

ORGANS REQUESTED

The requests for specific organs in Australia in 2009 from 247 organ donors were: kidneys 97%, liver 95%, heart 81%, lungs 82% and pancreas 85%.

From the 43 New Zealand donors in 2009, the requests for specific organs were: kidneys 100%, liver 100%, heart 79%, lungs 86% and pancreas 60%.

MULTIPLE ORGAN RETRIEVAL

There were 43 (17%) of Australian donors in 2009 who donated solid organs, who had a single organ retrieved, shown in Figure 48. Kidney only donation occurred in 35 cases.

Seven donors in Australia went to theatre, but no solid organs were retrieved.

New Zealand had seven single organ donors in 2009, six donating kidneys and one donating a liver only.

In Australia 80% of donors and in New Zealand 79% of donors had two or more organs retrieved for the purpose of transplantation

Figure 48

Multiple Organ Retrieval 2004 - 2009												
Number of Organs	Australia						New Zealand					
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009
Single	15%	17%	11%	15.5%	17%	17%	13%	14%	8%	16%	19%	16%
Two	27%	22%	23%	23%	23%	20%	43%	34%	24%	40%	23%	35%
Three	22%	17%	23%	23%	25%	27%	27%	21%	44%	26%	39%	33%
Four	23%	32%	23%	20%	20%	19%	10%	28%	12%	18%	16%	9%
Five	12%	10%	18%	15.5%	14%	14%	0%	3%	12%	0%	3%	2%
No organs	1%	2%	1%	3%	1%	3%	7%	0%	0%	0%	0%	5%

Figure 49

State by State Comparison of Multiple Organ Retrieval 2009										
Number of Organs	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Single	8 (17%)	13 (19%)	4 (50%)	8 (13%)	0 (0%)	6 (18%)	0 (0%)	4 (21%)	43 (17%)	7 (16%)
Two	14 (30%)	17 (25%)	1 (12.5%)	16 (25%)	0 (0%)	2 (6%)	0 (0%)	5 (26%)	48 (20%)	15 (35%)
Three	8 (17%)	15 (22%)	2 (25%)	15 (23%)	1 (20%)	12 (37%)	1 (50%)	6 (32%)	67 (27%)	14 (33%)
Four	13 (28%)	14 (20%)	1 (12.5%)	9 (14%)	1 (20%)	6 (18%)	1 (50%)	2 (10.5%)	47 (19%)	4 (9%)
Five	3 (6%)	6 (9%)	0 (0%)	14 (22%)	3 (60%)	7 (21%)	0 (0%)	2 (10.5%)	35 (14%)	1 (2%)
No organs	1 (2%)	4 (5%)	0 (0%)	2 (3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (3%)	2 (5%)
Total	47	69	8	64	5	33	2	19	247	43

NB: 2 kidneys = 1 organ, 2 lungs = 1 organ
On occasions when only one kidney is retrieved, this is also defined as one organ

ORGAN RECIPIENTS TRANSPLANTED

Australia and New Zealand both had 3.4 organs per donor used for transplantation in 2009 (Figure 50).

The number of organs transplanted per donor each year for 1999-2009 in Australia and New Zealand is shown in Figure 51.

The number of recipients transplanted per donor in Australia in 2009 was 3.2 compared to 3.3 in 2008.

Tasmania had the highest number of organs transplanted; 5.6 per donor, followed by Queensland and Western Australia 3.6, South Australia and the Northern Territory 3.5, Victoria 3.4, New South Wales 3.3 and the ACT 2.6

These figures exclude tissue transplantation.

Figure 50

Organs Transplanted per Donor 2009										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
No. Organs Transplanted	168	225	21	219	28	114	7	68	850	116
No. of Donors	47	69	8	64	5	33	2	19	247	43
Mean per Donor	3.6	3.3	2.6	3.4	5.6	3.5	3.5	3.6	3.4	2.7

Double Lungs = one organ
Kidney-Pancreas, Kidney-Heart, Kidney-Liver, Heart/Lungs = two organs

