

TERMINAL MANAGEMENT

TIME FROM ADMISSION TO BRAIN DEATH

AUSTRALIA

In 2011, 23% of Australian donors were declared brain dead within 23 hours of hospital admission.

The median time from admission to brain death was 43.9 hours.

Seventeen percent (57 donors) were in hospital for more than five days.

NEW ZEALAND

In 2011, 39% of New Zealand donors were declared brain dead within 23 hours of hospital admission.

Time of admission to hospital was unknown in 2% of donors. The median time from admission to brain death was 31.6 hours.

Eight percent (three donors) were in hospital for more than five days.

Figure 113

Time from Admission to Brain Death* 2006 - 2011												
	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	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
	2011	23%	29%	13%	9%	7%	4%	2%	12%	1%	43.9	337
New Zealand	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
	2011	39%	29%	16%	5%	0%	3%	3%	3%	2%	31.6	38

* Note: For DCD donors, this is the time from admission to cardiac death

Figure 114

Australian States Time from Admission to Brain Death* 2011											
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	16%	30%	21%	9%	7%	3%	3%	11%	0%	53.3	67
New South Wales	25%	31%	10%	10%	5%	3%	1%	12%	3%	38.0	77
ACT	12.5%	25%	25%	0%	25%	0%	0%	12.5%	0%	61.4	8
Victoria	20%	35%	9%	5%	7%	6%	1%	16%	1%	44.3	107
Tasmania	50%	17%	17%	17%	0%	0%	0%	0%	0%	22.6	6
South Australia	26%	23%	20%	14%	8.5%	0%	0%	8.5%	0%	50.3	35
Northern Territory	25%	25%	0%	50%	0%	0%	0%	0%	0%	54.7	4
Western Australia	39%	18%	9%	9%	9%	3%	6%	6%	0%	33.1	33

* Note: For DCD donors, this is the time from admission to cardiac death

Figure 115

Time from Ventilation to Brain Death 2007 - 2011												
	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	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
	2011	24%	34%	11%	9%	7%	3%	2%	9%	1%	39.6	337
New Zealand	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
	2011	37%	31%	13%	5%	3%	0%	3%	3%	5%	31.4	38

TIME FROM BRAIN DEATH TO AORTIC CROSS CLAMP

AUSTRALIA

In 2011, 51 heart beating donors (20%) had undergone aortic cross clamp within twelve hours of the certification of brain death.

The median time was 17.3 hours.

NEW ZEALAND

In 2011, 23 heart beating donors (64%) had undergone aortic cross clamp within twelve hours of the certification of brain death.

The median time was 11.7 hours.

Figure 116

Time from Brain Death to Aortic Cross Clamp 2007 - 2011 Heart Beating Donors										
Hours	Australia					New Zealand				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
<=6	2%	4%	2%	3%	3%	5%	10%	12%	5%	3%
7 - 12	28%	23%	23%	18%	18%	55%	70%	56%	58%	61%
13 - 18	49%	50%	47%	49%	45%	37%	10%	24%	30%	22%
19 - 24	15%	17%	24%	23%	25%	3%	0%	0%	5%	8%
> 24	6%	6%	4%	7%	9%	0%	10%	8%	2%	0%
Unknown Time	0%	0%	0%	0%	<1%	0%	0%	0%	0%	6%
Median Hours	15.2	15.3	16.1	16.5	17.3	11.8	11.0	12.1	11.8	11.7
Number of Donors	179	236	205	240	251	38	29	41	40	36
DCD Donors *	19	23	42	69	86	0	2	2	1	2

Figure 117

Australian States Time from Brain Death to Aortic Cross Clamp 2011 Heart Beating Donors								
Hours	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
<=6	2%	2%	0%	1%	0%	11%	0%	4%
7 - 12	21%	31%	17%	12%	0%	19%	0%	4%
13 - 18	59%	39%	33%	44%	17%	48%	33%	38%
19 - 24	14%	17%	33%	31%	67%	22%	33%	38%
> 24	4%	8%	17%	12%	16%	0%	33%	16%
Unknown Time	0%	3%	0%	0%	0%	0%	0%	0%
Median Hours	16.0	15.2	18.6	17.9	22.0	16.4	24.3	19.1
Number of Donors	49	59	6	75	6	27	3	26
DCD Donors *	18	18	2	32	0	8	1	7

* 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 24 donors (7%) who did not require maintenance drug support in 2011. Sixteen were DCD donors.

