

LIVER DONATION

There were 238 liver transplants performed in 2010; 203 in Australia and 34 in New Zealand.

Four whole livers and two split livers were donated from Australia and transplanted into New Zealand recipients; three whole livers and two split livers donated from New Zealand were transplanted into Australian recipients.

There were 189 Australian donors, who provided 204 recipients with transplanted livers and 32 New Zealand donors provided livers for 34 recipients.

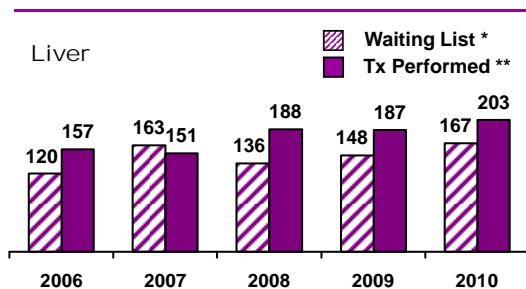
There were four whole liver/kidney and two split liver/kidney transplants as well as one combined liver/pancreas/intestine transplant in 2010.

Thirty four transplants were performed in Australia and New Zealand using the “split” liver technique (transplanting one liver into two recipients) and there was one reduced size liver transplanted in Queensland to a paediatric recipient.

- * 7 Royal Prince Alfred Hospital, NSW
- * 7 The New Children’s Westmead, NSW
- * 4 Princess Alexandra Hospital, Queensland
- * 4 Auckland Hospital - New Zealand
- * 4 Royal Children’s, Queensland (1 reduced)
- * 3 Royal Children’s, Victoria
- * 3 Flinders Medical Centre, South Australia
- * 3 Austin Hospital - Victoria

Figure 76

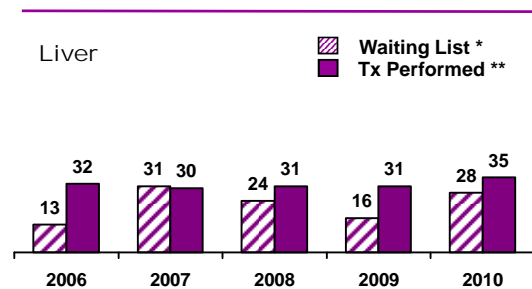
Waiting List vs Deceased Donor Transplants
Australia 2006 - 2010



** Includes split livers and NZ livers transplanted in Australia

* Source of Waiting List - ANZ National Liver Registry

Waiting List vs Deceased Donor Transplants
New Zealand 2006 - 2010

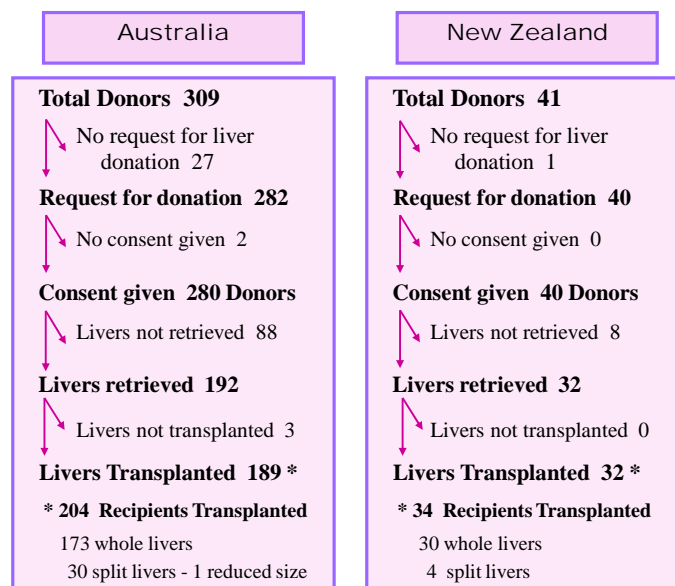


** Includes livers from Australia transplanted in New Zealand
(11) 2006, (8) 2007, (2) 2008, (5) 2009, (6) 2010

* Source of Waiting List - NZ Donor Coordinators

Figure 77

Outcome of Request for Liver Donation 2010



* Includes split livers and number of recipients

Recipients transplanted, refers to outcome of livers donated in Australia or New Zealand

Refer to Appendices for reasons livers were not requested, not retrieved and not transplanted

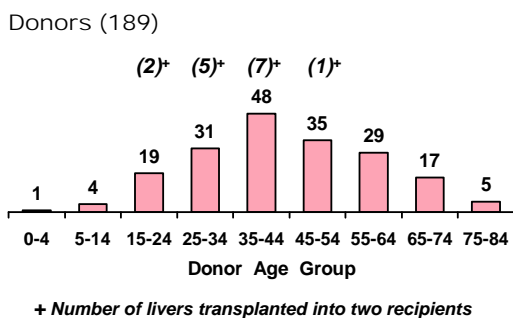
Figure 78

Age of Donors Providing Transplanted Livers 2005 - 2010											
		Age Groups									Total
Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84		
Australia	2005	3	7 (1+)	24 (2+) (2*)	18 (2+)	27 (3+)	39 (3+) (2*)	20	12	3	153
	2006	0	9	31 (4+) (1*)	19 (2+) (1*)	21 (1+)	33 (1*)	27 (1+)	12	1	153
	2007	2	3 (1+)	30 (7+)	21 (3+) (1*)	16 (2+)	24 (1+)	23	11	3	133
	2008	1	4	29 (6+)	28 (4+) (1*)	33 (4+)	29 (2+)(2*)	37	13	5	179
	2009	2	4	28 (9+) (1*)	26 (2+)	26 (2+) (1*)	35 (1+)	38	10	2	171
	2010	1	4	19 (2+)	31 (5+)	48 (7+)	35 (1+) (*)	29	17	5	189
New Zealand	2005	0	0	3 (1+)	3	5 (1*)	6 (1+)	4	0	0	21
	2006	0	1	6 (3+)	5 (1+)	6	2	3	1	0	24
	2007	0	1	4	1	6	9 (1+) (1*)	9 (1+)	2	0	32
	2008	0	1	4 (1+)	3 (1*)	5	5	3	2	0	23
	2009	1	2	4	2	6	9	8	1	0	33
	2010	0	0	6	7 (2*)	6	5	5	3	0	32

+ One liver split and transplanted into two recipients * One liver reduced size and used for one recipient only

Figure 79

Age of Donors Providing Transplanted Livers - Australia 2010



Age of Donors Providing Transplanted Livers - New Zealand 2010

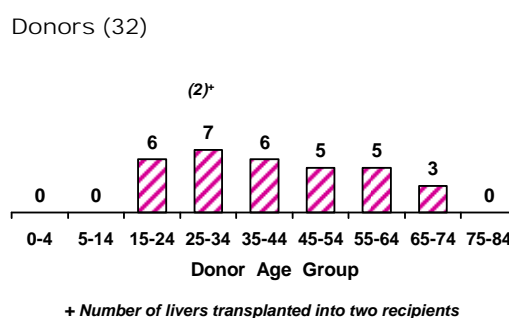
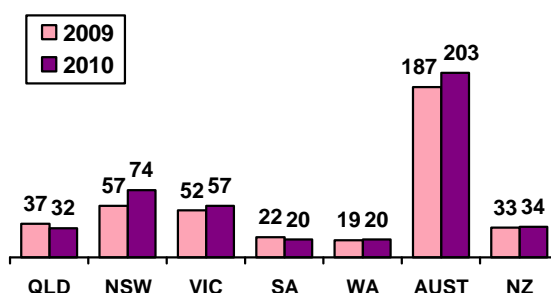


Figure 80

Liver Transplants by Transplant State Australia and New Zealand 2009 - 2010



PERFUSION OF LIVERS

Australia

University of Wisconsin (UW) solution was used as the final perfusion for all livers in Australia in 2010. The initial flush solution was either UW, Ross, Saline or Hartman's solution. There were seven livers perfused with UW only.