Figure 51

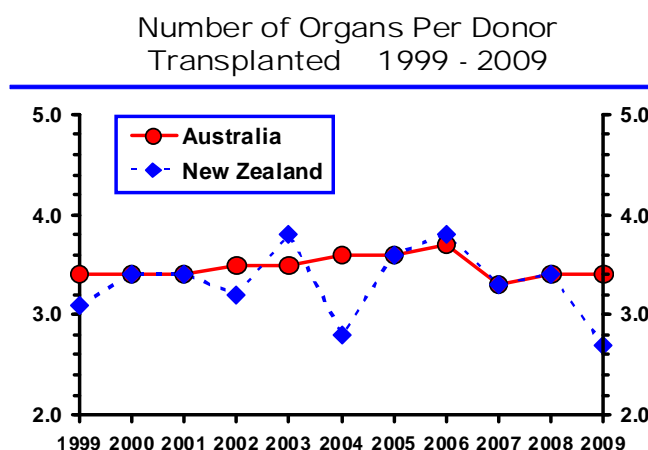


Figure 52

Organs Transplanted by Donor State in Australia and New Zealand 2009										
Organs Transplanted	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Kidney	87	120	13	119	10	56	4	37	446	54
Liver	29	40	4	35	3	27	2	15	155	33
Liver (Left)	6	6	0	1	2	1	0	0	16	0
Liver (Right)	5	6	0	1	1	1	0	0	14	0
Heart	15	12	1	14	3	9	0	5	59	11
Heart/Lungs	2	0	0	0	0	0	0	0	2	0
Lungs	18	32	2	30	3	11	1	4	101	15
Lung (Left)	1	0	0	2	1	0	0	2	6	1
Lung (Right)	2	0	0	2	1	0	0	0	5	0
Pancreas	3	8	1	11	4	5	0	5	37	2
Pancreas Islets	0	1	0	4	0	4	0	0	9	0
Total	168	225	21	219	28	114	7	68	850	116

EXCHANGE OF ORGANS

Figure 53 shows the number of organs that were sent and received between Australian States and New Zealand in 2009 and 2008

Figure 53

Exchange of Organs Between States and New Zealand 2009 (2008)									
Organs Transplanted	Exchange	Kidneys	Liver ⁺	Heart	Heart/ Lungs *	Lungs #	Pancreas	Islets	Total *
Queensland	Sent	13 (15)	7 (8)	7 (15)	0 (0)	10 (18)	3 (3)	0 (1)	40 (60)
	Received	11 (11)	4 (5)	2 (3)	0 (0)	6 (8)	0 (0)	0 (0)	23 (27)
New South Wales	Sent	24 (19)	5 (5)	2 (4)	0 (0)	12 (4)	1 (0)	0 (0)	44 (32)
	Received	35 (48)	10 (15)	9 (14)	0 (0)	26 (33)	15 (13)	4 (3)	99 (126)
ACT	Sent	13 (10)	4 (4)	1 (0)	0 (0)	4 (10)	1 (1)	0 (0)	23 (25)
Victoria	Sent	9 (16)	3 (8)	0 (2)	0 (0)	0 (4)	0 (1)	2 (1)	14 (32)
	Received	25 (25)	18 (12)	9 (17)	0 (2)	42 (28)	4 (3)	2 (3)	100 (94)*
Tasmania	Sent	10 (13)	6 (6)	3 (3)	0 (1)	8 (2)	4 (3)	0 (0)	31 (30)*
South Australia	Sent	12 (14)	11 (13)	9 (8)	0 (1)	22 (22)	5 (5)	4 (2)	63 (67)*
	Received	16 (15)	4 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	20 (20)
Northern Territory	Sent	4 (6)	2 (1)	0 (1)	0 (0)	2 (2)	0 (0)	0 (1)	8 (11)
Western Australia	Sent	9 (10)	3 (6)	0 (1)	0 (0)	2 (3)	5 (3)	0 (1)	19 (24)
	Received	7 (4)	7 (7)	2 (2)	0 (0)	2 (0)	0 (0)	0 (0)	18 (13)
New Zealand	Sent	0 (0)	5 (2)	0 (2)	0 (0)	16 (4)	0 (0)	0 (0)	21 (8)
	Received	0 (0)	3 (9)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (9)

+ Number of recipients of livers # Total number of lungs (not recipients) excludes heart/lungs
* Total includes two lungs from each heart/lungs transplant

