

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

PANCREAS ADVISORY GROUP

PANCREAS TRANSPLANT OUTCOME

INTRODUCTION

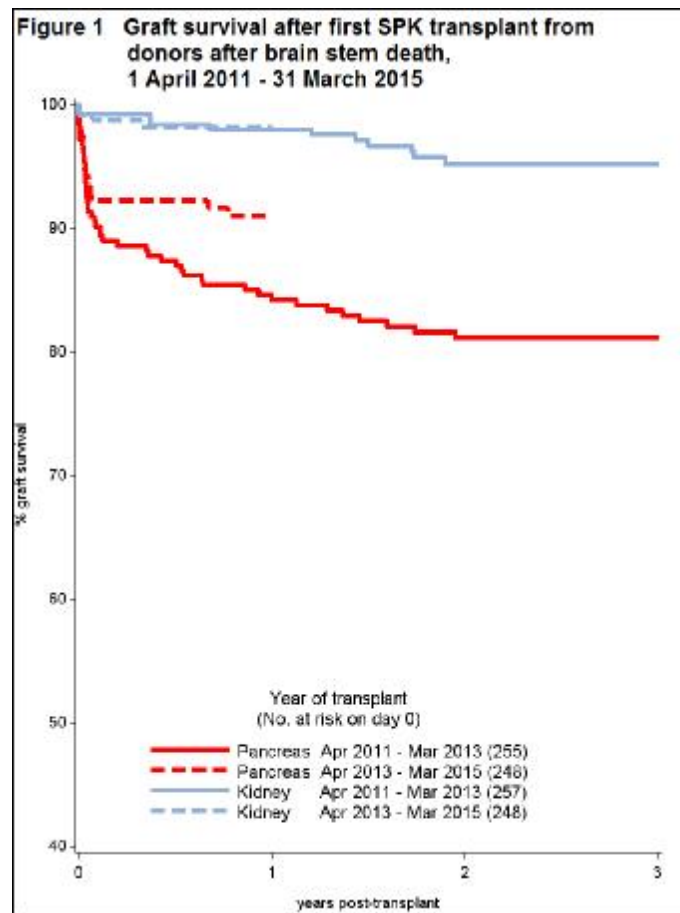
- 1 For information, national data on outcomes following vascularised pancreas transplantation are presented.

DATA & METHODS

- 2 Data were obtained from the UK Transplant Registry and include deceased donor SPK and isolated pancreas transplants performed in the UK between 1 April 2011 and 31 March 2015. Transplants using pancreases from donors after brain death (DBD) and donors after circulatory death (DCD) are analysed separately.
- 3 One, two and three year pancreas and kidney graft and patient survival are reported and are shown 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 a significant fall in pancreas graft survival following SPK transplant between the time periods 2011-2013 cf. 2013-2015 ($p=0.03$). Comparing the characteristics of the two time periods for pancreas graft survival showed no difference for donor age, donor BMI, recipient age or recipient waiting time. Cause of failure in the first month following transplant was; Thrombosis: 3 cf. 6, Anastomotic leak: 0 cf. 4, Pancreatitis: 0 cf. 2, Other: 0 cf. 2 for the period 2011-2013 cf. 2013-2015, respectively. In all of the four failures due to anastomotic leak, duct management was enteric side to side. One year pancreas graft survival following SPK transplant in 2014-2015 is better than in 2013-2014, 87% compared with 74%.

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 2011 - March 2013 and April 2013- March 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.



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=0.04)					
Apr 11 - Mar 13	255	84 (79 - 88)	81 (76 - 85)	81 (76 - 85)	
Apr 13 - Mar 15	248	91 (87 - 94)			
Kidney graft survival (one-year, p=0.99)					
Apr 11 - Mar 13	257	98 (95 - 99)	95 (92 - 97)	95 (92 - 97)	
Apr 13 - Mar 15	248	98 (95 - 99)			
Patient survival (one-year, p=0.98)					
Apr 11 - Mar 13	256	96 (93 - 98)	93 (88 - 96)	91 (85 - 94)	
Apr 13 - Mar 15	248	96 (93 - 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 2011 - March 2013 and April 2013- March 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. Comparing the characteristics of the two time periods for pancreas graft survival showed no difference for donor age, donor BMI, recipient age or recipient waiting time. Cause of failure in the first month following transplant was; Thrombosis: 3 cf. 6, Anastomotic leak: 0 cf. 4, Pancreatitis: 0 cf. 2, Other: 0 cf. 2 for the period 2011/13 cf. 2013/15.

