

Tissue & Eye Data





Tissue & Eye Data

While only a small percentage of people are medically suitable to donate solid organs upon death, a larger proportion are eligible to become eye and/or tissue donors. However, the majority of tissue donations occur from living donors.

In 2013 the establishment of national tissue reporting continued to strengthen. Historically, there had been no consolidated collection or reporting of tissue and eye donation and utilisation data in Australia. The continued partnership between the Australian Organ and Tissue Donation and Transplantation Authority (AOTDTA), jurisdictional tissue and eye banks and the ANZOD Registry, has strengthened the national reporting of tissue data for 2013. Reported datasets and analyses inform the discussions held by health care professionals, policy makers, consumers and individual agencies to optimise every potential donation opportunity and to increase access to life-transforming transplantation for Australians - See more at: <http://www.donatelife.gov.au/organ-and-tissue-authority-ota>.

This chapter presents the eye & tissue data provided by banks across Australia, in conjunction with data collected within the solid organ donation sector by DonateLife.

The aim for the ANZOD Registry is to continue delivering accurate data for the tissue and eye sectors. The goals going forward include the collection of donor specific donation data with allocation of a unique donor identification, introduction of capturing outcome data and unifying terminology across agencies.

Collaboration with the Eye Bank Association of Australia and New Zealand (EBAANZ) is assisting the momentum for accurate reconciliation for reporting into the future.

The following Tissue Banks contributed data :

- ACT** - ACT Bone Bank
- NSW** - Australian Biotechnologies
- Hunter New England Bone Bank
- NSW Bone Bank
- Rachel Forster Bone Bank
- Sydney Heart Valve Bank
- QLD** - QLD Bone Bank
- QLD Heart Valve Bank
- SA** - SA Tissue Bank
- VIC** - Barwon Health Bone Bank Geelong
- Donor Tissue Bank Victoria
- WA** - Perth Bone and Tissue Bank (PlusLife)
- Royal Perth Heart Valve Bank

EBAANZ contributed data on the following Eye Banks in Australia and New Zealand :

- NSW** - Lions NSW Eye Bank
- QLD** - Queensland Eye Bank
- SA** - The Eye Bank of SA
- VIC** - Lions Eye Donation Service (Vic)
- WA** - Lions Eye Bank of WA
- NZ** - NZ National Eye Bank





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Tissue & Eye Donors

For 2013, tissue banks across Australia continued to provide aggregate data for 4,193 cardiovascular, musculoskeletal and skin tissue donations from a total of 4,032 tissue donors.

EBAANZ reported on behalf of Eye banks across Australia and New Zealand, including 1,144 eye donors in Australia and 159 in New Zealand.

Figure 6.1 Number of Tissue Donors, Australian States, 2012-2013

Figure 6.1 shows the number of unique tissue donors in each State (both living and deceased combined).

Each total number excludes duplicate counts of donors that are also multi-organ or multi-tissue donors where the donor coordination is performed by another donation agency.

Data sourced from Australian Tissue Banks.