Figure 54

Summary of Organs Transplanted in Australia from New Zealand Donors 1989 - 2009					
Year	Kidneys	Liver ⁺	Heart	Lungs *	Total
1989	0	1	0	0	1
1990	0	7	0	0	7
1991	0	11	0	0	11
1992	3	24	0	0	27
1993	0	16	0	0	16
1994	4	21	0	2	27
1995	0	21	5	9	35
1996	1	23	1	4	29
1997	2	22	2	2	28
1998	4	16	3	8	31
1999	2	7	1	2	12
2000	0	7	0	4	11
2001	0	2	0	4	6
2002	0	5	2	8	15
2003	0	5	3	13	21
2004	1	7	2	4	14
2005	4	5	3	5	17
2006	0	8	1	5	14
2007	0	8	3	8	19
2008	0	2	2	4	8
2009	0	5	0	16	21
Total	21	223	28	98	370

+ Number of recipients of livers * Total number of lungs (not recipients)

New Zealand organs are sent to Australia when there are no suitable recipients in New Zealand.

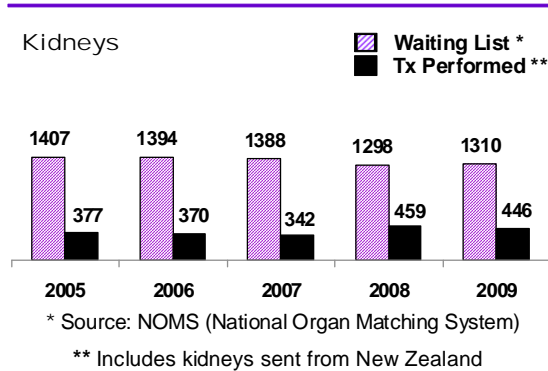
Liver transplantation commenced in New Zealand in February 1998, prior to this time, all livers were sent to Australia.

KIDNEY DONATION

Figure 55 shows the number of Australian and New Zealand patients waiting for a kidney transplant and the number of deceased donor transplants performed for each year from 2005-2009.

Figure 55

Waiting List vs Deceased Donor Transplants
Australia 2005 - 2009



Waiting List vs Deceased Donor Transplants
New Zealand 2005 - 2009

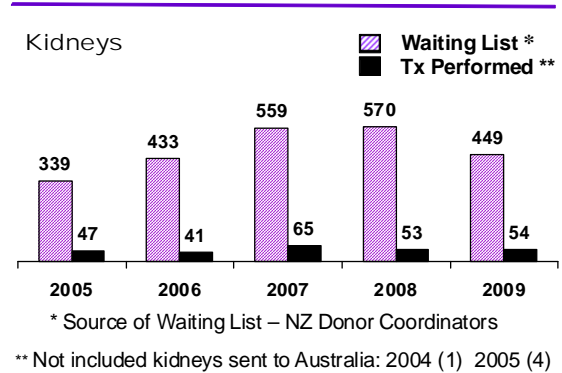
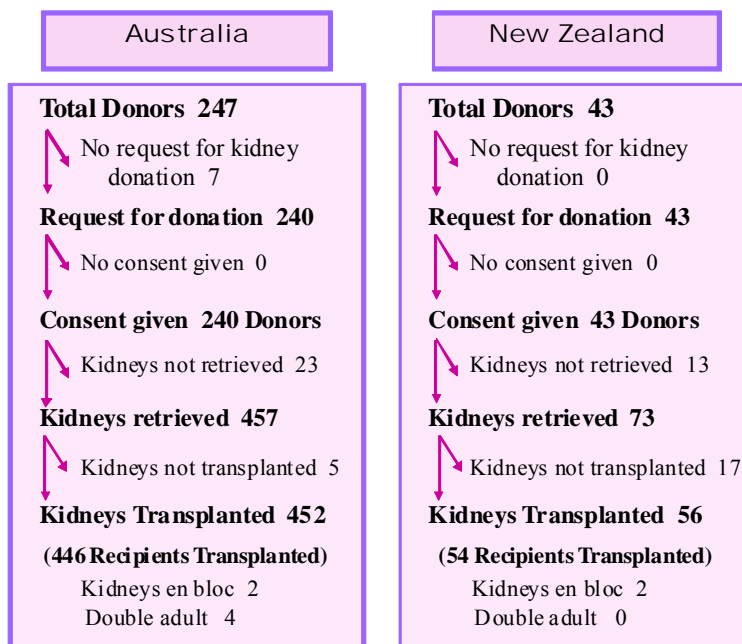


