

Australia & New Zealand Pancreas Transplant Registry Report 1984-2009



Southern Health



This report is a compilation of data provided by the three current Pancreas transplant units in Australia and New Zealand: Auckland Renal Transplant Group, New Zealand; National Pancreas Transplant Unit Monash Medical Centre, Clayton, Victoria, and National Pancreas Transplant Unit, Westmead Hospital NSW Australia. The registry is funded in part by a grant from the Commonwealth Department of Health and Ageing.

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Data included in this report was extracted from RISC (Renal Information System Catalogue) on the 28th June, 2010. Please note some data fields were incomplete at the time of data extraction. Final survival and graft outcome data requires statistical review and graphs and data were under review at the time of printing. They will be included in the end of year final registry report.



Summary

- ▲ 468 Pancreas transplants have been performed in Australia and New Zealand (ANZ) from 1984-2009 (Excluding Islet transplants)

- ▲ In 2009, 37 transplants were performed:

Auckland (2), Monash (13), Westmead (22).

Transplant by category: SPK (36), PTA (0), PAK (1)

International

- ▲ ANZ compared favourably with international data on the 1-year Pancreas survival, Patient survival, and Kidney survival.

Islet transplant

Twenty nine Islet transplant procedures have been performed in Thirteen patients since 2002. Due to the evolving nature of islet transplantation and the current requirement for multiple grafts into single recipients, these transplants have not to date been included in this version of the report.

A subsequent specific report and analysis will be undertaken.

Others

- ▲ The most common known causes of death in recipients is under review
- ▲ Twelve Pancreas grafts were recorded in recipients who have received a second transplant: SPK (5), followed by PTA (1), PAK (6).

Glossary

- ▲ SPK - Simultaneous Kidney Pancreas Transplant
 - ▲ PTA - Pancreas Transplant Alone
 - ▲ PAK - Pancreas after Kidney Transplant
 - ▲ ITA - Islet Transplant Alone
 - ▲ BD - Bladder Drained Pancreas
 - ▲ ED – Enteric Drained Pancreas
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Introduction

The Australia and New Zealand (ANZ) Pancreas transplant data has been obtained from the transplant centers in Auckland Renal Transplant Group (Auckland), Monash Medical Center (Monash), Royal Prince Alfred Hospital , (Camperdown) and National Pancreas Transplant Unit at Westmead Hospital (Westmead). Auckland commenced in 1998. Islets were first performed in Westmead in 2002, and subsequently performed also at Prince of Wales and the Austin Hospitals.. Data has also been obtained for comparison from ANZDATA.

There have been 468 pancreas transplants in Australia and New Zealand (ANZ) between the dates of November 1984 to December 2009 excluding Islet transplants. No activity was recorded in 1985 and 1986. Of these, Twelve patients have had a second transplant. This re-graft figure does not include multiple islet transplants in the same recipient

Analysis

A functioning pancreas graft is defined as insulin independent recipients. Kidney grafts are defined as functioning if recipients are dialysis free. All causes of death are included in the survival analysis. Patients receiving a second transplant after failure of the first graft are censored for Patient survival for the first graft at the date of the second graft. The aim of this report is to record all pancreas transplant activity.

