

## LIVER DONATION

There were 243 liver transplants performed in 2011; 207 in Australia and 36 in New Zealand.

Six whole livers and one split liver were donated from Australia and transplanted into New Zealand recipients and one whole liver from a New Zealand donor was transplanted into an Australian recipient.

There were 199 Australian donors, who provided 213 recipients with transplanted livers and 30 New Zealand donors provided livers for 30 recipients as shown in Figure 75.

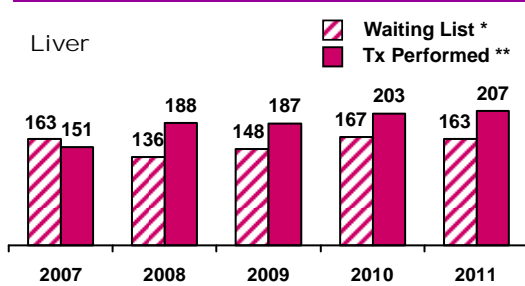
There were four whole liver/kidney transplants in Australia and one in New Zealand in 2011.

Twenty eight transplants were performed in Australia using the “split” liver technique (transplanting one liver into two recipients) and there were two reduced size livers transplanted into paediatric recipients, one each in New South Wales and Victoria.

- \* 7 Royal Children’s, Victoria (1 reduced)
- \* 6 Royal Prince Alfred Hospital, NSW
- \* 5 Princess Alexandra Hospital, Queensland
- \* 4 Royal Children’s, Queensland
- \* 4 The New Children’s, NSW (1 reduced)
- \* 2 Austin Hospital - Victoria
- \* 1 Sir Charles Gairdner Hospital - WA
- \* 1 Auckland Hospital - New Zealand

Figure 74

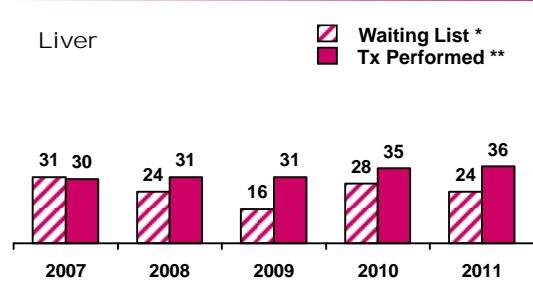
Waiting List vs Deceased Donor Transplants  
Australia 2007 - 2011



\*\* 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 2007 - 2011

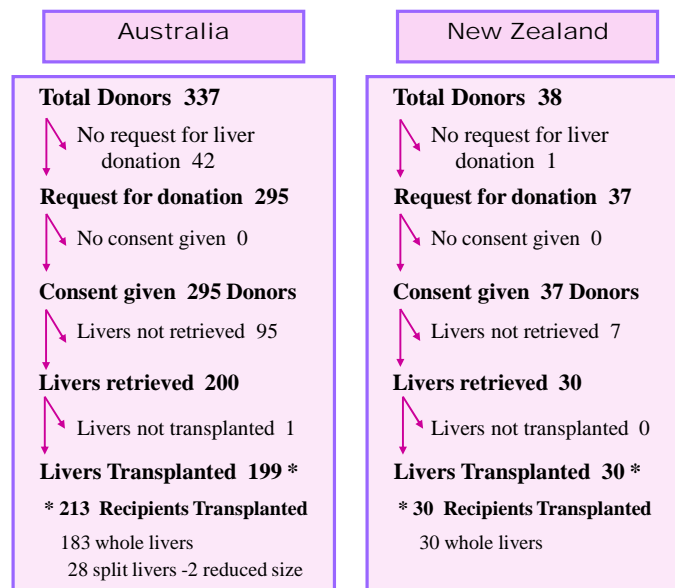


\*\* Includes livers from Australia transplanted in New Zealand  
(8) 2007, (2) 2008, (5) 2009, (6) 2010, (7) 2011