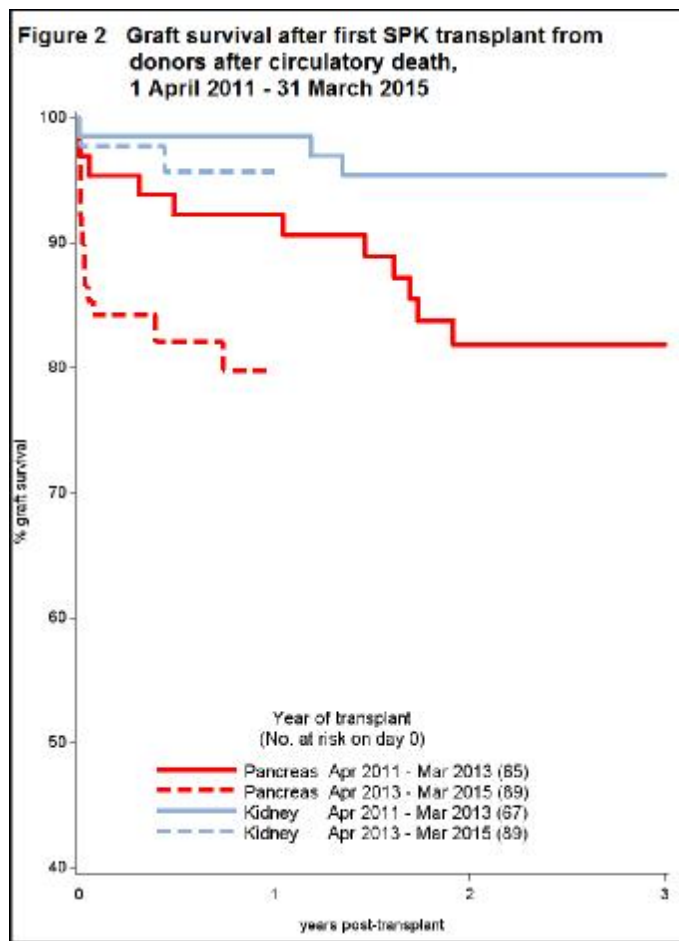


Table 1.2 Graft and patient survival after first SPK transplant from a DCD

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 11 - Mar 13	65	92 (82 - 97)	82 (70 - 90)	82 (70 - 90)	
Apr 13 - Mar 15	89	80 (68 - 87)			
Kidney graft survival (one-year, p=0.38)					
Apr 11 - Mar 13	67	99 (90 - 100)	95 (86 - 99)	95 (86 - 99)	
Apr 13 - Mar 15	89	96 (86 - 99)			
Patient survival (one-year, p=0.28)					
Apr 11 - Mar 13	65	98 (90 - 100)	98 (90 - 100)	95 (81 - 99)	
Apr 13 - Mar 15	89	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, April 2011 - March 2013 and April 2013- March 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.