Figure 56

Outcome of Request for Kidney Donation 2009



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

Figure 60

Regional Outcome of Requests for Kidney Donation 1989 - 2009										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
Total Donors	848	1289	100	985	76	571	45	371	4285	629
Requested	845	1271	99	970	75	561	44	367	4232	624
Consented	845	1268	99	968	75	561	44	367	4227	624
Retrieved	1644	2428	191	1873	145	1061	88	702	8132	1183
Transplanted *	1599	2351	184	1791	136	1000	84	675	7820	1106
	(14) (3x)	12 (3x)	(2)	(7) (1x)	(2)	(5) (16x)	(1x)	(5) (4x)	(47) (28x)	(5) (5x)
* Recipients () En bloc (x) Double Adult ** New Zealand 1993 - 2009										

DONOR KIDNEY FUNCTION

TERMINAL LEVELS OF SERUM CREATININE

AUSTRALIA

In 2009 in Australia, 14% (32 donors) had a terminal serum creatinine concentration of $\geq 125 \mu\text{mol/L}$ and 15% (34 donors) had a terminal serum urea concentration of $\geq 9 \text{ mmol/L}$, shown in Figure 61.

NEW ZEALAND

There were 8% (three donors) in New Zealand with a terminal serum creatinine concentration of $\geq 125 \mu\text{mol/L}$ and 8% (three donors) with a terminal serum urea concentration of $\geq 9 \text{ mmol/L}$ in 2009.

Figure 61

Terminal Serum Creatinine Levels 2004 - 2009												
Creatinine ($\mu\text{mol/L}$)	Australia						New Zealand					
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009
00-99	72%	75%	77%	73%	72%	77%	75%	59%	74%	85%	87%	87%
100-124	14%	13%	10%	11%	12%	9%	19%	23%	10.5%	15%	7%	5%
125-149	5%	5%	6%	8%	4%	5%	0%	9%	10.5%	0%	3%	5%
150-174	1.5%	2%	2%	2%	4%	2%	3%	9%	5%	0%	3%	3%
175-199	1.5%	1%	1%	1%	2%	1%	0%	0%	0%	0%	0%	0%
200-224	1%	2%	<1%	0%	<1%	1%	3%	0%	0%	0%	0%	0%
225-249	2%	0%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%
>250	3%	2%	3%	4%	5%	4%	0%	0%	0%	0%	0%	0%

REASONS KIDNEYS WERE UNUSABLE

KIDNEY BIOPSY AT RETRIEVAL

There were 35 donors (15%) who had a biopsy of the kidneys taken at retrieval in 2009 in Australia and 17 donors (44%) in New Zealand.

Since 2000, there have been 13% (266) biopsies from 1987 kidney donors in Australia and 35% (118) from 337 kidney donors in New Zealand.

The reasons for kidneys that were unusable and the donor age are shown in Figures 62 and 63.

Figure 62

Reasons Kidneys Unused 2004 - 2009		2004	2005	2006	2007	2008	2009
Australia	Renal disease in donor	2	5	6	5	6	1
	Cancer in donor	2	1	1	0	3	2
	Anatomical	0	1	0	0	1	1
	Surgical	1	0	3	0	2	0
	Trauma	0	2	0	0	1	0
	Recipient problems	0	0	1	1	3	1
	Hepatitis B Core Antibody	0	2	0	0	0	0
	Surgeons not available	1	0	0	0	0	0
	Hepatitis C Nat Positive	0	0	0	1	0	0
	High risk donor	0	0	0	1	0	0
	Recent asymptomatic peritonitis	0	0	0	1	0	0
Total	6	11	11	9	16	5	
New Zealand	Renal disease in donor	3	3	1	3	6	16
	Anatomical	0	0	0	0	0	1
	Recipient unsuitable	0	1	0	0	0	0
	Total	3	4	1	3	6	17

Figure 63

Donor Age of Unused Kidneys 2004 - 2009		Age Groups									Total
		00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	
Australia	2004	0	1	0	0	0	1	1	0	1	4
	2005	0	0	0	2	2	2	2	1	0	9
	2006	0	0	0	1	0	1	2	2	1	7
	2007	0	0	0	3	1	1	0	1	1	7
	2008	0	0	1	1	0	4	3	2	2	13
	2009	0	0	0	0	0	0	2	2	0	4
New Zealand	2004	0	0	0	1	0	0	1	0	0	2
	2005	0	0	0	0	0	1	2	0	0	3
	2006	0	0	0	0	0	0	1	0	0	1
	2007	0	0	0	0	0	1	0	1	0	2
	2008	0	0	0	0	0	1	1	1	0	3
	2009	0	0	0	0	1	4	3	2	0	10

KIDNEY PERFUSION METHODS

Where kidneys were perfused with only one solution, HTK (59%), Ross (34%) and UW (7%) were the solutions used in Australia in 2009.