New Zealand

University of Wisconsin (UW) was used for all 32 livers retrieved in New Zealand in 2010.

Figure 81

Regional Outcome of Requests for Liver Donation 1989 - 2010										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
Total Donors	897	1377	110	1082	86	602	47	393	4594	670
Requested	865	1262	107	992	76	539	42	357	4240	608
Consented	855	1238	102	968	73	527	42	347	4152	605
Retrieved	659	873	76	684	59	397	28	267	3043	500
Transplanted *	693	908	84	633	60	387	26	261	3052	500
* Refers to number of recipients - use of split livers, reduced size livers and hepatocytes										
** New Zealand 1993 - 2010										

REASONS LIVERS WERE UNUSED AFTER RETRIEVAL

The liver is only retrieved when a compatible recipient has been identified. Figure 74 shows reasons the liver was not able to be transplanted into the identified recipient. The use of the liver (and other organs) for research purposes requires specific permission from the most senior available next of kin.

Figure 82

		Reasons Livers Were Unused 2005 - 2010					
		2005	2006	2007	2008	2009	2010
Australia	Biopsy - Fatty	2	5	3	4	1	1
	Disease of Organ	3	2	3	2	1	0
	Surgical	0	1	0	0	0	0
	Cancer in Donor	0	1	0	1	0	0
	Packaging Problem	0	0	0	1	1	0
	Recipient Issue	1	1	0	0	0	1
	Perfusion Abnormality	0	0	1	0	0	0
	Incorrect Blood Group	0	0	0	0	0	1
	Total	6	10	7	8	3	3
New Zealand	Disease of organ	1	0	0	0	0	0
	Total	1	0	0	0	0	0

Figure 83

		Donor Age of Unused Livers 2005 - 2010									
		Age Groups									Total
Year		00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	
Australia	2005	0	0	0	0	0	2	3	1	0	6
	2006	0	0	0	0	1	1	4	2	2	10
	2007	0	1	0	0	0	1	3	1	1	7
	2008	0	0	0	0	2	3	1	2	0	8
	2009	0	0	0	1	0	1	0	1	0	3
	2010	1	0	1	0	1	0	0	0	0	3
New Zealand	2005	0	0	0	0	0	0	1	0	0	1
	2006	0	0	0	0	0	0	0	0	0	0
	2007	0	0	0	0	0	0	0	0	0	0
	2008	0	0	0	0	0	0	0	0	0	0
	2009	0	0	0	0	0	0	0	0	0	0
	2010	0	0	0	0	0	0	0	0	0	0

DONOR LIVER FUNCTION

The results of the serum tests for liver function for 192 Australian and 32 New Zealand donors in 2010, who had livers retrieved, are shown below.

There were 74% (142 donors) in Australia and 34% (11 donors) in New Zealand who had all five tests performed.

Figure 76 shows the number of donors whose liver function was above the normal range.

Figure 84

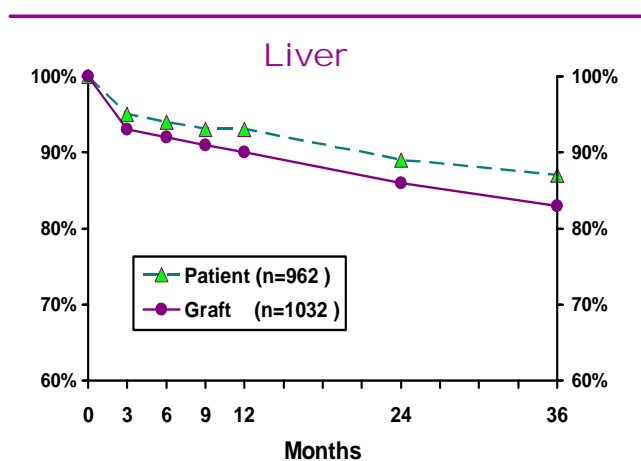
Number of Donors with Liver Function Tests above Normal Range 2010							
Liver Function Tests	Australia			New Zealand			
	Donors with value recorded *	Above Normal	Maximum recorded 1989-2010	Donors with value recorded *	Above Normal	Maximum recorded 1993-2010	
Alanine Transaminase ALT > 40 u/L	192	80 (52%)	2223 (2223) x	28	9 (32%)	740 (113) x	
Aspartate Transaminase AST > 40 u/L	145	84 (58%)	1480 (1320)	15	7 (47%)	461 (246)	
Gamma Glutamol Transferase GGT > 60 u/L	192	59 (31%)	750 (641)	25	4 (16%)	226 (170)	
Alkaline Phosphatase > 116 u/L	189	19 (10%)	422 (338)	32	0 (0%)	264 (102)	
Total Bilirubin > 20 umol/L	192	25 (13%)	121 (66)	32	5 (16%)	61 (38)	

* Not all donors have all tests
x (2010) Maximum

LIVER TRANSPLANT OUTCOME

Figure 85

Deceased Patient and Graft Survival Australia 2005 - 2009



Source: Australia and New Zealand Liver Transplant Registry

CARDIO-THORACIC ORGAN DONATION

AUSTRALIA

In 2010 Australia performed 65 heart transplants, three heart/lung, 113 double and ten single lung transplants. This number includes three double lungs donated from New Zealand.

There were three combined kidney/heart transplants in 2010.

The first perfusion fluid of choice for heart retrieval was crystalloid cardioplegia (49%) followed by celsior (36%). The first perfusion fluid for lung retrieval was perfadex (61%) followed by celsior (21%), pneumoplegia (15%) and cardioplegia or saline for 3% of lung retrievals.

ECG AND ECHOCARDIOGRAM

Sixty seven percent (54 heart donors) had a normal ECG and 73% (59 heart donors) had a normal echocardiogram. There were 11% (nine heart donors) and 9% (seven heart donors) respectively, who did not have an ECG or Echocardiogram.

NEW ZEALAND

New Zealand performed eleven heart and nine double lung transplants in 2010.