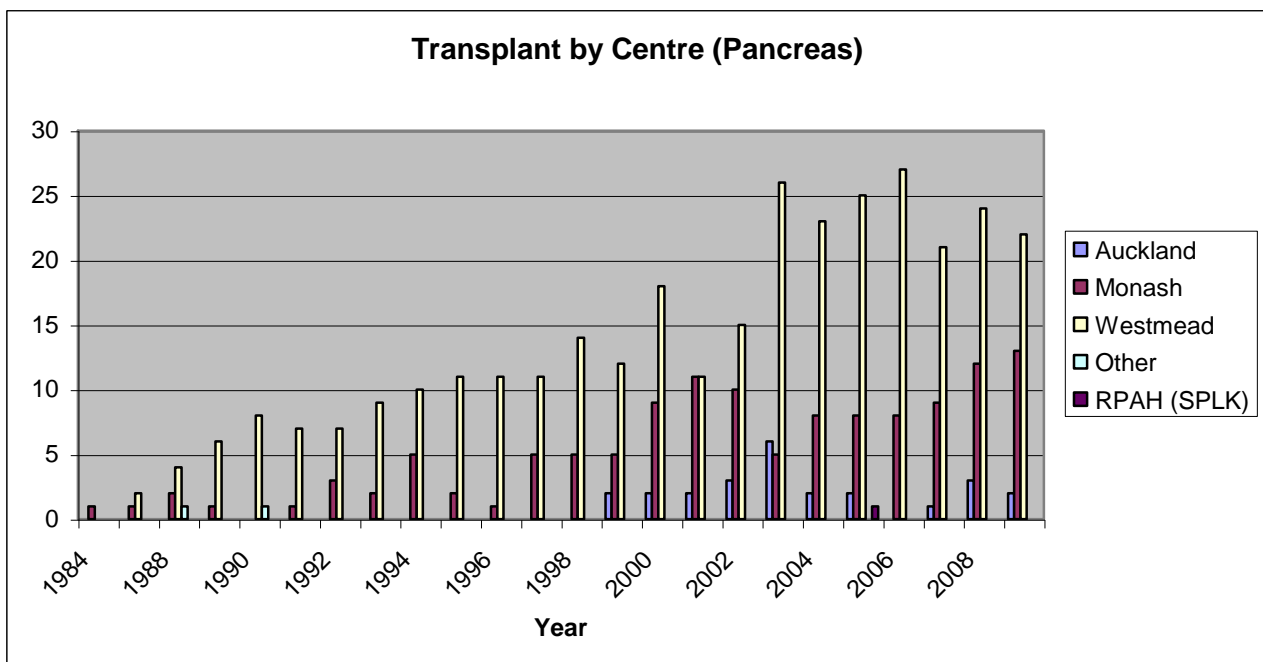
The distribution of Patient survival, Kidney graft survival and Pancreas graft survival was analysed by two periods (1984-1993 and 1994-2007), pancreas duct management (Bladder drained [BD] and Enteric drained [ED]) and two age groups (below 45 and above 45) in Simultaneous pancreas and kidney (SPK) recipients.

Kaplan-Meier survival curves were used to illustrate the survival distributions. Cox regression models were used to estimate the Instantaneous relative risks (hazard ratios, HR) and their 95% confidence intervals. The HR quantifies differences in survival between groups. The statistical software package, SPSS® for Windows Release 13.0 was used for all analyses.

Number of transplants

Figure 1 illustrates the number of pancreas transplants (excluding islets) in ANZ between 1984 and 2009. The transplants were performed in Westmead (308), Monash (123), Auckland (32), RPA (1), RMH (1), QEH (1). In 2009, 37 transplants were performed: Auckland (2), Monash (13), and Westmead (22).

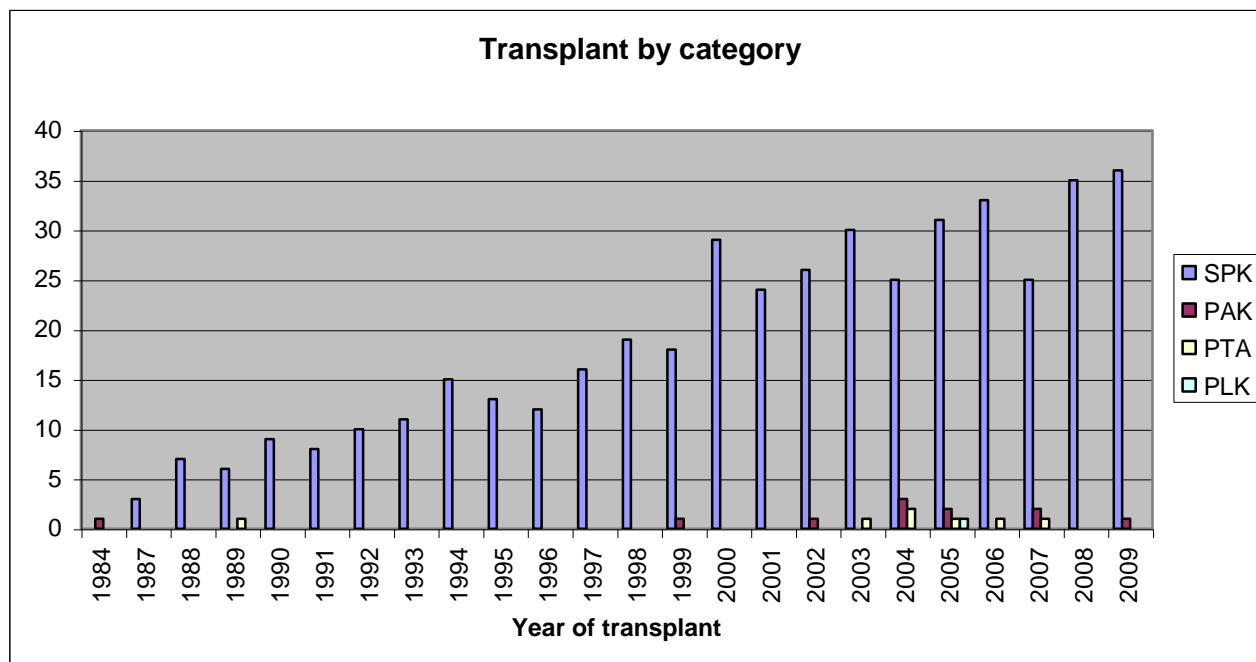
Figure 1. Number of Pancreas transplants by centre in Australia and New Zealand, 1984-2009