In New Zealand UW (56%) and HTK (44%) were the only solutions used (Figure 64).

UW was used as the second perfusion solution in 94% of cases, Ross (4%) and HTK (2%) in Australia in 2009 (Figure 65).

Figure 64

Kidney Perfusion with Only One Solution 2004 - 2009													
	Australia						New Zealand						
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009	
Ross	6	24	16	18	16	17	2	4	0	0	0	0	
UW	2	4	0	2	2	2	61	49	42	36	0	41	
HTK	14	23	38	7	24	10	0	0	0	28	59	32	
Hartman's	2	0	0	0	0	0	0	0	0	0	0	0	
Celsior	0	0	2	0	0	0	0	0	0	0	0	0	
Total	24	51	56	27	42	29	63	53	42	64	59	73	

Figure 65

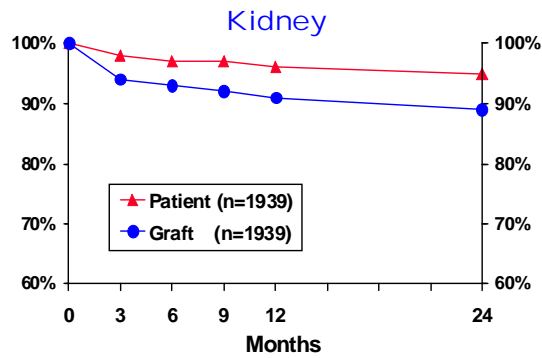
Second Perfusion Solution - Kidneys 2004 - 2009													
	Australia						New Zealand						
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009	
Ross	42	0	4	8	16	16	0	0	0	0	0	0	
UW	344	338	323	320	399	402	2	2	0	4	0	0	
HTK	0	2	2	0	20	10	0	0	0	0	0	0	
Hartman's	2	0	0	0	0	0	0	0	0	0	0	0	
Total	388	340	329	328	435	428	2	2	0	4	0	0	

KIDNEY TRANSPLANT OUTCOME

Figure 66 shows the patient and graft outcome for kidney transplants performed over the preceding five years in Australia and New Zealand.

Figure 66

Primary Deceased Patient and Graft Survival
Australia 2003 - 2008



Primary Deceased Patient and Graft Survival
New Zealand 2003 - 2008

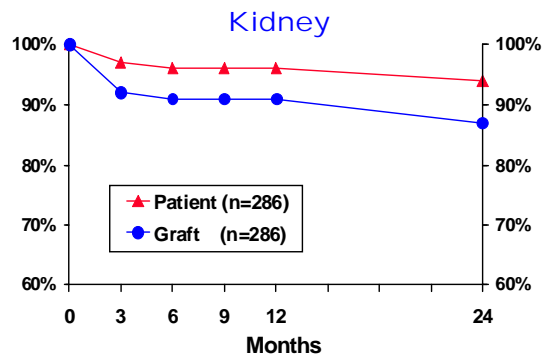
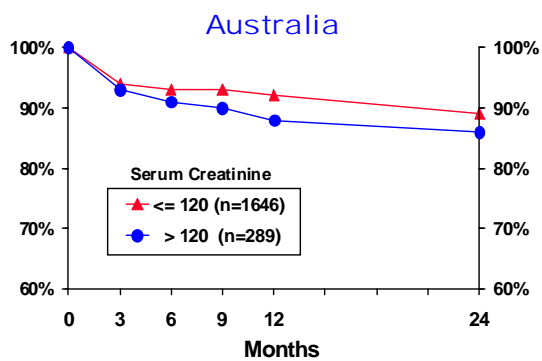


Figure 67

Primary Deceased Kidney Graft Survival
Terminal Serum Creatinine 2003 - 2008



This data has been provided by the ANZDATA (Australia and New Zealand Dialysis and Transplant) Registry and further information on kidney transplant outcome is available from their website - www.anzdata.org.au

LIVER DONATION

There were 219 liver transplants performed in 2009, 187 in Australia and 31 in New Zealand.

Two whole livers and one split liver were donated from Australia and transplanted into New Zealand recipients; five livers donated from New Zealand were transplanted into Australian recipients.