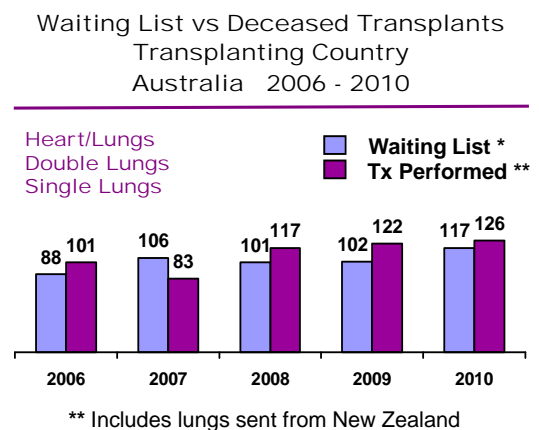
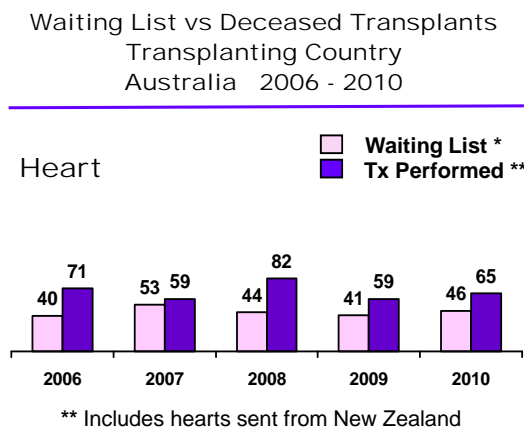
Three double lungs were sent for transplantation in Australia.

The first perfusion fluid for heart retrieval was crystalloid cardioplegia, with perfadex used for all twelve lung donors.

ECG AND ECHOCARDIOGRAM

Ten of the eleven heart donors (91%) had a normal ECG and all eleven heart donors had a normal echocardiogram.

Figure 86



* The Australia and New Zealand Cardio-Thoracic Registry

Figure 87

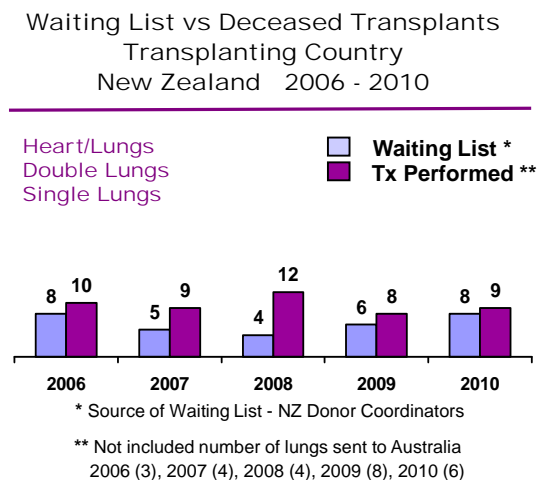
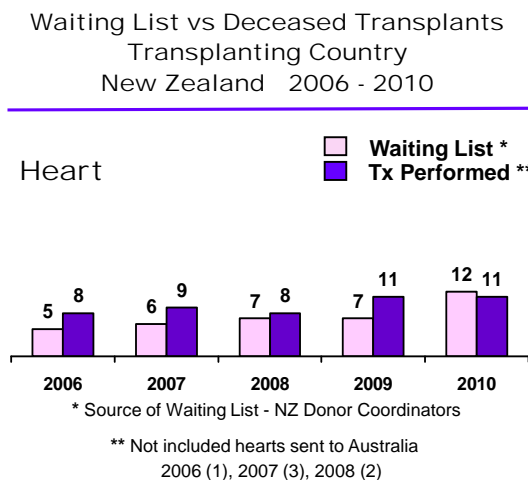
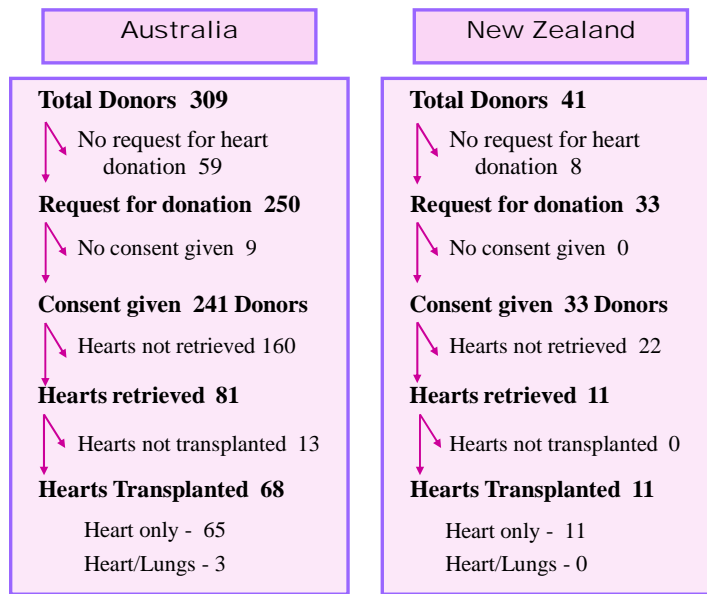


Figure 88

Outcome of Request for Heart Donation 2010



Refer to Appendices for reasons hearts were not requested, not retrieved and not transplanted

Figure 89

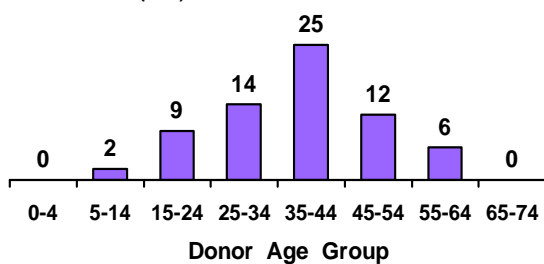
Age of Donors Providing Transplanted Hearts 2005 - 2010										
		Age Groups								
	Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	Total
Australia	2005	0	3	21	12	17	20	5	0	78
	2006	0	6	28	12	10	18	2	0	76
	2007	0	3	21	10	11	10	7	0	62
	2008	1	0	16	17	26	17	8	0	85
	2009	0	3	18	12	13	11	4	0	61
	2010	0	2	9	14	25	12	6	0	68
New Zealand	2005	0	0	2	2	2	6	4	0	16
	2006	0	0	3	3	2	1	0	0	9
	2007	0	1	1	1	2	6	1	0	12
	2008	0	0	3	1	2	2	2	0	10
	2009	0	0	4	1	3	2	1	0	11
	2010	0	0	1	2	4	3	1	0	11

Also includes hearts used for heart/lung transplants

Figure 90

Age of Donors Providing Transplanted Hearts - Australia 2010

Donors (68)



Age of Donors Providing Transplanted Hearts - New Zealand 2010

Donors (11)