Pancreas Transplant by Category

Figure 2 shows the pancreas transplants by category: Simultaneous pancreas-kidney transplant (SPK), Pancreas after kidney (PAK), Pancreas transplant alone (PTA). SPK is the major pancreas transplants by category in ANZ at 93% with one simultaneous Pancreas/Liver and Kidney which was performed in 2005.

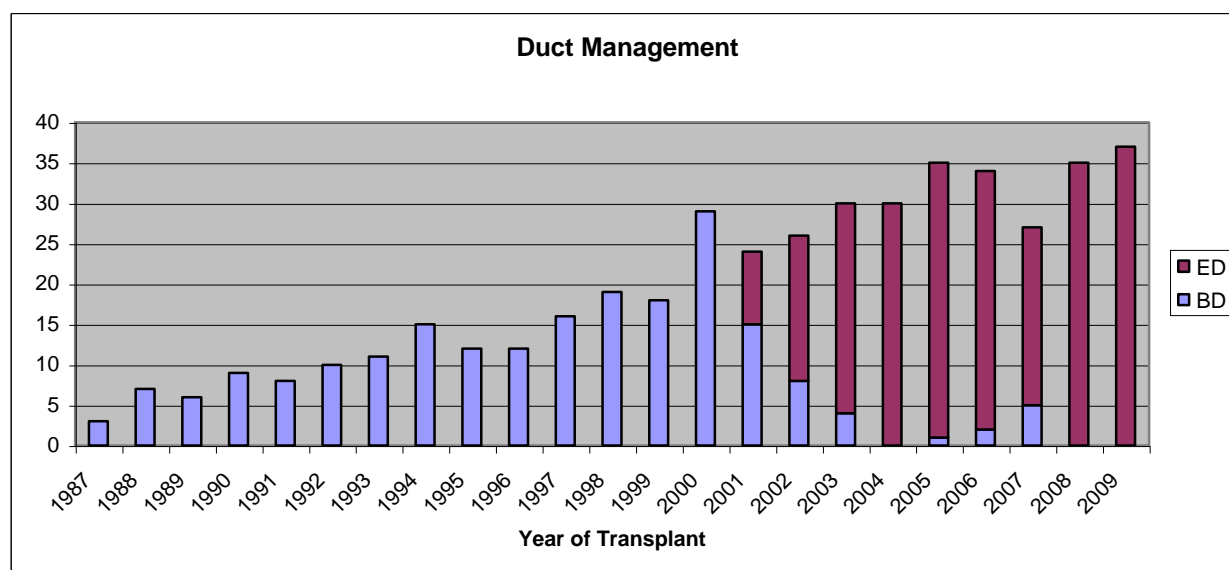
Figure 2. Pancreas transplant by category in Australia and New Zealand, 1984-2009



By Pancreas duct management

Figure 3. Pancreas duct management in ANZ, 1984-2009

ED was introduced in ANZ during 2001. Figure 4 illustrates the number of transplant by duct management.





SECTION 1: DONOR REVIEW

Donor Demographics

Donor Gender

From 1984 – 2009, 58% of pancreas donors were males and 36% were females (the remaining 5% were unknown)