There were 171 Australian donors, who provided 185 recipients with transplanted livers and 33 New Zealand donors provided livers for 33 recipients.

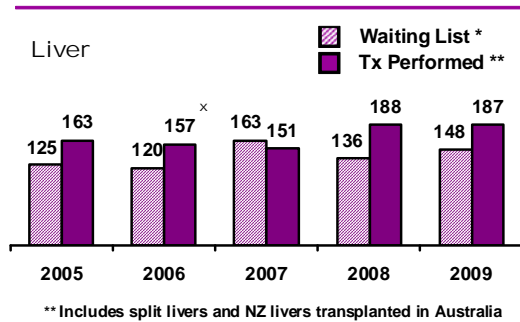
There were two combined whole liver/kidney and two split liver/kidney transplants as well as two liver transplants combined with heart/lungs in 2009.

Twenty eight transplants were performed using the “split” liver technique (transplanting one liver into two recipients) and there were two reduced size livers transplanted (one in Victoria and one in Queensland), both for paediatric recipients.

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

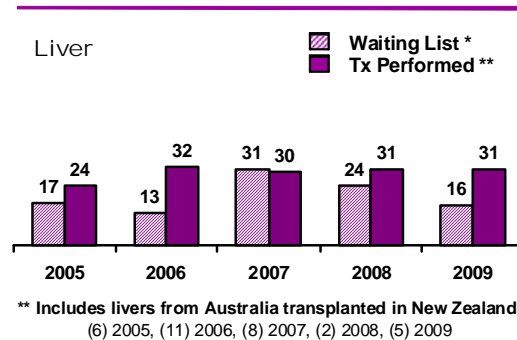
Figure 68

Waiting List vs Deceased Donor Transplants
Australia 2005 - 2009



* ANZ National Liver Registry and NOMS (National Organ Matching System)

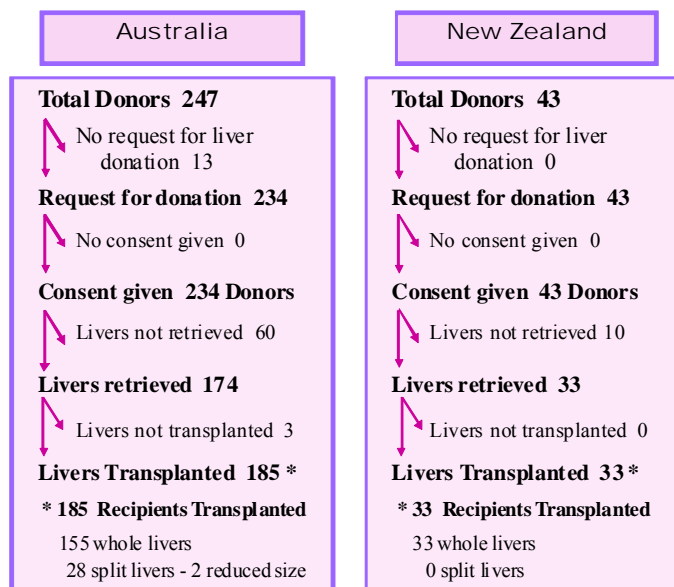
Waiting List vs Deceased Donor Transplants
New Zealand 2005 - 2009



* Source of Waiting List - NZ Donor Coordinators

Figure 69

Outcome of Request for Liver Donation 2009



* 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 70

Age of Donors Providing Transplanted Livers 2004 - 2009											
		Age Groups									Total
Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84		
Australia	2004	1	4 (1+)(1#)	37 (1+) (2*)	29 (3+)	20 (3+)	31 (5+)	30	10	2	164
	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
New Zealand	2004	1	0	9	4	3 (1+) (1*)	5	11	1	1	35
	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

+ One liver transplanted into two recipients * One liver split and used for one patient only # Hepatocytes transplanted