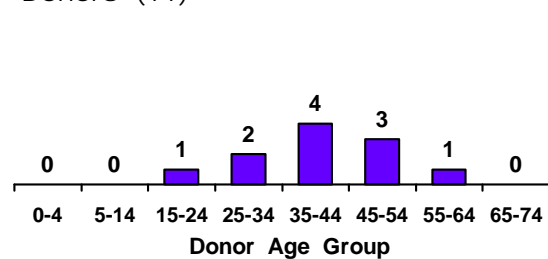


Figure 91

Heart Transplants by Transplant State
Australia and New Zealand 2009 - 2010

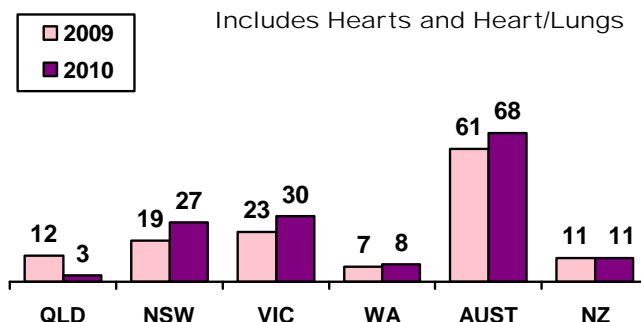


Figure 92

	Heart/Lung	2004	2005	2006	2007	2008	2009	2010
Australia	Heart	74	75	71	59	82	59	65
	Heart/Lung	6	6	6	6	5	2	3
	Double Lung	82	71	79	69	100	109	113
	Single (L) Lung	7	5	8	4	8	6	4
	Single (R) Lung	6	5	8	4	4	5	6
	Total		175	162	172	142	199	181
New Zealand	Heart	4	13	8	9	8	11	11
	Heart/Lung	0	0	0	0	0	0	0
	Double Lung	9	8	9	9	12	7	9
	Single (L) Lung	0	0	1	0	0	1	0
	Single (R) Lung	0	0	0	0	0	0	0
	Total		13	21	18	18	20	19

Figure 93

	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ *
Total Donors	897	1377	110	1082	86	602	47	393	4594	670
Requested	843	1121	94	944	77	439	40	306	3864	548
Consented	808	1057	87	891	74	421	39	282	3659	536
Retrieved	414	566	53	491	48	215	15	159	1961	222
Transplanted	410	549	50	434	43	208	15	155	1864	221

* New Zealand 1993 - 2010
Includes Hearts, Heart/Lungs and Heart / (L) Lung

HEART VALVE DONATION

The aortic and pulmonary heart valves can often be viable for transplantation when the whole heart is not suitable. Heart valves can be stored for up to five years.

This data relates only to heart valves retrieved from organ donors.

Figure 94

Outcome of Request for Heart Valve Donation 2010

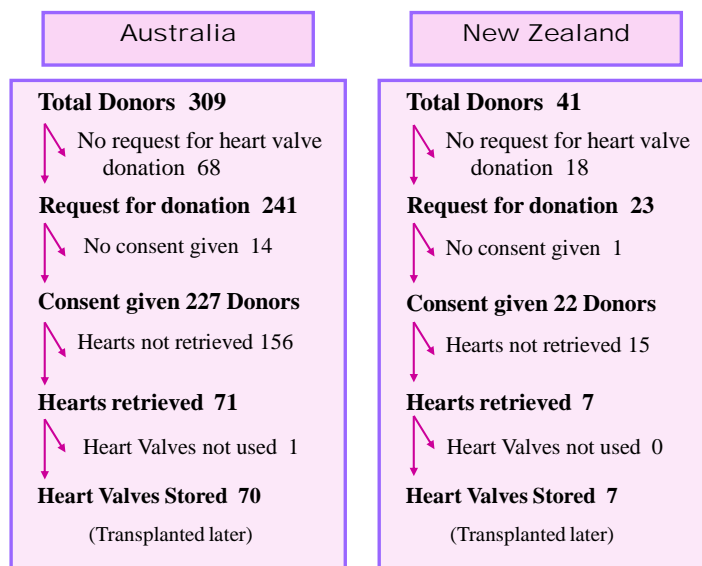


Figure 95

Age of Heart Valve Donors 2005 - 2010											
		Age Groups									
	Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	Total
Australia	2005	4	3	1	2	4	17	3	0	0	34
	2006	0	2	3	5	10	10	4	0	0	34
	2007	3	1	6	8	6	10	8	0	0	42
	2008	0	5	14	5	7	12	10	0	0	54
	2009	2	1	3	7	10	17	5	0	0	45
	2010	2	0	8	7	14	28	11	0	0	70
New Zealand	2005	0	0	1	1	2	1	0	0	0	5
	2006	0	0	3	0	1	1	1	0	0	6
	2007	0	0	3	0	4	5	2	0	0	14
	2008	0	1	1	1	2	2	1	0	0	8
	2009	0	1	1	0	2	3	0	0	0	7
	2010	0	0	2	3	2	0	0	0	0	7

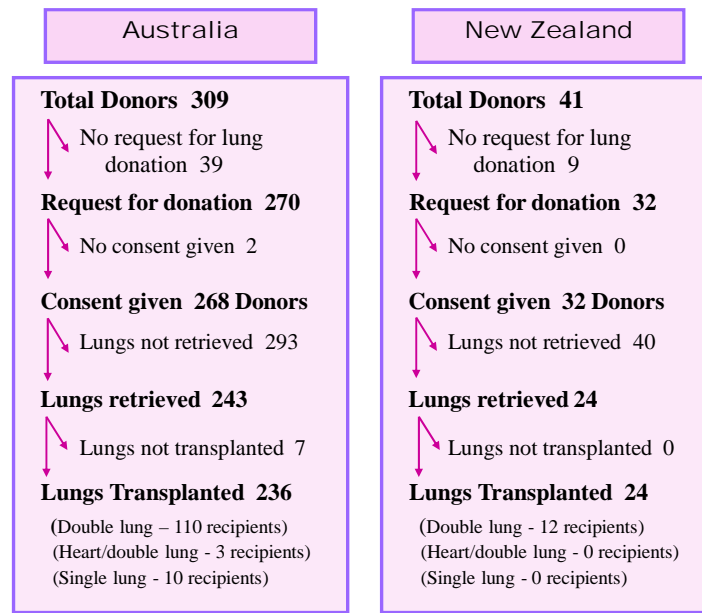
Figure 96

Regional Outcome of Requests for Heart Valve Donation 1989 - 2010										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ *
Total Donors	897	1377	110	1082	86	602	47	393	4594	670
Requested	415	452	36	399	29	173	8	105	1617	323
Consented	390	429	34	367	29	157	7	95	1508	315
Retrieved	242	260	22	163	12	84	3	60	846	240
Transplanted or Stored	239	249	22	158	12	80	3	59	822	237

* New Zealand 1993 - 2010

Figure 97

Outcome of Request for Lung Donation 2010



Refer to Appendices for reasons lungs were not requested, not retrieved and not transplanted