Donor Age

The average donor age was 27.38yrs

Donor Statistics

Donor Ventilation

From 1984 – 2009 the average number of days donors were ventilated was 2.23 days

Donor Blood Group

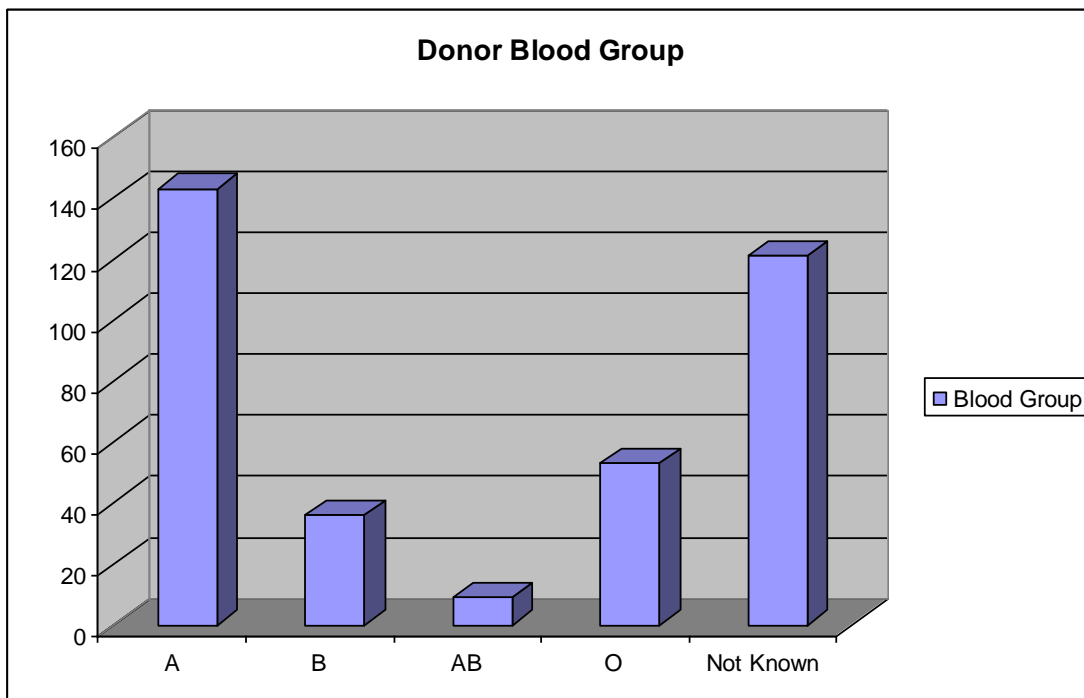


Figure 5. Donor Blood Group, 1984-2009

Donor Kidney Side

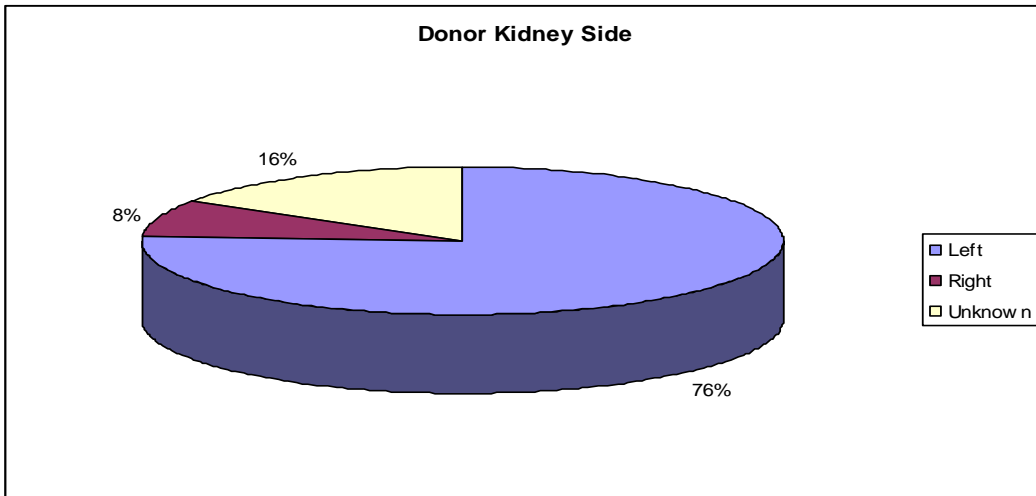


Figure 6. Donor Kidney Side, 1984-2009

From 1984 – 2009;