Figure 71

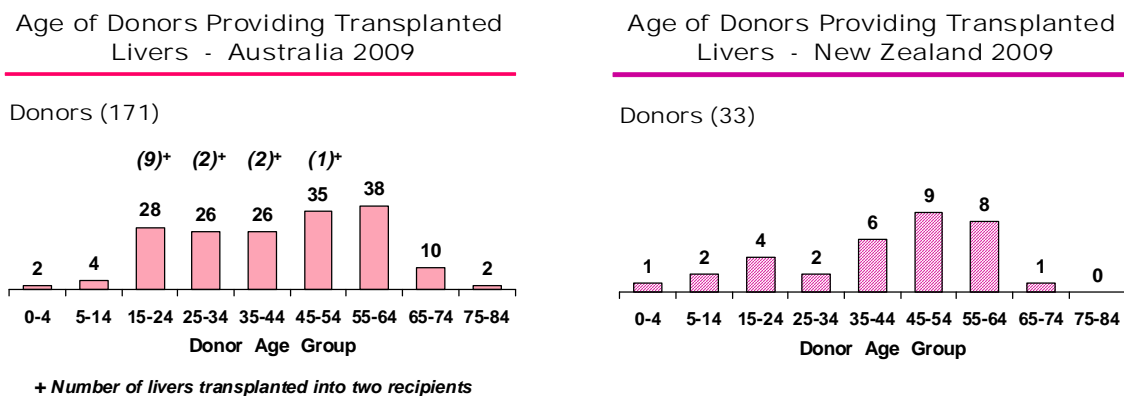
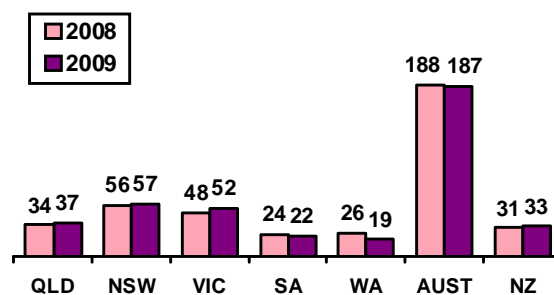


Figure 72

Liver Transplants by Transplant State Australia and New Zealand 2008 - 2009



PERFUSION OF LIVERS

Australia

University of Wisconsin (UW) solution was used as the final perfusion for 95%, HTK 3% and Ross 2% of all livers. The initial flush solution was either UW, Ross, Hartmann's, Saline or HTK solution. There were three livers perfused with HTK only and one liver perfused with UW only.

New Zealand

University of Wisconsin (UW) was used for 20 livers (61%) and HTK for 13 livers (39%), as the only solutions used for the 33 livers retrieved in 2009.

Figure 73

Regional Outcome of Requests for Liver Donation 1989 - 2009										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
Total Donors	848	1289	100	985	76	571	45	371	4285	629
Requested	829	1179	97	900	68	509	40	336	3958	568
Consented	819	1156	92	876	65	498	40	326	3872	565
Retrieved	629	817	68	629	53	379	26	250	2851	468
Transplanted *	660	847	74	578	53	368	24	244	2848	466
* Refers to number of recipients - use of split liver and hepatocytes										
** New Zealand 1993 - 2009										

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 74

Reasons Livers Were Unused 2004 - 2009							
		2004	2005	2006	2007	2008	2009
Australia	Biopsy - Fatty	2	2	5	3	4	1
	Disease of organ	1	3	2	3	2	1
	Surgical	0	0	1	0	0	0
	Cancer in Donor	1	0	1	0	1	0
	Packaging Problem	0	0	0	0	1	1
	Recipient Issue	3	1	1	0	0	0
	Perfusion Abnormality	0	0	0	1	0	0
Total	7	6	10	7	8	3	
New Zealand	Disease of organ	0	1	0	0	0	0
	Total	0	1	0	0	0	0

Figure 75

Donor Age of Unused Livers 2004 - 2009											
		Age Groups									Total
Year		00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	
Australia	2004	0	0	0	0	0	2	3	1	1	7
	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
New Zealand	2004	0	0	0	0	0	0	0	0	0	0
	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

DONOR LIVER FUNCTION

The results of the serum tests for liver function for 174 Australian and 33 New Zealand donors in 2009, who had livers retrieved, is shown below.