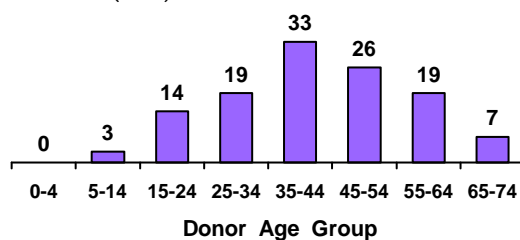
Figure 98

		Age of Donors Providing Transplanted Lungs 2005 - 2010 (Including Heart/Lung Donors)									
		Age Groups									Total
	Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	
Australia	2005	0	4	14	13	18	27	6	0	0	82
	2006	0	7	27	16	9	23	11	0	0	93
	2007	0	3	21	14	10	15	12	0	0	75
	2008	0	3	24	18	29	21	16	2	0	113
	2009	0	2	24	20	20	23	21	0	0	110
	2010	0	3	14	19	33	26	19	7	0	121
New Zealand	2005	0	0	2	0	2	5	2	0	0	11
	2006	0	1	1	3	5	1	2	0	0	13
	2007	0	0	1	0	3	7	2	0	0	13
	2008	0	1	2	0	3	5	2	1	0	14
	2009	0	1	4	0	3	5	3	0	0	16
	2010	0	0	3	2	2	2	3	0	0	12

Figure 99

Age of Donors Providing Transplanted Lungs - Australia 2010

Donors (121)



Age of Donors Providing Transplanted Lungs - New Zealand 2010

Donors (12)

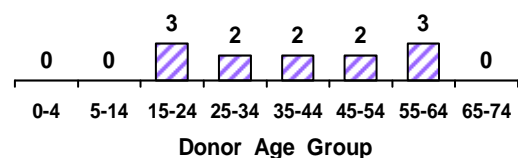


Figure 100

Lung Transplant Recipients 2009 - 2010 by Transplant State - Australia and NZ



Bilateral Sequential (Double) and Single Lung Transplants by State 2009 - 2010



Figure 101

Regional Outcome of Requests for Lung Donation 1989 - 2010										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
Total Donors	897	1377	110	1082	86	602	47	393	4594	670
Requested	808	1110	97	883	70	402	39	283	3692	479
Consented	768	1052	90	849	68	384	38	263	3512	473
Retrieved x	550	948	93	803	70	364	34	233	3095	381
Transplanted x	517	922	90	761	70	352	33	227	2972	361

X Number of Lungs (Includes Heart/Double Lungs and Heart/Single (L) Lung)
 ** New Zealand 1993 - 2010

DONOR LUNG FUNCTION

AUSTRALIA

There were 69 Australian lung donors (57%) who had a bronchoscopy in 2010. Nine donors had chest trauma; these included three pneumothorax, two with a chest drain and one each fractured ribs, CPR, seat belt bruise and contusions.

The arterial blood gases were taken on 100% FiO₂ and PEEP of 5 cm. Forty six donors had a PEEP > 5 cm.

The results from 71 lung donors in 2010 show 14% (10) to be acidotic (pH < 7.35) and 25% (18) to be alkalotic (pH > 7.45).

Oxygenation measured as PaO₂ ranged from 130-633 mmHg with a median of 440mmHg.

PaCO₂ ranged from 28.0-64.00 mmHg with a median of 39.0 mmHg.

NEW ZEALAND

There were nine (75%) New Zealand lung donors who had a bronchoscopy in 2010. Three donors had chest trauma; two had a pneumothorax and one had contusions.

All twelve lung donors had 100% FiO₂ and a PEEP of 5 cm.

The arterial blood gas results from the twelve lung donors in 2010 show 33% (4) to be acidotic (pH < 7.35) and 17% (2) to be alkalotic (pH > 7.45).

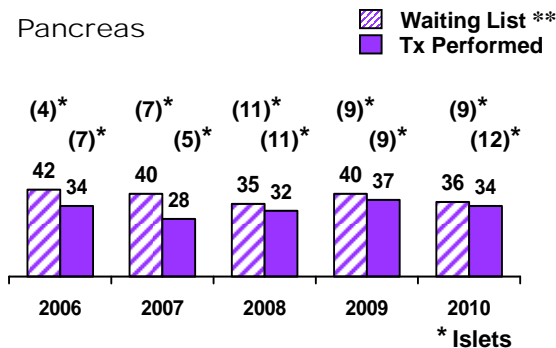
Oxygenation measured as PaO₂ ranged from 266-565 mmHg with a median of 393 mmHg.

PaCO₂ ranged from 9.0 - 75.00 mmHg with a median of 35.0 mmHg.

PANCREAS DONATION

Figure 102

Waiting List vs Deceased Transplants
Australia 2006 - 2010



** National Pancreas Registry (Westmead)
A/Prof John Kanellis (Pancreas-Victoria)
A/Prof David Goodman (Pancreas Islets-Victoria)
A/Prof Toby Coates (Pancreas Islets-South Australia)

There were 33 combined kidney/pancreas transplants performed in 2010: 18 at Westmead Hospital, NSW, 15 kidney/pancreas at Monash Medical Centre, Victoria and one combined pancreas/liver/intestines at the Austin Hospital in Victoria.

Twelve pancreas islets transplants were performed in 2010; seven at Westmead in New South Wales, four at the Central Northern Adelaide Renal Transplant Service (CNARS) at the Royal Adelaide Hospital in South Australia and one at The Queen Elizabeth Hospital just before the hospitals amalgamated to become the Central Northern Adelaide Renal Transplant Service (CNARS.).

In New Zealand in 2010, there were two combined kidney/pancreas transplants and one pancreas only transplant performed in Auckland.

The first perfusion fluid used in Australia for pancreas was Ross solution (76%), followed by Hartmans (14%),

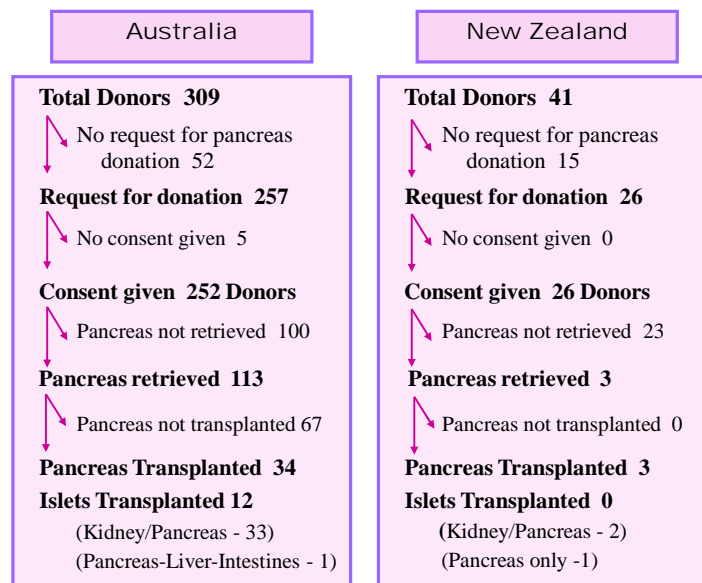
Figure 103

Waiting List		
	AUST	NZ **
Number of Patients with Diabetes Type 1 on dialysis (December 2009) *	238	54
Patients < 45 years of age	85	26
Patients < 55 years of age	169	45
Number of patients on the Kidney Transplant Waiting List *	1223	479
Number of patients on the Kidney Pancreas Transplant Waiting List	35	8
Number of patients on the Pancreas only Waiting List	1	-
Number of patients on the Islet Transplant Waiting List	9	-

