

**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 2012 and 31 December 2015. 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.
- 4 There was no significant difference in pancreas graft survival following SPK transplants from DBD or DCD donors between the time periods 2012-2013 cf. 2014-2015, $p=0.5$ and $p=0.96$ respectively. Three year pancreas graft survival following SPK transplant in 2012 and 2013 was 84% for DBD donors and 75% for DCD donors.
- 5 There was no significant difference in pancreas graft survival following pancreas only transplants from DBD donors between the time periods 2012-2013 cf. 2014-2015, $p=0.14$.

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 2012 - December 2013 and January 2014 - December 2015. 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 relate to adults only as there are no paediatric pancreas transplant recipients.

Figure 1 Graft survival after first SPK transplant from donors after brain stem death, 1 January 2012 – 31 December 2015

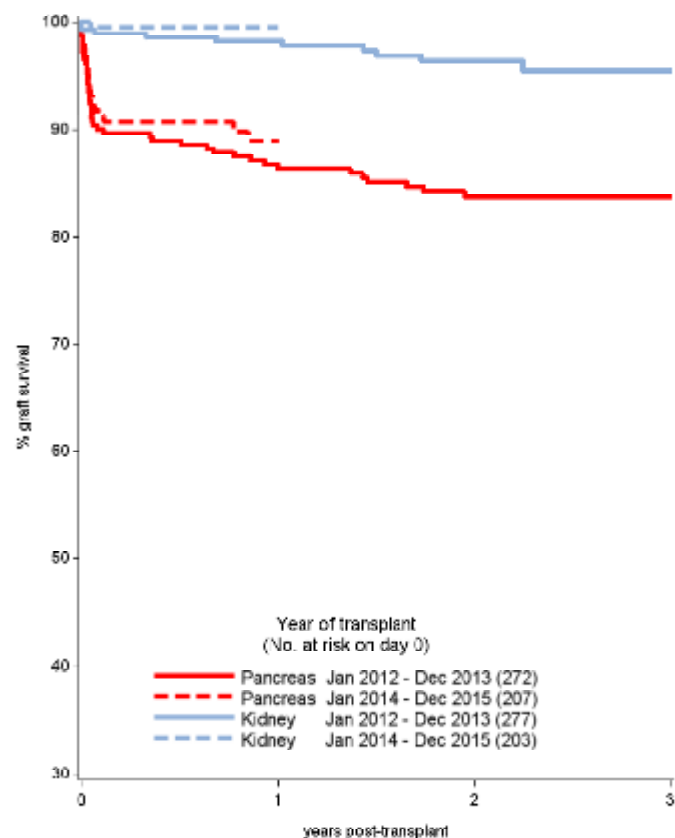


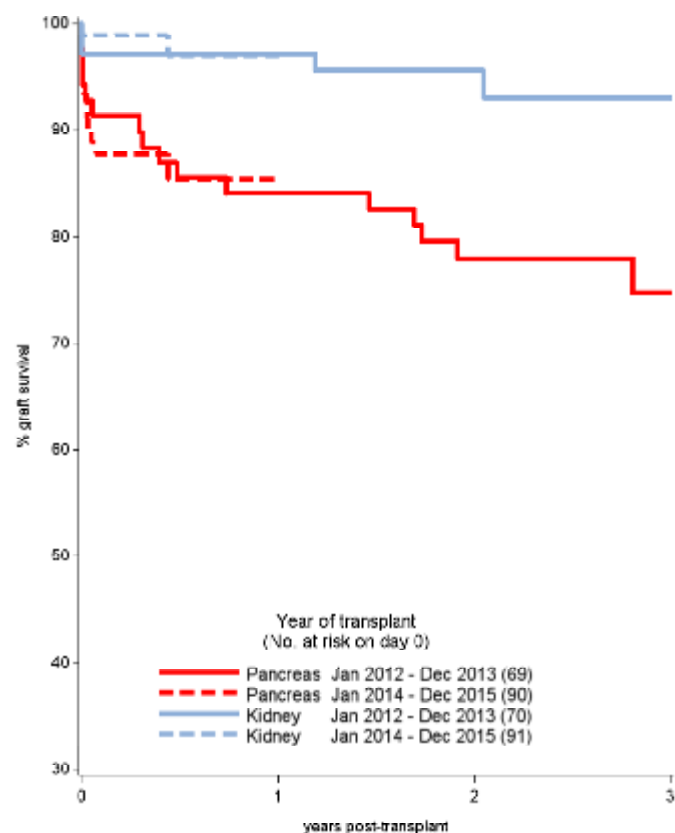
Table 1.1 Graft and patient survival after first SPK transplant from a DBD, 1 January 2012 to 31 December 2015