Donor Biopsy

Yes = 11.25%
No = 87.01%
Unknown = 1.73%

Average Donor Height

173cm

Donor CMV Status

Ig G Neg = 27.15%
Ig G Pos = 57.54%
Unknown = 15.30%

Average Donor Weight

71kg

Average Donor BMI

23.7

Donor Smoking & Alcohol Status

Alcohol consumption defined by > than 40g/day

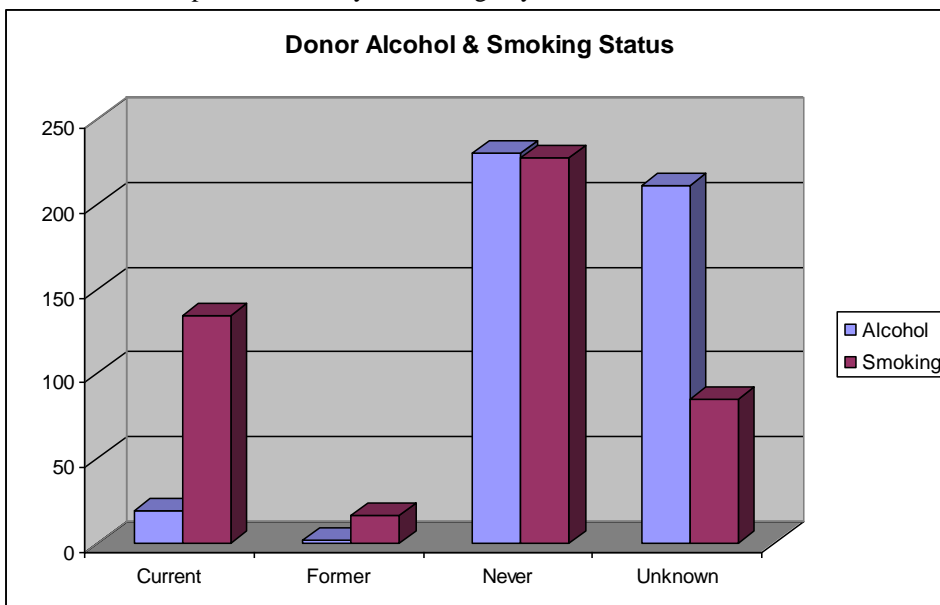


Figure 7. Donor Alcohol & Smoking Status, 1984-2009

Donor Glucose

The terminal donor **glucose** range from 1984 – 2009 was **2.8 to 20mmol**

Donor Amylase

The donor **amylase** range from 1984 – 2009 was **9 to 530units**

SECTION 2 : RECIPIENT REVIEW

Anastomosis Time Range

Anastomosis time for transplantation ranged from **14 to 70mins** over 1984 - 2009

Ischaemia Time Range

5hrs to 22hrs

Exocrine Drainage

49.67% of drainage is Enteric compared with 28.60% for the bladder. Unknown is 21.72%