Reference: * ANZDATA Registry NOMS (National Organ Matching System)
National Pancreas Registry (Westmead) and A/Prof Kanellis (Pancreas-Victoria)
A/Prof Goodman (Pancreas Islets-Victoria) and A/Prof Coates (Pancreas Islets-South Australia)
** New Zealand Donor Coordinators

Figure 104

Outcome of Request for Pancreas Donation 2010



Refer to Appendices for reasons pancreas were not requested, not retrieved and not transplanted

Figure 105

Age of Donors Providing Transplanted Pancreas 2005 - 2010									
		Age Groups							Total
Year		00-04	05-14	15-24	25-34	35-44	45-54	55-64	
Australia	2005	0	2	11	8	8	4	0	33
	2006	0	1	15	9	8	1	0	34
	2007	0	4	15	4	4	1	0	28
	2008	0	1	10	11	10	0	0	32
	2009	0	0	12	12	12	1	0	37
	2010	0	0	10	14	8	2	0	34
New Zealand	2005	0	0	0	1	1	0	0	2
	2006	0	0	3	2	1	0	0	6
	2007	0	0	0	1	0	0	0	1
	2008	0	1	3	0	0	0	0	4
	2009	0	1	1	0	0	0	0	2
	2010	0	0	1	1	1	0	0	3

Figure 106

Age of Donors Providing Transplanted Islets 2005 - 2010										
		Age Groups								Total
Year		00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	
Australia	2005	0	0	0	0	1	0	0	0	1
	2006	0	0	1	1	1	1	2	1	7
	2007	0	0	0	1	1	1	1	1	5
	2008	0	0	1	2	2	2	4	0	11
	2009	0	0	0	0	0	3	6	0	9
	2010	0	0	1	0	2	6	3	0	12

Figure 107

Age of Donors Providing Transplanted
Pancreas and Islets - Australia 2010

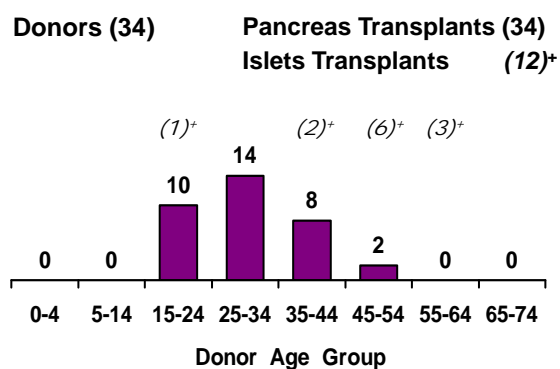


Figure 108

Regional Outcome of Requests for Pancreas 1989 - 2010										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
Total Donors	897	1377	110	1082	86	602	47	393	4594	670
Requested	747	1071	97	744	56	290	22	176	3203	342
Consented	680	1020	91	709	53	268	22	149	2992	335
Retrieved	64	341	34	363	35	135	7	80	1059	46
Transplanted	36	199	18	130	20	40	0	16	459	37
Pancreas Islets	4	21	2	15	1	10	1	1	55	0

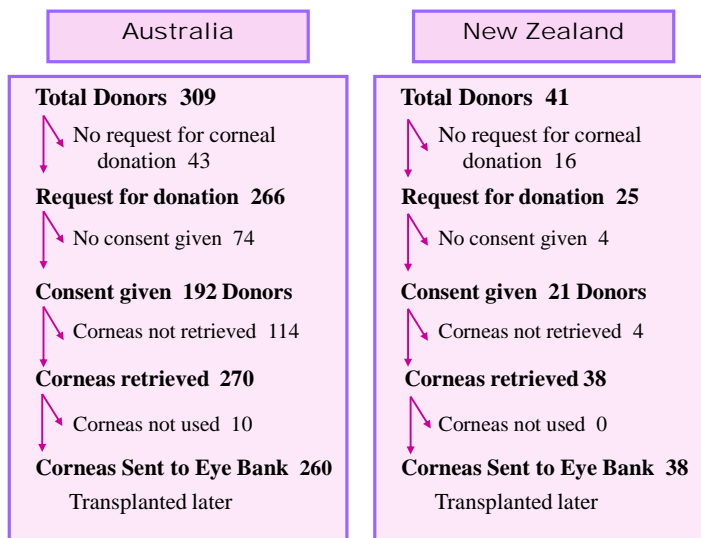
** New Zealand 1993 - 2010

CORNEAL DONATION

This section refers only to corneas donated from solid organ donors. It does not include any cases of cornea only donation. Full data is available from The Australian Corneal Graft Registry (Editors K.A. Williams, S. Muehlberg,

C.Bartlett and D.J.Coster), Flinders Medical Centre, Bedford Park 5042, South Australia and in New Zealand from the New Zealand Corneal Transplant Registry, Dept Ophthalmology, University of Auckland, Private Bag 92019, Auckland, New Zealand.

Figure 109 Outcome of Request for Corneal Donation 2010



Refer to Appendices for reasons cornea were not requested, not retrieved and not transplanted

Figure 110

Age of Corneal Donors 2005 - 2010												
		Age Groups										
	Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85-94	Total
Australia	2005	0	4	8	9	12	18	21	8	1	0	81
	2006	0	3	13	8	12	14	22	10	1	0	83
	2007	0	2	7	7	10	13	19	5	1	0	64
	2008	1	2	10	10	18	19	30	12	6	0	108
	2009	0	2	10	8	12	23	25	16	0	0	96
	2010	0	1	10	18	21	24	29	24	4	0	131
New Zealand	2005	0	0	0	1	1	6	4	0	0	0	12
	2006	0	0	3	1	0	1	2	1	0	0	8
	2007	0	0	3	0	4	5	7	1	0	0	20
	2008	0	1	1	1	7	2	3	0	0	0	15
	2009	0	0	1	0	2	3	6	1	0	0	13
	2010	0	0	3	3	2	4	3	4	0	0	19

Figure 111

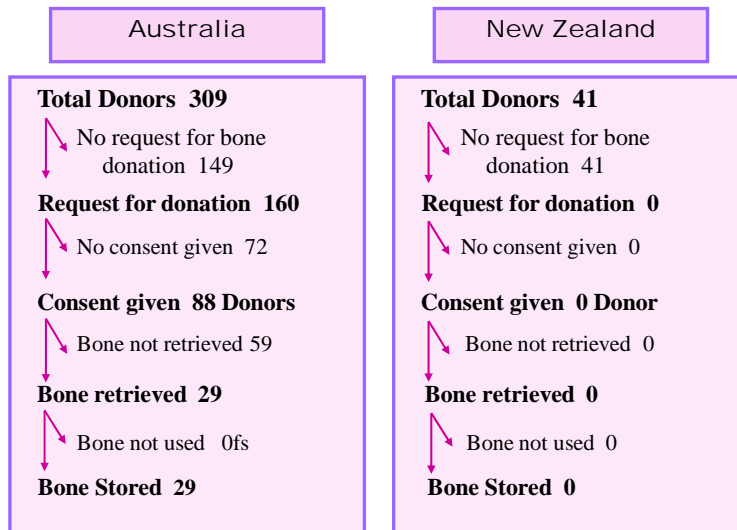
Regional Outcome of Requests for Corneal Donation 1989 - 2010										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
Total Donors	897	1377	110	1082	86	602	47	393	4594	670
Requested	810	1216	93	971	65	438	9	280	3882	365
Consented	576	859	56	742	48	276	6	183	2746	295
Retrieved x	734	1534	95	1409	79	446	2	310	4609	514
Sent to Eye Bank xx	722	1227	80	1359	76	430	2	296	4192	508

x Number of Corneas xx Sent to Eye Bank - Transplanted later
** New Zealand 1993 - 2010