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 2012 - Dec 2013	272	86 (82 - 90)	84 (79 - 88)	84 (79 - 88)	
Jan 2014 - Dec 2015	207	89 (83 - 93)			
Kidney graft survival (one-year, p=0.28)					
Jan 2012 - Dec 2013	277	98 (96 - 99)	96 (93 - 98)	95 (91 - 98)	
Jan 2014 - Dec 2015	203	99 (96 - 100)			
Patient survival (one-year, p=0.93)					
Jan 2012 - Dec 2013	274	96 (93 - 98)	95 (91 - 97)	91 (84 - 95)	
Jan 2014 - Dec 2015	206	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 2012 - December 2013 and January 2014 - December 2015. 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 2012 – 31 December 2015



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=0.96)					
Jan 2012 - Dec 2013	69	84 (73 - 91)	78 (66 - 86)	75 (61 - 84)	
Jan 2014 - Dec 2015	90	85 (75 - 92)			
Kidney graft survival (one-year, p=0.89)					
Jan 2012 - Dec 2013	70	97 (89 - 99)	96 (87 - 99)	93 (82 - 97)	
Jan 2014 - Dec 2015	91	97 (88 - 99)			
Patient survival (one-year, p=0.27)					
Jan 2012 - Dec 2013	69	98 (90 - 100)	98 (90 - 100)	91 (74 - 97)	
Jan 2014 - Dec 2015	90	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 2012 - December 2013 and January 2014 - December 2015. 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 2012 – 31 December 2015

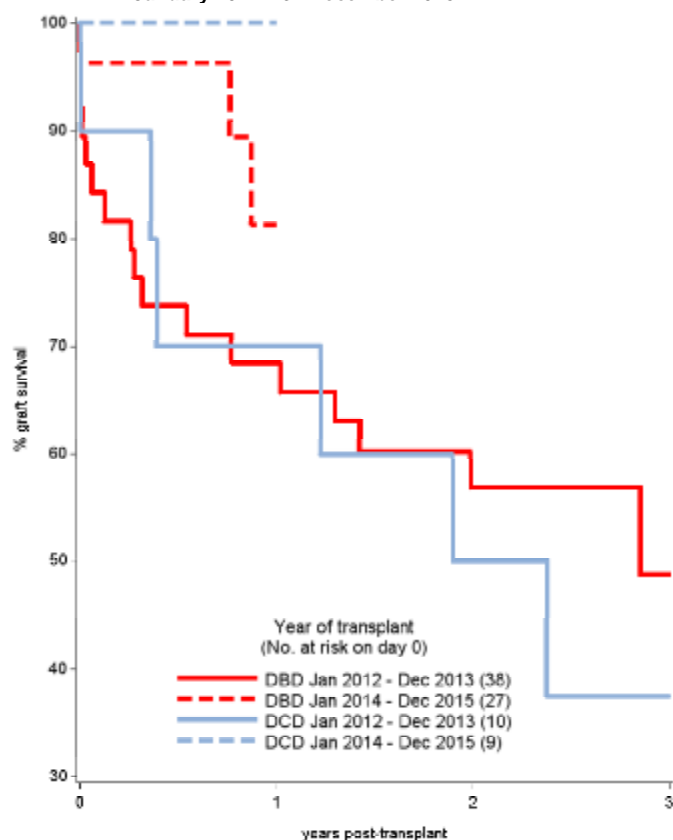


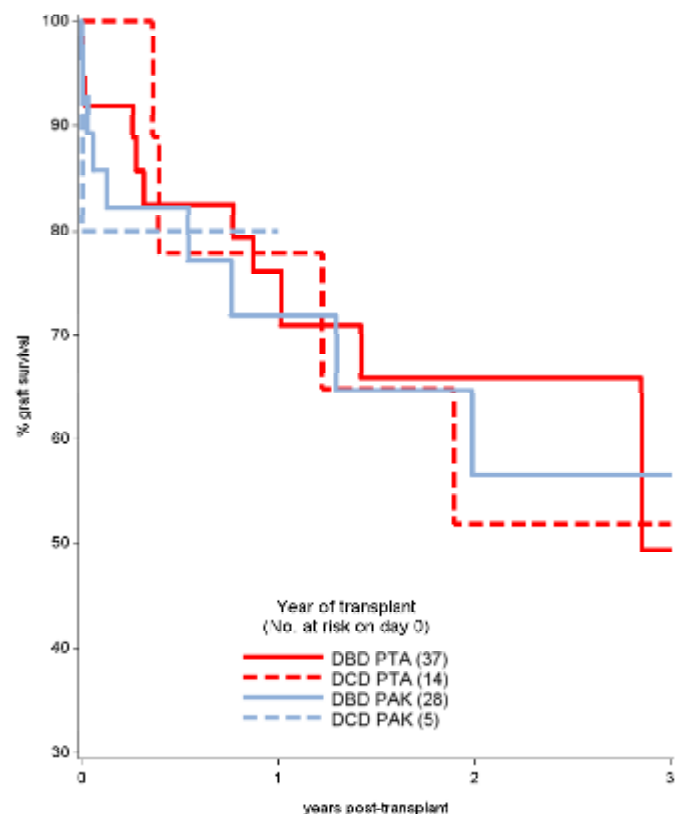
Table 1.3 Graft and patient survival after first pancreas only transplant, 1 January 2012 to 31 December 2015

