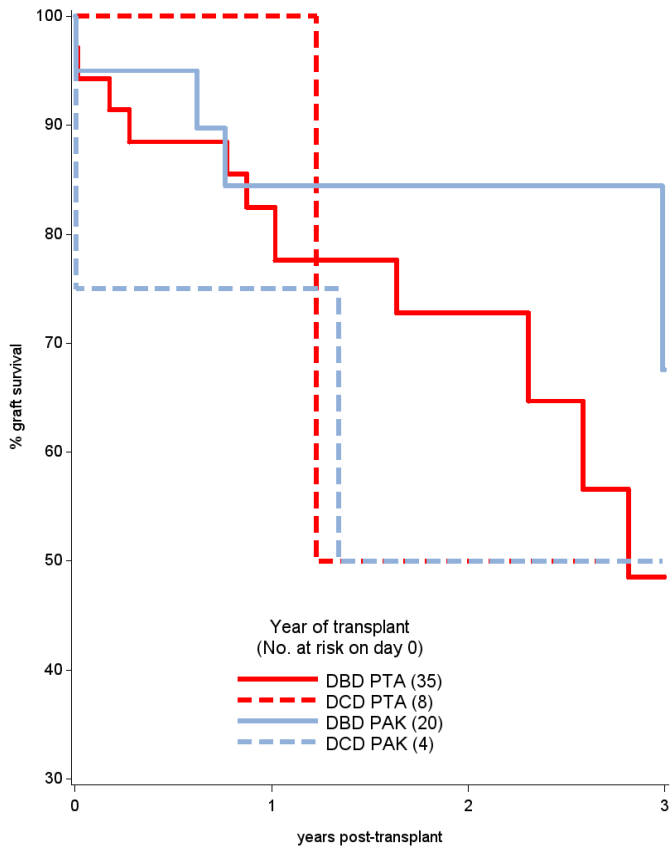


Table 1.4 Graft and patient survival after first pancreas only transplant by transplant type, 1 January 2013 to 31 December 2016

Transplant type	No. at risk on day 0	% Survival (95% confidence interval)					
		One year	Two year	Three year			
DBD Pancreas graft survival (one year, p=0.87)							
PTA	35	82	(65 - 92)	73	(52 - 86)	49	(23 - 70)
PAK	20	84	(59 - 95)	84	(59 - 95)	68	(26 - 89)
DBD Patient survival (one year, p=0.72)							
PTA	35	97	(80 - 100)	92	(72 - 98)	85	(57 - 95)
PAK	20	95	(68 - 99)	95	(68 - 99)	95	(68 - 99)
DCD Pancreas graft survival (one year, p=0.16)							
PTA	8	100	(-)	50	(1 - 91)	50	(1 - 91)
PAK	4	75	(13 - 96)	50	(6 - 84)	50	(6 - 84)
DCD Patient survival							
PTA	8	100	(-)	100	(-)	100	(-)
PAK	4	100	(-)	100	(-)	33	(1 - 77)

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 January 2013 – 31 December 2016. 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.

Figure 5 Graft survival after deceased donor pancreas after kidney transplant by kidney donor type, 1 January 2013 – 31 December 2016

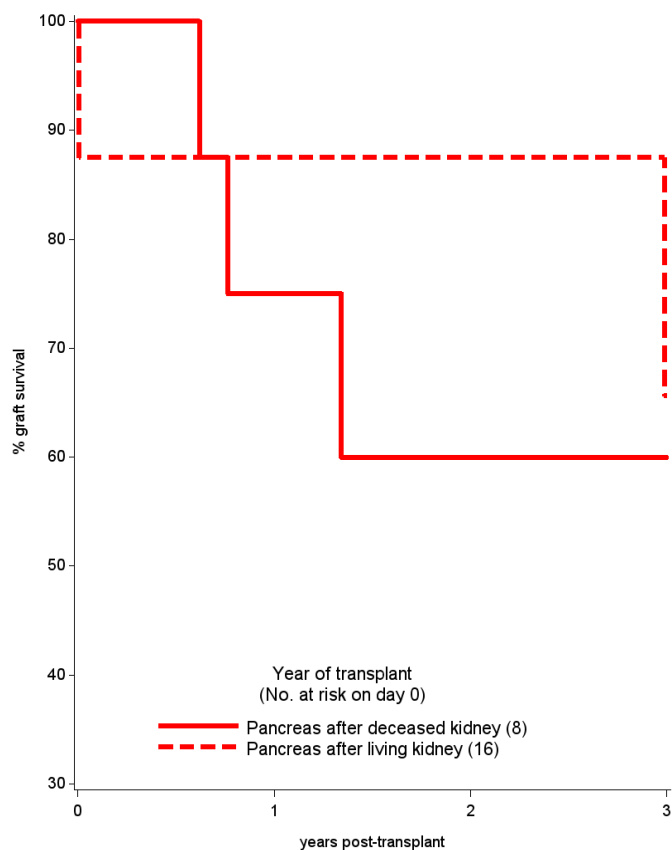


Table 1.5 Graft and patient survival after first pancreas after kidney transplant, 1 January 2013 to 31 December 2016

Transplant type	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	8	75 (31 - 93)	60 (20 - 85)	60 (20 - 85)	
PALK	16	88 (59 - 97)	88 (59 - 97)	66 (18 - 90)	
Patient survival					
PADK	8	100 (-)	100 (-)	80 (20 - 97)	
PALK	16	93 (61 - 99)	93 (61 - 99)	75 (25 - 94)	

PADK – pancreas after deceased kidney
PALK – pancreas after living kidney