There were 79% (137 donors) in Australia and 52% (17 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 76

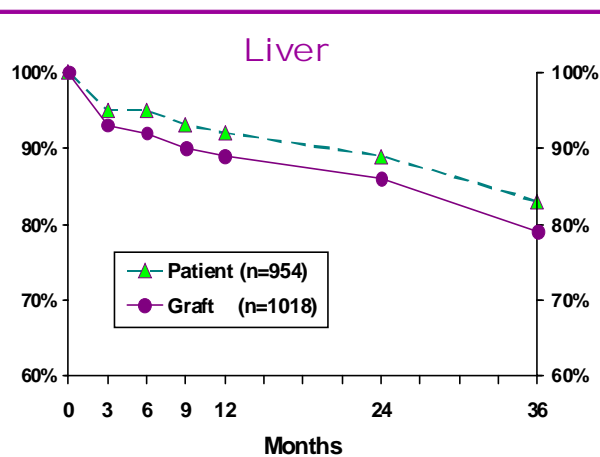
Number of Donors with Liver Function Tests above Normal Range 2009						
Liver Function Tests	Australia			New Zealand		
	Donors with value recorded *	Above Normal	Maximum recorded 1989-2009	Donors with value recorded *	Above Normal	Maximum recorded 1993-2009
Alanine Transaminase ALT > 40 u/L	174	60 (34%)	1240 (1191) x	26	9 (35%)	740 (740) x
Aspartate Transaminase AST > 40 u/L	138	75 (54%)	1480 (997)	24	7 (29%)	461 (115)
Gamma Glutamol Transferase GGT > 60 u/L	173	30 (17%)	750 (495)	26	5 (19%)	226 (99)
Alkaline Phosphatase > 116 u/L	173	10 (6%)	422 (324)	32	2 (6%)	264 (205)
Total Bilirubin > 20 umol/L	173	19 (11%)	121 (95)	33	0 (0%)	61 (18)

* Not all donors have all tests
x (2009) Maximum

LIVER TRANSPLANT OUTCOME

Figure 77

Deceased Patient and Graft Survival
Australia 2004 - 2008



Source: Australia and New Zealand Liver Transplant Registry

CARDIO-THORACIC ORGAN DONATION

AUSTRALIA

In 2009 Australia performed 59 heart transplants, two heart/lung, 109 double and eleven single lung transplants. This number includes eight double lungs donated from New Zealand.

There were two heart/lungs combined with livers transplanted in 2009.

The first perfusion fluid of choice for heart retrieval was crystalloid cardioplegia (56%) followed by celsior (28%). The first perfusion fluid for lung retrieval was perfadex (55%) followed by celsior (21%), pneumoplegia (19%) and saline or Hartmans or cardioplegia for 5% of lung retrievals.

ECG AND ECHOCARDIOGRAM

Eighty percent (71 heart donors) had a normal ECG. Eighty six percent (57 heart donors) had an echocardiogram.

NEW ZEALAND

New Zealand performed eleven heart and seven double lungs in 2009.

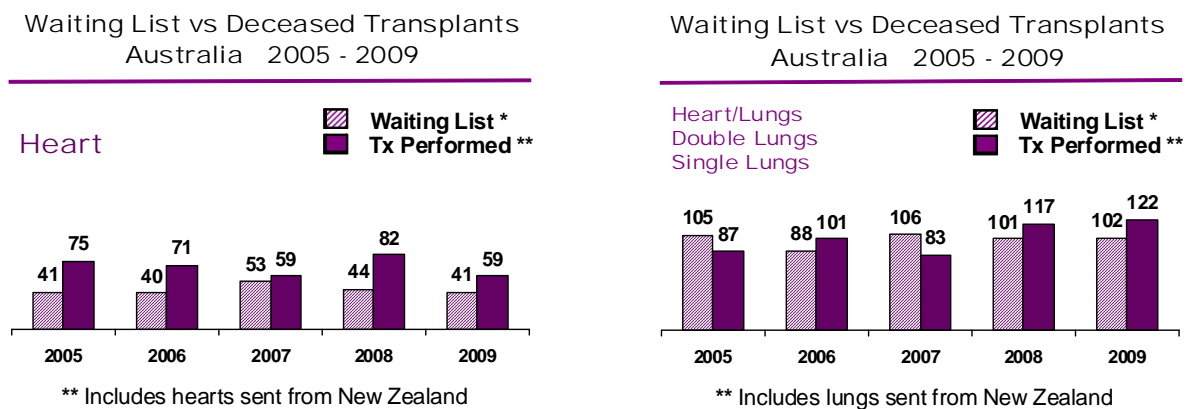
Eight double lungs were sent for transplantation in Australia.

The first perfusion fluid for heart retrieval was crystalloid cardioplegia, with perfadex used for 13 lung donors, pneumoplegia for two donors and cardioplegia for one donor.

ECG AND ECHOCARDIOGRAM

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

Figure 78



* The Australia and New Zealand Cardio-Thoracic Registry

Figure 79