BONE DONATION

Figure 112

Outcome of Request for Bone Donation 2010



Refer to Appendices for reasons bones were not requested, not retrieved and not transplanted

Figure 113

Age of Bone Donors 2005 - 2010											
		Age Groups									
	Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	Total
Australia	2005	0	0	1	0	1	6	2	0	0	10
	2006	0	0	6	2	3	3	3	0	0	17
	2007	0	0	0	1	1	4	5	0	0	11
	2008	0	0	6	1	6	6	2	2	0	23
	2009	0	0	2	4	4	3	3	2	0	18
	2010	0	0	0	2	8	10	7	2	0	29
New Zealand	2005	0	0	1	0	0	0	0	0	0	1
	2006	0	0	0	0	0	0	0	0	0	0
	2007	0	0	0	0	0	0	0	0	0	0
	2008	0	0	0	0	0	0	0	0	0	0
	2009	0	0	0	0	0	0	0	0	0	0
	2010	0	0	1	0	0	0	0	0	0	1

Figure 114

Regional Outcome of Bone Donation 1989 - 2010										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
Total Donors	897	1377	110	1082	86	602	47	393	4594	670
Requested	708	177	4	253	7	202	3	170	1524	200
Consented	491	112	4	114	4	79	3	96	903	161
Retrieved	193	26	0	38	2	49	0	48	356	37
Transplanted/Stored	189	26	0	30	2	49	0	47	343	37

** New Zealand 1993 - 2010

TERMINAL MANAGEMENT

TIME FROM ADMISSION TO BRAIN DEATH

AUSTRALIA

In 2010, 27% of Australian donors were declared brain dead within 23 hours of hospital admission.

The median time from admission to brain death was 40.8 hours.

Nineteen percent of donors were in hospital for more than five days.

NEW ZEALAND

In 2010, 39% of New Zealand donors were declared brain dead within 23 hours of hospital admission.

Time of admission to hospital was unknown in 7% of donors. The median time from admission to brain death was 25.9 hours.

Five percent of donors were in hospital for more than five days.

Figure 115

Time from Admission to Brain Death 2005 - 2010												
	Year	Hours								Not Known	Median (hours)	No. of Donors
		0-23	24-47	48-71	72-95	96-119	120-143	144-167	>=168			
Australia	2005	30%	32%	16%	3.5%	5%	1.5%	1%	10%	1%	36.7	204
	2006	37%	27%	8%	10%	3%	4%	4%	6%	<1%	33.0	202
	2007	30%	30%	15%	7%	3%	5%	2%	6%	2%	36.0	198
	2008	25%	29%	14%	9%	5%	4%	2%	11%	1%	42.9	259
	2009	29%	31%	14%	11%	2%	3%	3%	7%	0%	37.6	247
	2010	27%	27%	11%	10%	5%	5%	3%	11%	1%	40.8	309
New Zealand	2005	38%	14%	10%	7%	3.5%	0%	0%	10.5%	17%	31.2	29
	2006	12%	32%	12%	20%	4%	4%	0%	0%	16%	43.5	25
	2007	47%	18%	8%	8%	3%	3%	0%	3%	10%	22.6	38
	2008	35%	35%	10%	0%	0%	3%	6%	0%	10%	27.7	31
	2009	42%	28%	11%	5%	2%	0%	2%	5%	5%	29.5	43
	2010	39%	37%	2%	5%	5%	0%	0%	5%	7%	25.9	41

Figure 116

Australian States Time from Admission to Brain Death 2010												
States	Hours								Not Known	Median (hours)	No. of Donors	
	0-23	24-47	48-71	72-95	96-119	120-143	144-167	>=168				
Queensland	18.5%	25%	10%	12%	6%	6%	6%	16.5%	0%	67.2	49	
New South Wales	23%	36%	7%	8%	6%	7%	0%	12%	1%	36.5	88	
ACT	40%	20%	10%	0%	10%	0%	20%	0%	0%	30.4	10	
Victoria	32%	22%	19%	9%	5%	4%	0%	9%	0%	43.0	97	
Tasmania	50%	10%	10%	20%	0%	0%	0%	10%	0%	24.6	10	
South Australia	29%	20%	6%	16%	0%	0%	10%	19%	0%	66.1	31	
Northern Territory	0%	50%	0%	0%	0%	50%	0%	0%	0%	84.1	2	
Western Australia	27%	41%	9%	5%	5%	0%	5%	0%	9%	32.8	22	

Figure 117

Time from Ventilation to Brain Death 2005 - 2010												
	Year	Hours								Not Known	Median (hours)	No. of Donors
		0-23	24-47	48-71	72-95	96-119	120-143	144-167	>=168			
Australia	2005	32%	37%	16%	4%	2%	1%	0%	7%	<1%	31.4	204
	2006	40%	28%	12%	8%	2.5%	2.5%	2.5%	3.5%	1%	28.8	202
	2007	31%	32%	16%	5%	4%	4%	2%	4%	2%	32.9	198
	2008	29%	34%	14%	7%	4%	3%	1%	7%	1%	36.9	259
	2009	30%	35%	13%	10%	2%	2%	2%	5%	1%	32.6	247
	2010	31%	28%	12%	9%	5%	3%	3%	8%	1%	35.1	309
New Zealand	2005	34.5%	17%	14%	0%	0%	0%	0%	10.5%	24%	27.7	29
	2006	36%	28%	16%	0%	4%	0%	0%	0%	16%	28.4	25
	2007	47%	26%	5%	11%	0%	0%	0%	0%	11%	21.9	38
	2008	39%	39%	13%	0%	0%	0%	0%	0%	9%	25.6	31
	2009	42%	28%	10%	2%	2%	0%	0%	2%	14%	24.7	43
	2010	44%	42%	0%	5%	2%	0%	0%	0%	7%	24.7	41

TIME FROM BRAIN DEATH TO AORTIC CROSS CLAMP

AUSTRALIA

In 2010, 49 heart beating donors (21%) had undergone aortic cross clamp within twelve hours of the certification of brain death.

The median time was 16.5 hours.

NEW ZEALAND

In 2010, 25 heart beating donors (63%) had undergone aortic cross clamp within twelve hours of the certification of brain death.

The median time was 11.8 hours.