Antidiuretic agents (desmopressin/vasopressin) were prescribed to 57% (193) of all donors.

MAP <50 mm Hg

Mean arterial blood pressure (MAP) <50 mm Hg was recorded in 5% (16) of donors in Australia in 2011. Six donors had a duration of less than one hour and ten donors had one hour or longer. Range was 15 minutes to 24 hours.

NEW ZEALAND

In 2011 there were three donors (8%) who did not require maintenance drug support. Two were DCD donors.

Antidiuretic agents (desmopressin/vasopressin) were prescribed to 74% (28) of all donors.

MAP <50 mm Hg

Four donors were reported with a mean arterial blood pressure (MAP) <50 mm Hg in 2011 in New Zealand. Two donors had a duration of one hour and two donors a duration of one and a half hours.

Figure 118

Donor Maintenance 2007 - 2011										
Drugs	Australia					New Zealand				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Number of Donors	(198)	(259)	(247)	(309)	(337)	(38)	(31)	(43)	(41)	(38)
Dopamine	10	7	3	8	10	5	3	2	2	1
Adrenaline	17	22	30	37	35	0	1	3	2	2
Noradrenaline	160	220	212	252	283	31	28	36	38	34
Insulin Infusion *	-	155	131	136	143	-	11	12	9	10
T3 Protocol *	-	56	50	44	47	-	0	0	1	0
Aramine	4	2	3	3	7	0	0	1	0	0
Dobutamine	11	3	5	8	8	1	0	1	0	1
Vasopressin / DDAVP	115	173	157	165	193	20	20	23	27	28

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

Figure 119

Australian States Donor Maintenance 2011 (2010)								
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
Number of Donors	67 (49)	77 (88)	8 (10)	107 (97)	6 (10)	35 (31)	4 (2)	33 (22)
Dopamine	9 (7)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Adrenaline	6 (5)	6 (6)	0 (1)	14 (17)	2 (2)	6 (4)	0 (0)	1 (2)
Noradrenaline	47 (32)	65 (73)	8 (8)	90 (82)	6 (8)	34 (26)	4 (2)	29 (21)
Insulin Infusion *	36 (25)	37 (40)	4 (5)	39 (40)	2 (3)	11 (8)	2 (1)	12 (14)
T3 Protocol *	22 (18)	11 (15)	0 (3)	7 (4)	3 (1)	1 (2)	1 (0)	2 (1)
Vasopressin / DDAVP	42 (33)	52 (55)	5 (7)	45 (28)	5 (8)	22 (14)	3 (2)	19 (18)

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 THEATRE)

AUSTRALIA

There were 42 donors who did not receive any heparin as part of their terminal treatment in 2011. Thirty two of those donors were DCD (donation after cardiac death) donors.

Thirty donors did not receive any terminal treatment; 26 of those were DCD donors.

NEW ZEALAND

There were three donors who did not receive any heparin, nor any other drugs as part of their terminal treatment in 2011. All three were beating heart donors.

The two DCD donors both received heparin.

Figure 120

Terminal Treatment 2007 - 2011										
Drugs	Australia					New Zealand				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Number of Donors	(198)	(259)	(247)	(309)	(337)	(38)	(31)	(43)	(41)	(38)
Heparin	187	251	228	282	295	38	30	42	41	35
Methyl Prednisolone	145	192	164	204	205	3	1	1	1	0
Chlorpromazine	30	27	32	22	31	0	0	0	0	0
Mannitol	17	19	8	10	10	0	0	0	0	0
Antibiotics *	-	190	153	202	210	-	12	16	13	9
Prostacyclin	46	61	39	29	20	12	13	14	12	9

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

Figure 121

Australian States Terminal Treatment 2011 (2010)								
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
Number of Donors	67 (49)	77 (88)	8 (10)	107 (97)	6 (10)	35 (31)	4 (2)	33 (22)
Heparin	55 (44)	66 (78)	7 (9)	100 (88)	6 (10)	33 (30)	3 (2)	25 (21)
Methyl Prednisolone	5 (0)	58 (65)	7 (7)	69 (69)	5 (8)	35 (31)	3 (2)	23 (22)
Chlorpromazine	31 (22)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Mannitol	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10 (10)
Antibiotics *	5 (7)	60 (68)	7 (7)	66 (61)	5 (9)	35 (31)	4 (2)	28 (17)
Prostacyclin	1 (2)	13 (21)	1 (3)	0 (0)	0 (0)	0 (2)	1 (1)	4 (0)

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