Recipient Vein

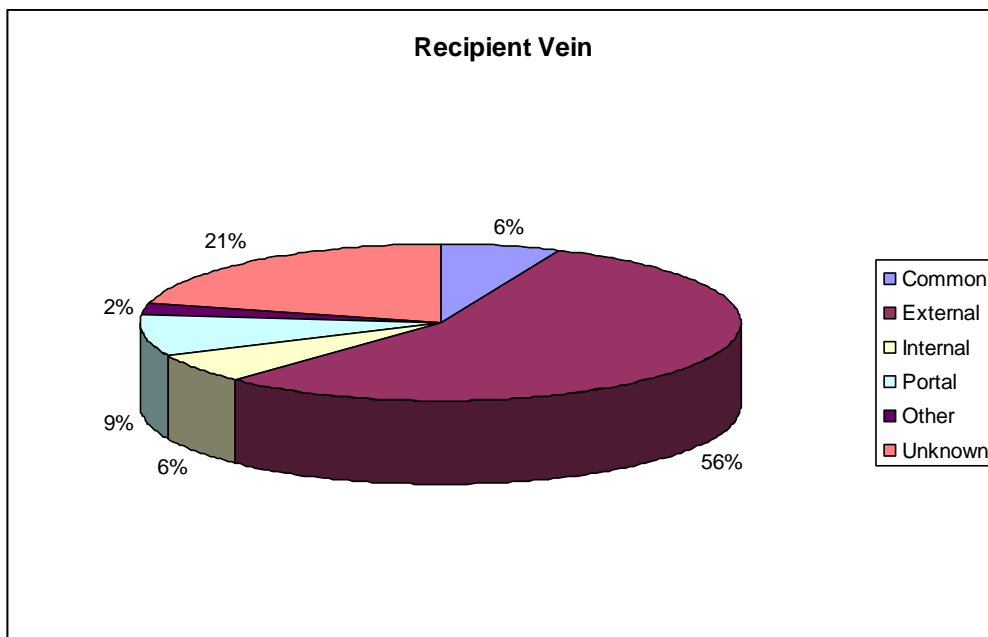


Figure 8. Recipient Vein, 1984-2009

Recipient Artery

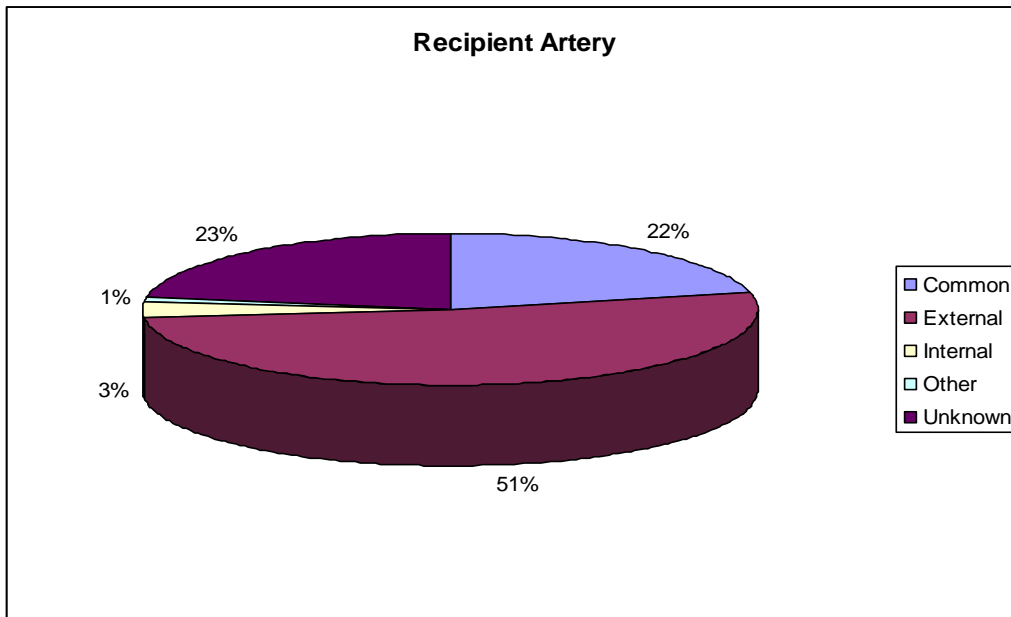


Figure 9. Recipient Artery, 1984-2009

SECTION 3 : GRAFT OUTCOME REVIEW

SPK Transplant Survival			
1997 - 2000			
	Patient	Kidney	Pancreas
1yr	95%	92%	83%
2yr	93%	91%	80%
5yr	92%	84%	74%
10yr	89%	80%	67%
2001-2004			
	Patient	Kidney	Pancreas
1yr	99%	95%	87%
2yr	99%	95%	87%
5yr	98%	87%	81%
10yr	na	na	na
2005-2009			
	Patient	Kidney	Pancreas
1yr	97%	97%	88%
2yr	95%	95%	87%
5yr	92%	91%	85%
10yr	na	na	na