\* Source of Waiting List - NZ Donor Coordinators

Figure 75

### Outcome of Request for Liver Donation 2011



\* 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

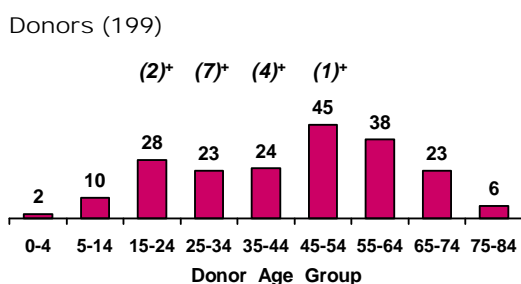
Figure 76

Age of Donors Providing Transplanted Livers 2006 - 2011											
Year	Age Groups									Total	
	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84		
<b>Australia</b>	2006	0	9	31 (4+) (1*)	19 (2+) (1*)	21 (1+)	33 (1*)	27 (1+)	12	1	<b>153</b>
	2007	2	3 (1+)	30 (7+)	21 (3+) (1*)	16 (2+)	24 (1+)	23	11	3	<b>133</b>
	2008	1	4	29 (6+)	28 (4+) (1*)	33 (4+)	29 (2+) (2*)	37	13	5	<b>179</b>
	2009	2	4	28 (9+) (1*)	26 (2+)	26 (2+) (1*)	35 (1+)	38	10	2	<b>171</b>
	2010	1	4	19 (2+)	31 (5+)	48 (7+)	35 (1+) (1*)	29	17	5	<b>189</b>
	2011	2	10 (1*)	28 (2+)	23 (7+)	24 (4+) (1*)	45 (1+)	38	23	6	<b>199</b>
<b>New Zealand</b>	2006	0	1	6 (3+)	5 (1+)	6	2	3	1	0	<b>24</b>
	2007	0	1	4	1	6	9 (1+) (1*)	9 (1+)	2	0	<b>32</b>
	2008	0	1	4 (1+)	3 (1*)	5	5	3	2	0	<b>23</b>
	2009	1	2	4	2	6	9	8	1	0	<b>33</b>
	2010	0	0	6	7 (2*)	6	5	5	3	0	<b>32</b>
	2011	0	3	9	4	2	8	3	1	0	<b>30</b>

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

Figure 77

Age of Donors Providing Transplanted Livers - Australia 2011



Age of Donors Providing Transplanted Livers - New Zealand 2011

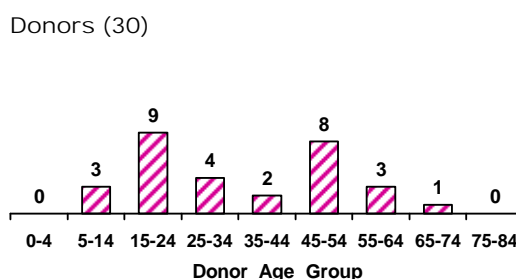
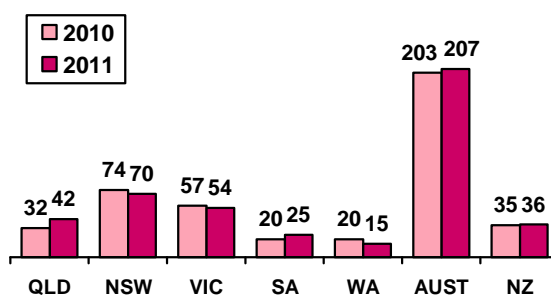


Figure 78

Liver Transplants by Transplant State Australia and New Zealand 2010 - 2011



### PERFUSION OF LIVERS

#### Australia

University of Wisconsin (UW) solution was used as the final perfusion for all livers in Australia in 2011. The initial flush solution was either UW, Ross, Saline or Hartman's solution. There was only one liver perfused with UW only.

#### New Zealand

University of Wisconsin (UW) was used for all 30 livers retrieved in New Zealand in 2011.

Figure 79

Regional Outcome of Requests for Liver Donation 1989 - 2011										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ **
<b>Total Donors</b>	<b>964</b>	<b>1454</b>	<b>118</b>	<b>1189</b>	<b>92</b>	<b>637</b>	<b>51</b>	<b>426</b>	<b>4931</b>	<b>708</b>
Requested	917	1333	115	1091	82	569	45	383	4535	645
Consented	907	1309	110	1067	79	557	45	373	4447	642
Retrieved	703	925	83	734	62	419	30	287	3243	530
Transplanted *	743	963	91	687	63	409	28	281	3265	530
* Refers to number of recipients - use of split livers, reduced size livers and hepatocytes										
** New Zealand 1993 - 2011										

## REASONS LIVERS WERE UNUSED AFTER RETRIEVAL

The liver is only retrieved when a compatible recipient has been identified. Figure 80 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 80