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=0.14)							
Jan 2012 - Dec 2013	38	68	(51 - 81)	57	(39 - 71)	49	(28 - 67)
Jan 2014 - Dec 2015	27	81	(50 - 94)				
DBD Patient survival (one-year, p=0.49)							
Jan 2012 - Dec 2013	38	97	(79 - 100)	97	(79 - 100)	97	(79 - 100)
Jan 2014 - Dec 2015	27	100	(-)				
DCD Pancreas graft survival (one-year, p=0.18)							
Jan 2012 - Dec 2013	10	70	(33 - 89)	50	(18 - 75)	38	(10 - 66)
Jan 2014 - Dec 2015	9	100	(-)				
DCD Patient survival (one-year, p=0.53)							
Jan 2012 - Dec 2013	10	90	(47 - 99)	90	(47 - 99)	90	(47 - 99)
Jan 2014 - Dec 2015	9	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 2012 – 31 December 2014. 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 2012 – 31 December 2015



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=0.59)					
PTA	37	76 (58 - 87)	66 (45 - 81)	49 (18 - 75)	
PAK	28	72 (49 - 86)	57 (30 - 76)	57 (30 - 76)	
DBD Patient survival (one-year, p=0.23)					
PTA	37	100 (-)	100 (-)	100 (-)	
PAK	28	95 (68 - 99)	95 (68 - 99)	95 (68 - 99)	
DCD Pancreas graft survival (one-year, p=0.9)					
PTA	14	78 (36 - 94)	52 (16 - 79)	52 (16 - 79)	
PAK	5	80 (20 - 97)	80 (20 - 97)	0 (-)	
DCD Patient survival (one-year, p=0.46)					
PTA	14	89 (43 - 98)	89 (43 - 98)	89 (43 - 98)	
PAK	5	100 (-)	100 (-)	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 January 2012 – 31 December 2015. 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 2012 – 31 December 2015

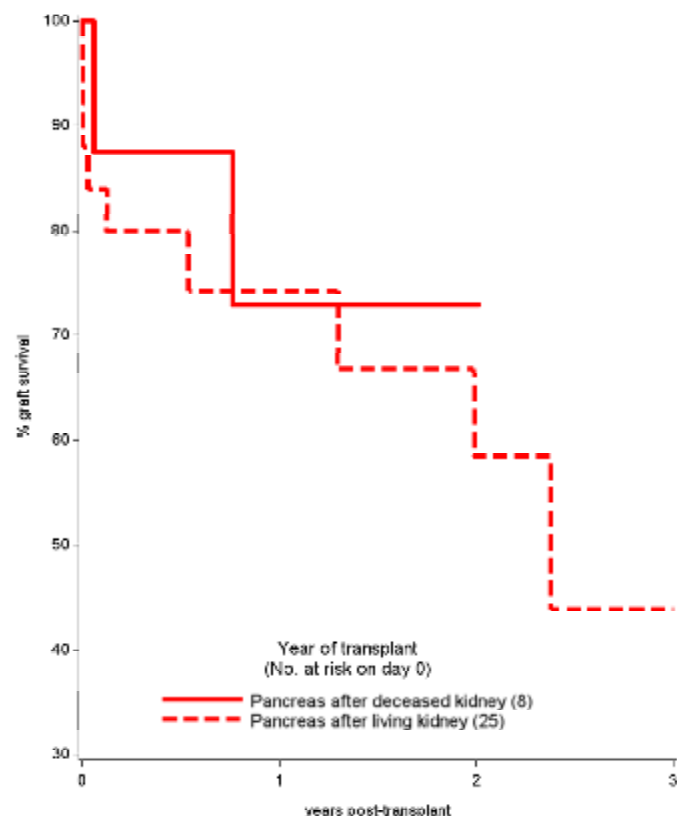


Table 1.5 Graft and patient survival after first pancreas after kidney transplant, 1 January 2012 to 31 December 2015

Transplant type	No. at risk on day 0	% Survival (95% confidence interval)					
		One year	Two year	Three year			
Pancreas graft survival (one-year, p=0.9)							
PADK	8	73 (28 - 93)	73 (28 - 93)	73 (28 - 93)			
PALK	25	74 (51 - 88)	59 (31 - 78)	44 (15 - 70)			
Patient survival							
PADK	8	100 (-)	100 (-)	100 (-)			
PALK	25	94 (67 - 99)	94 (67 - 99)	94 (67 - 99)			

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