Figure 10. SPK Transplant Survival, 1997-2009

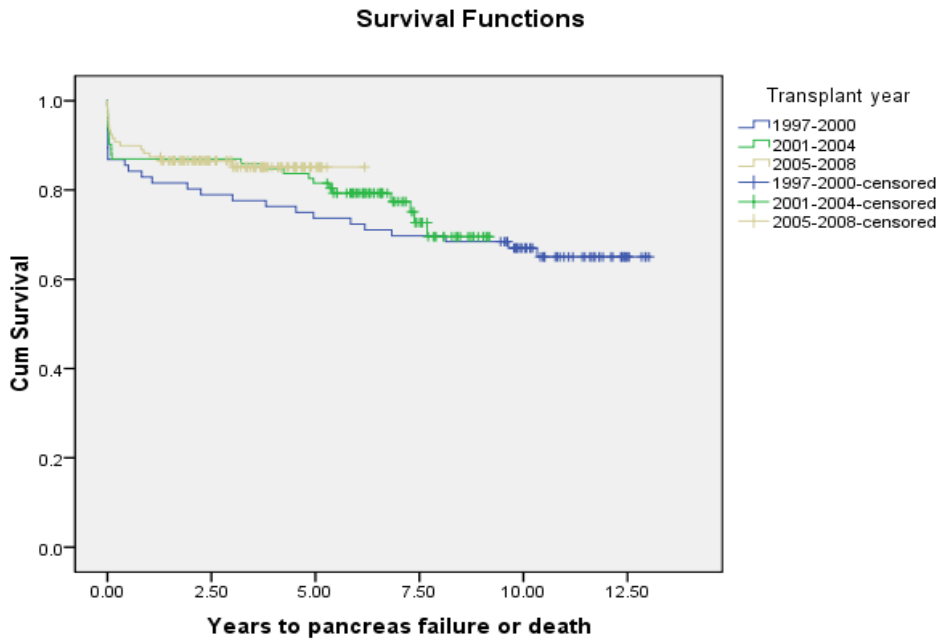


Figure 11. Pancreas Graft Survival (by Era), 1997-2008

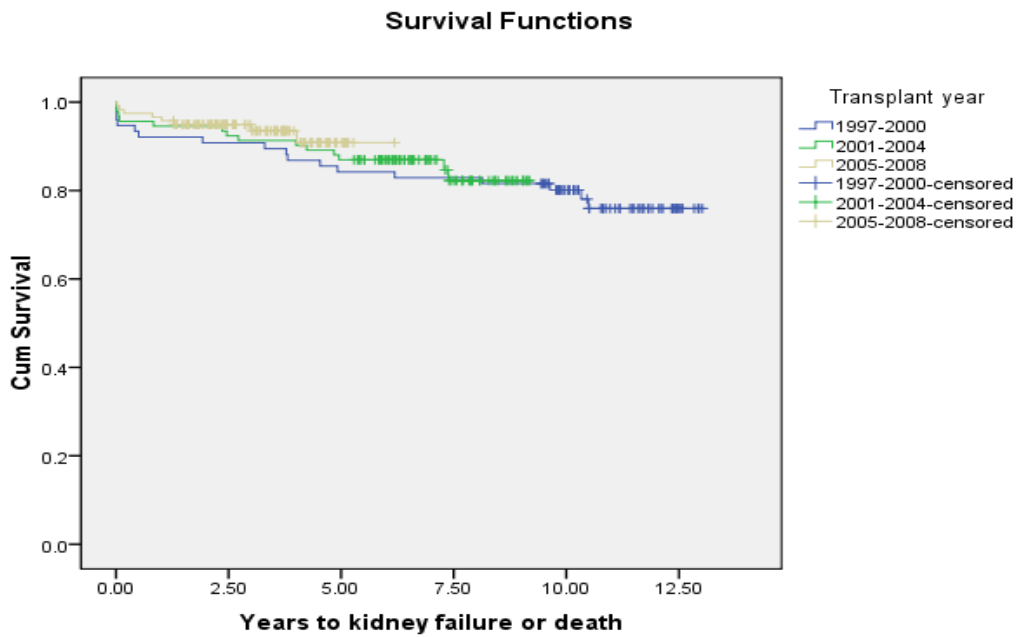


Figure 12. Kidney Graft Survival (by Era), 1997-2008

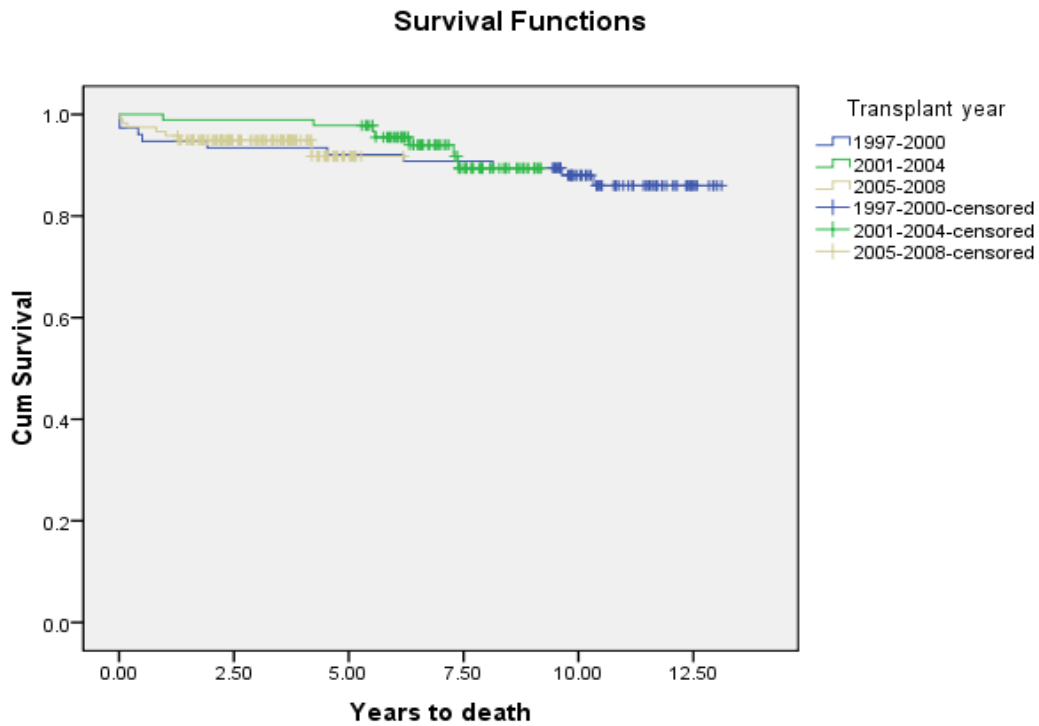