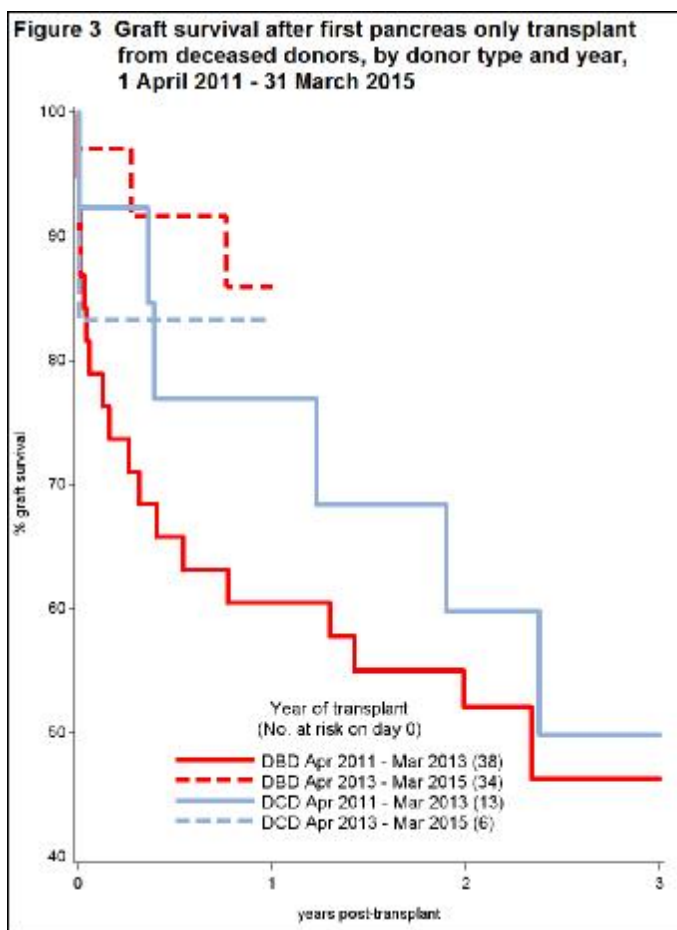


Table 1.3 Graft and patient survival after first pancreas only transplant							
Year of transplant	No. at risk on day 0	% Survival (95% confidence interval)					
		One year	Two year	Three year	One year	Two year	Three year
DBD Pancreas graft survival (one-year, p=0.01)							
Apr 11 - Mar 13	38	61	(43 - 74)	52	(35 - 67)	46	(28 - 63)
Apr 13 - Mar 15	34	86	(61 - 95)				
DBD Patient survival (one-year, p=0.18)							
Apr 11 - Mar 13	38	100	(-)	100	(-)	100	(-)
Apr 13 - Mar 15	34	94	(65 - 99)				
DCD Pancreas graft survival (one-year, p=0.95)							
Apr 11 - Mar 13	13	77	(44 - 92)	60	(29 - 81)	50	(20 - 74)
Apr 13 - Mar 15	6	83	(27 - 97)				
DCD Patient survival (one-year, p=0.63)							
Apr 11 - Mar 13	13	92	(57 - 99)	92	(57 - 99)	92	(57 - 99)
Apr 13 - Mar 15	6	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 2011 – 31 March 2015. 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.