Reasons Livers Were Unused 2006 - 2011							
		2006	2007	2008	2009	2010	2011
<b>Australia</b>	Biopsy - Fatty	5	3	4	1	1	1
	Disease of Organ	2	3	2	1	0	0
	Surgical	1	0	0	0	0	0
	Cancer in Donor	1	0	1	0	0	0
	Packaging Problem	0	0	1	1	0	0
	Recipient Issue	1	0	0	0	1	0
	Perfusion Abnormality	0	1	0	0	0	0
	Incorrect Blood Group	0	0	0	0	1	0
<b>Total</b>	<b>10</b>	<b>7</b>	<b>8</b>	<b>3</b>	<b>3</b>	<b>1</b>	

Figure 81

Donor Age of Unused Livers 2006 - 2011											
		Age Groups									Total
Year	00-04	05-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84		
<b>Australia</b>	2006	0	0	0	0	1	1	4	2	2	<b>10</b>
	2007	0	1	0	0	0	1	3	1	1	<b>7</b>
	2008	0	0	0	0	2	3	1	2	0	<b>8</b>
	2009	0	0	0	1	0	1	0	1	0	<b>3</b>
	2010	1	0	1	0	1	0	0	0	0	<b>3</b>
	2011	0	0	0	0	0	0	0	1	0	<b>1</b>
<b>New Zealand</b>	2006	0	0	0	0	0	0	0	0	0	<b>0</b>
	2007	0	0	0	0	0	0	0	0	0	<b>0</b>
	2008	0	0	0	0	0	0	0	0	0	<b>0</b>
	2009	0	0	0	0	0	0	0	0	0	<b>0</b>
	2010	0	0	0	0	0	0	0	0	0	<b>0</b>
	2011	0	0	0	0	0	0	0	0	0	<b>0</b>

## DONOR LIVER FUNCTION

The results of the serum tests for liver function for 200 Australian and 30 New Zealand donors in 2011, who had livers retrieved, are shown below.

There were 79% (158 donors) in Australia and 43% (13 donors) in New Zealand who had all five tests performed.

Figure 82 shows the number of donors whose liver function was above the normal range.

Figure 82

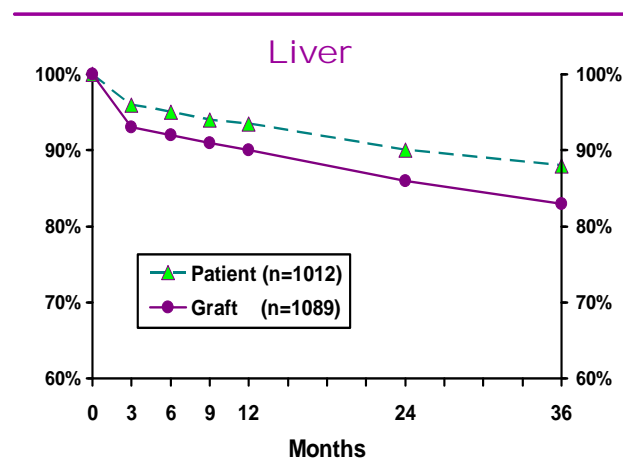
Number of Donors with Liver Function Tests above Normal Range 2011						
Liver Function Tests	Australia			New Zealand		
	Donors with value recorded *	Above Normal	Maximum recorded 1989-2011	Donors with value recorded *	Above Normal	Maximum recorded 1993-2011
Alanine Transaminase ALT > 40 u/L	200	91 (46%)	2223 (1195) x	22	9 (41%)	1120 (1120) x
Aspartate Transaminase AST > 40 u/L	158	87 (55%)	1480 (1190)	20	12 (60%)	809 (809)
Gamma Glutamol Transferase GGT > 60 u/L	200	55 (27.5%)	750 (513)	26	4 (15%)	226 (95)
Alkaline Phosphatase > 116 u/L	200	19 (9.5%)	422 (233)	30	2 (7%)	264 (195)
Total Bilirubin > 20 umol/L	200	29 (14.5%)	121 (108)	30	3 (10%)	61 (50)

\* Not all donors have all tests  
x (2011) Maximum

## LIVER TRANSPLANT OUTCOME

Figure 83

### Deceased Patient and Graft Survival Australia 2006 - 2010



Source: Australia and New Zealand Liver Transplant Registry