Figure 13. Patient Survival (by Era), 1997-2008

SECTION 4 : PANCREAS WAITLIST REVIEW

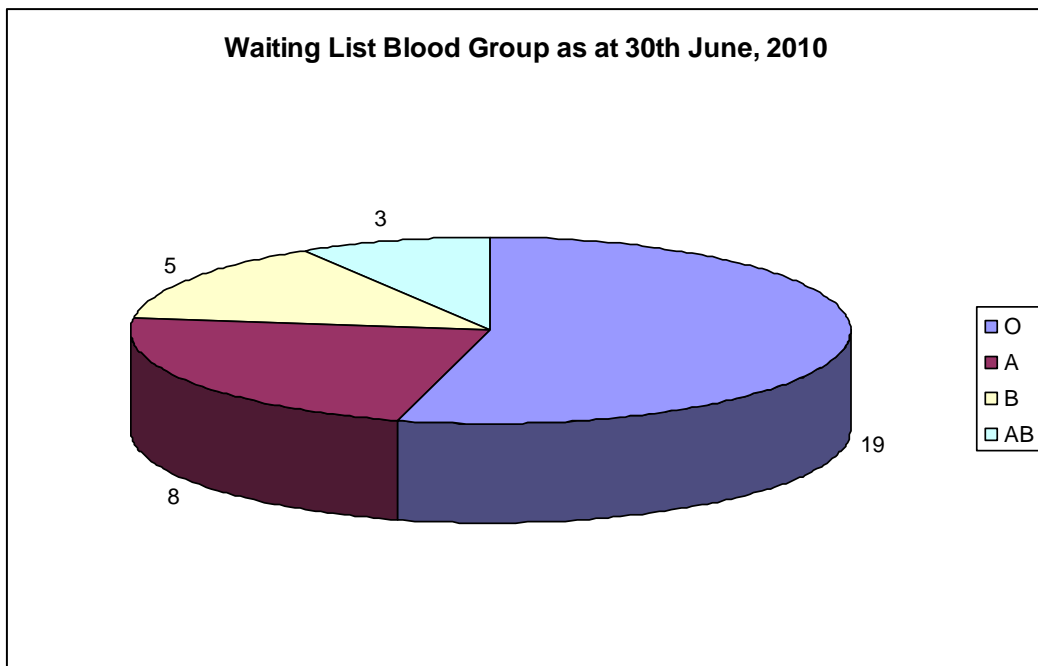


Figure 14. Pancreas Waitlist, as at June, 30th 2009

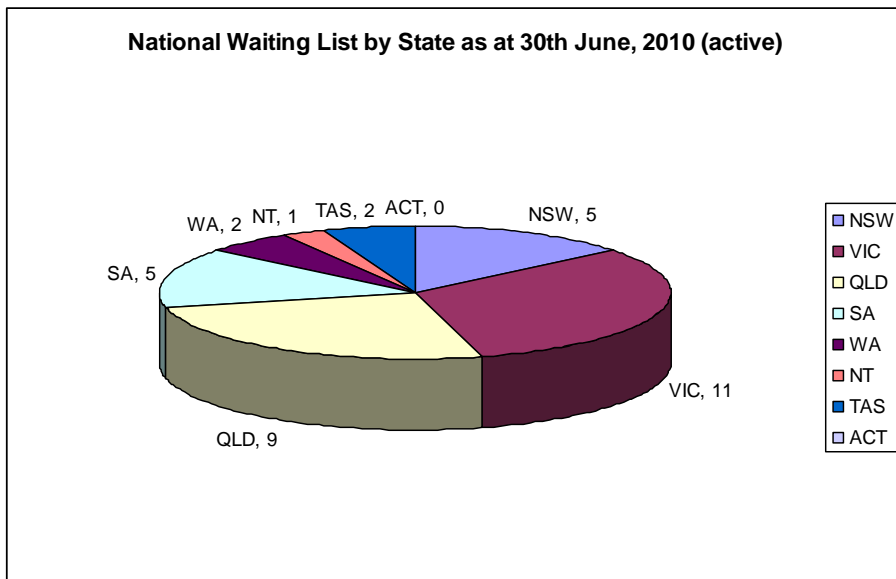


Figure 15. National Pancreas Waitlist (active), as at June, 30th 2009