Figure 118

Time from Brain Death to Aortic Cross Clamp 2005 - 2010 Heart Beating Donors												
Hours	Australia						New Zealand					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
<=6	5%	4%	2%	4%	2%	3%	3%	8%	5%	10%	12%	5%
7 - 12	30%	27%	28%	23%	23%	18%	80%	68%	55%	70%	56%	58%
13 - 18	48%	48%	49%	50%	47%	49%	17%	16%	37%	10%	24%	30%
19 - 24	13%	13%	15%	17%	24%	23%	0%	8%	3%	0%	0%	5%
> 24	4%	8%	6%	6%	4%	7%	0%	0%	0%	10%	8%	2%
Median Hours	14.5	14.7	15.2	15.3	16.1	16.5	10.3	9.8	11.8	11.0	12.1	11.8
Number of Donors	195	194	179	236	205	240	29	25	38	29	41	40
DCD Donors *	9	8	19	23	42	69	0	0	0	2	2	1

Figure 119

Australian States Time from Brain Death to Aortic Cross Clamp 2010 Heart Beating Donors									
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	
<= 6 hours	0%	5%	0%	4%	0%	0%	0%	0%	
7 - 12 hours	11%	33%	14.5%	8%	10%	31%	0%	9%	
13 - 18 hours	75%	45%	71%	40%	30%	54%	0%	50%	
19 - 24 hours	14%	12%	14.5%	38%	40%	15%	50%	23%	
> 24 hours	0%	5%	0%	10%	20%	0%	50%	18%	
Median Hours	16.1	14.4	15.6	18.9	20.3	14.8	14.7	18.0	
Number of Donors	36	64	7	73	10	26	2	22	
DCD Donors *	13	24	3	24	0	5	0	0	

* DCD = Donation after Cardiac Death Donors

DONOR MAINTENANCE

DRUGS FOR MAINTENANCE OF THE DONOR
(GIVEN IN THE INTENSIVE CARE/CRITICAL CARE UNIT)

AUSTRALIA

There were 22 donors (7%) who did not require inotropic support in 2010. Sixteen were DCD donors.

Antidiuretic agents (desmopressin/vasopressin) were prescribed to 53% (165) of all donors.

MAP <50 mm Hg

Mean arterial blood pressure (MAP) <50 mm Hg was recorded in 7% (21) of donors in Australia in 2010. Six donors had a duration of less than one hour and 15 donors had one hour or longer. Range was 15 minutes to ten hours.

NEW ZEALAND

In 2010 there was only one donor (2%) who did not require inotropic support and that was a DCD donor.

Antidiuretic agents (desmopressin/vasopressin) were prescribed to 66% (27) of all donors.

MAP <50 mm Hg

No donors were reported with a mean arterial blood pressure (MAP) <50 mm Hg in 2010.

Figure 120

Donor Maintenance 2005 - 2010												
Drugs	Australia						New Zealand					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
Number of Donors	(204)	(202)	(198)	(259)	(247)	(309)	(29)	(25)	(38)	(31)	(43)	(41)
Dopamine	15	15	10	7	3	8	1	2	5	3	2	2
Adrenaline	26	21	17	22	30	37	0	1	0	1	3	2
Noradrenaline	165	156	160	220	212	252	26	20	31	28	36	38
Insulin Infusion *	-	-	-	155	131	136	-	-	-	11	12	9
T3 Protocol *	-	-	-	56	50	44	-	-	-	0	0	1
Aramine	4	11	4	2	3	3	0	0	0	0	1	0
Dobutamine	8	5	11	3	5	8	1	0	1	0	1	0
Vasopressin / DDAVP	127	121	115	173	157	165	20	13	20	20	23	27

NB: Donors may be given more than one drug
* Insulin Infusion and T3 Protocol recorded for all donors from 1st Jan 2008

Figure 121

Australian States Donor Maintenance 2010 (2009)								
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
Number of Donors	49 (47)	88 (69)	10 (8)	97 (64)	10 (5)	31 (33)	2 (2)	22 (19)
Dopamine	7 (2)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Adrenaline	5 (1)	6 (9)	1 (1)	17 (15)	2 (0)	4 (4)	0 (0)	2 (0)
Noradrenaline	32 (34)	73 (61)	8 (7)	82 (57)	8 (4)	26 (28)	2 (2)	21 (19)
Insulin Infusion *	25 (32)	40 (26)	5 (5)	40 (30)	3 (3)	8 (21)	1 (1)	14 (13)
T3 Protocol *	18 (19)	15 (20)	3 (1)	4 (6)	1 (0)	2 (2)	0 (1)	1 (1)
Vasopressin / DDAVP	33 (33)	55 (38)	7 (6)	28 (38)	8 (4)	14 (20)	2 (2)	18 (16)

NB: Donors may be given more than one drug
* Insulin Infusion and T3 Protocol recorded for all donors from 1st Jan 2008

TERMINAL TREATMENT

TERMINAL TREATMENT (PROVIDED IN THE OPERATING THEATRES)

AUSTRALIA

There were 27 donors who did not receive any heparin as part of their terminal treatment in 2010. Nineteen were DCD (donation after cardiac death) donors.

Seventeen donors did not receive any terminal treatment ; all were DCD donors.

NEW ZEALAND

All donors in 2010 received heparin as part of their terminal treatment, including the one DCD donor.

Figure 122

Terminal Treatment 2005 - 2010												
Drugs	Australia						New Zealand					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
Number of Donors	(204)	(202)	(198)	(259)	(247)	(309)	(29)	(25)	(38)	(31)	(43)	(41)
Heparin	193	196	187	251	228	282	27	25	38	30	42	41
Methyl Prednisolone	145	162	145	192	164	204	2	4	3	1	1	1
Chlorpromazine	30	38	30	27	32	22	0	0	0	0	0	0
Mannitol	6	11	17	19	8	10	0	0	0	0	0	0
Antibiotics *	-	-	-	190	153	202	-	-	-	12	16	13
Prostacyclin	59	58	46	61	39	29	10	13	12	13	14	12

NB: Donors may be given more than one drug
* Antibiotics given recorded for all donors from 01-Jan-2008

Figure 123

Australian States Terminal Treatment 2010 (2009)								
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
Number of Donors	49 (47)	88 (69)	10 (8)	97 (64)	10 (5)	31 (33)	2 (2)	22 (19)
Heparin	44 (44)	78 (57)	9 (8)	88 (60)	10 (5)	30 (33)	2 (2)	21 (19)
Methyl Prednisolone	0 (6)	65 (53)	7 (6)	69 (45)	8 (5)	31 (28)	2 (2)	204 (19)
Chlorpromazine	22 (28)	0 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (1)	0 (1)
Mannitol	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10 (8)
Antibiotics *	7 (3)	68 (54)	7 (6)	61 (39)	9 (3)	31 (31)	2 (2)	17 (15)
Prostacyclin	2 (3)	21 (24)	3 (2)	0 (0)	0 (0)	2 (3)	1 (0)	0 (7)

NB: Donors may be given more than one drug
* Antibiotics given recorded for all donors from 01-Jan-2008