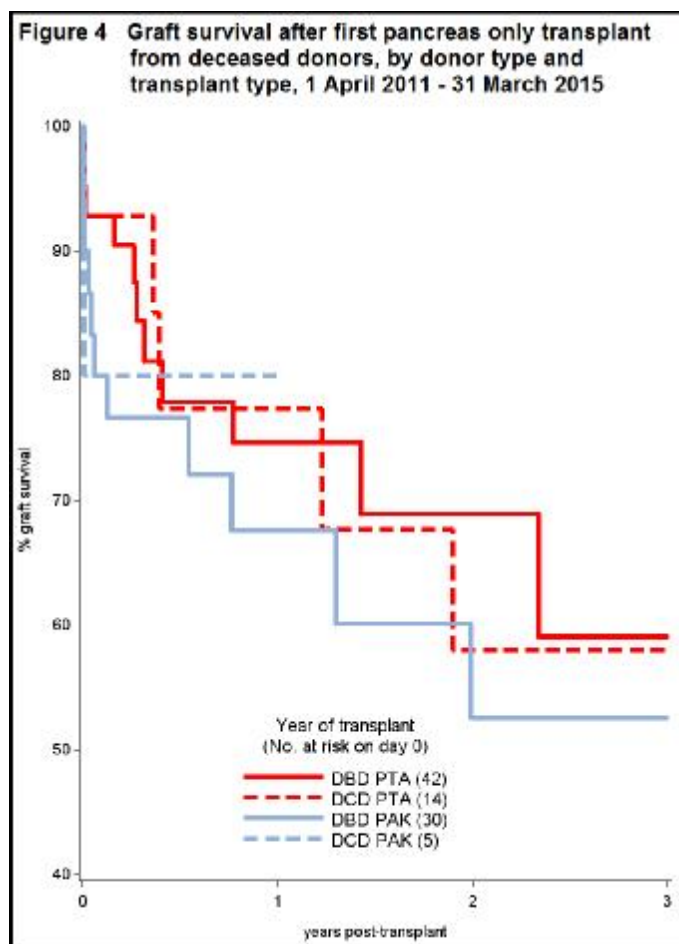


Table 1.4 Graft and patient survival after first pancreas only transplant

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=0.37)					
PTA	42	75 (57 - 86)	69 (48 - 83)	59 (33 - 78)	
PAK	30	68 (46 - 82)	53 (28 - 72)	53 (28 - 72)	
DBD Patient survival (one-year, p=0.22)					
PTA	42	100 (-)	100 (-)	100 (-)	
PAK	30	95 (68 - 99)	95 (68 - 99)	95 (68 - 99)	
DCD Pancreas graft survival (one-year, p=0.84)					
PTA	14	77 (45 - 92)	58 (26 - 80)	58 (26 - 80)	
PAK	5	80 (20 - 97)	80 (20 - 97)	0 (-)	
DCD Patient survival (one-year, p=0.63)					
PTA	14	92 (57 - 99)	92 (57 - 99)	92 (57 - 99)	
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 April 2011 – 31 March 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.

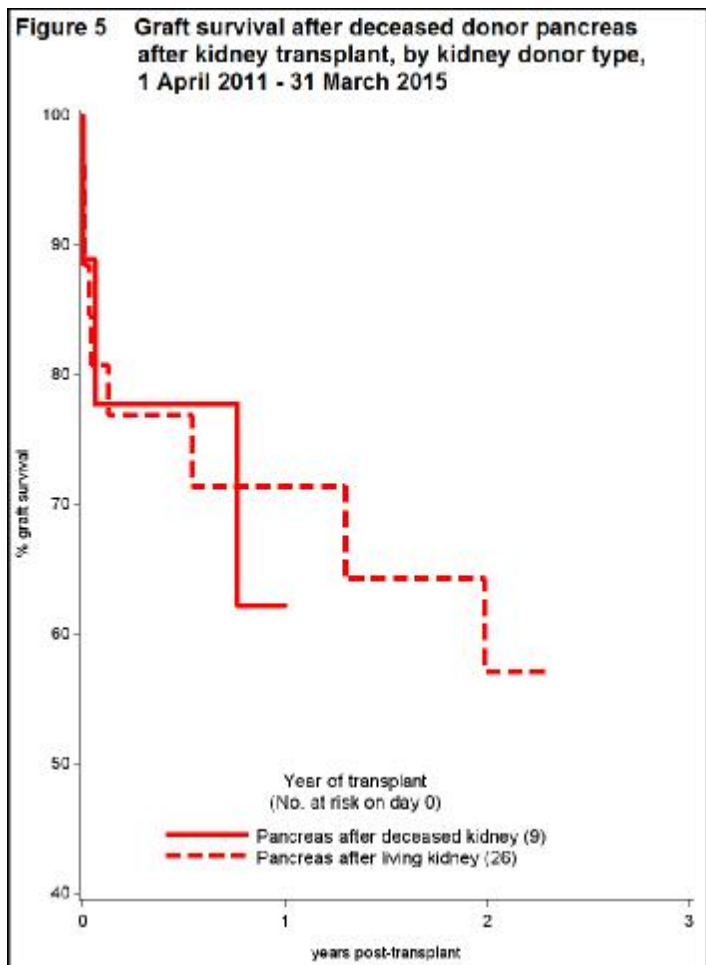


Table 1.5 Graft and patient survival after first pancreas after kidney transplant

Transplant type	No. at risk on day 0	% Survival (95% confidence interval)					
		One year	Two year	Three year			
Pancreas graft survival (one-year, p=0.7)							
PADK	9	62 (21 - 86)	62 (21 - 86)	62 (21 - 86)	62 (21 - 86)	62 (21 - 86)	62 (21 - 86)
PALK	26	71 (49 - 85)	57 (32 - 76)	57 (32 - 76)	38 (9 - 68)	38 (9 - 68)	38 (9 - 68)
Patient survival							
PADK	9	100 (-)	100 (-)	100 (-)	100 (-)	100 (-)	100 (-)
PALK	26	94 (65 - 99)	94 (65 - 99)	94 (65 - 99)	94 (65 - 99)	94 (65 - 99)	94 (65 - 99)

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