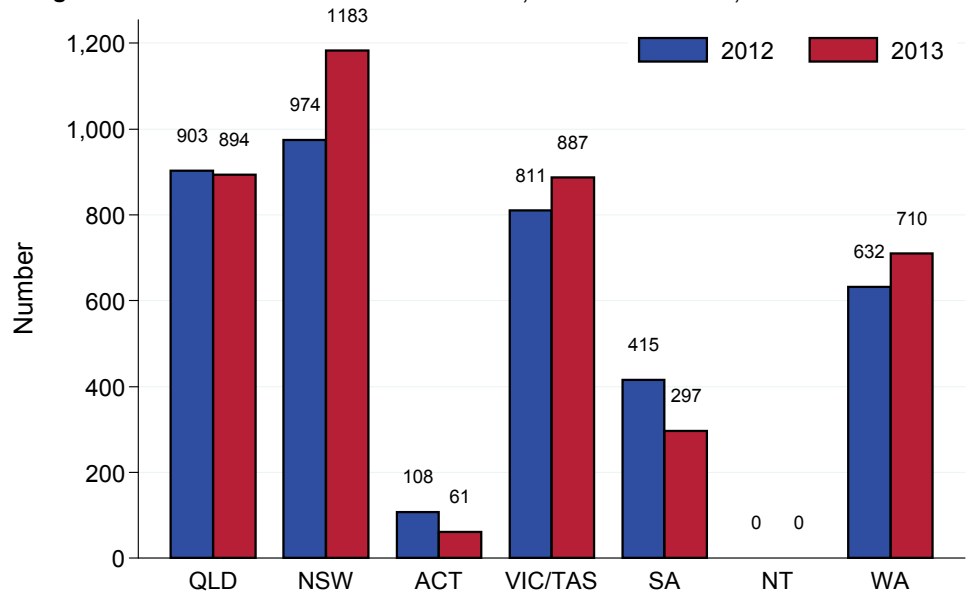
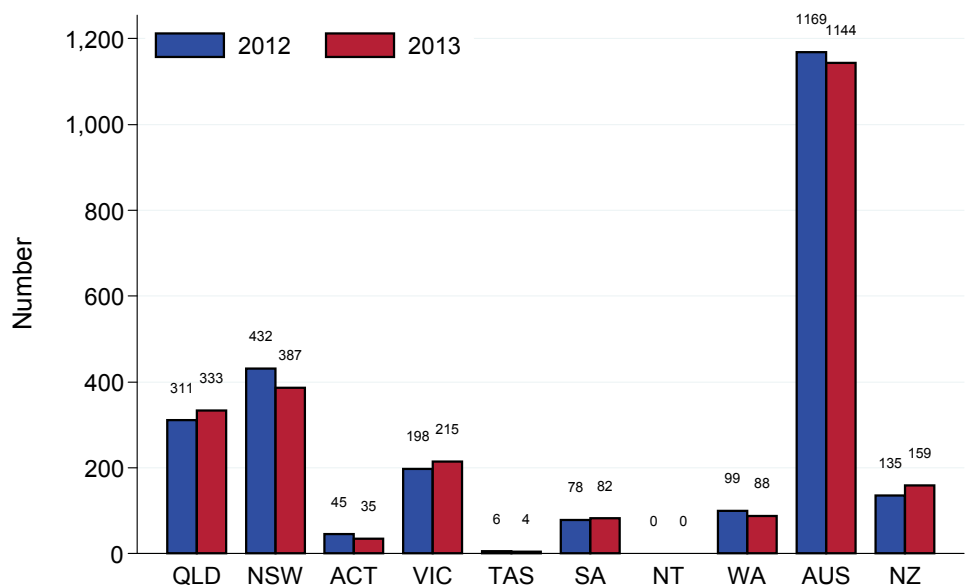


Figure 6.2 Number of Eye Donors, Australia and New Zealand, 2012-2013

Figure 6.2 represents the number of eye donors from each State. Note that some States not having an Eye Bank manage eye donation from a satellite State.

Donor numbers may include eye donors that are also multi-organ or multi-tissue donors where the donor coordination is performed by another donation agency.

Data sourced from EBAANZ.





Tissue Donation

Musculoskeletal donations can be in the form of bone, tendon and ligaments and are utilised for knee and hip replacements, reconstructive orthopaedic surgery following trauma or disease, spinal deformities and can aid in prevention of limb loss following tumour removal. Just one musculoskeletal donation can aid many recipients and greatly improve their quality of life.

Cardiovascular tissue incorporates donations of heart valves, pericardium and thoracic aorta. Heart valves are necessary to regulate the flow of blood to and from the heart, whereas pericardium can be used during neurosurgery or, like the thoracic aorta, can also be used for vascular repair of defects or injury.

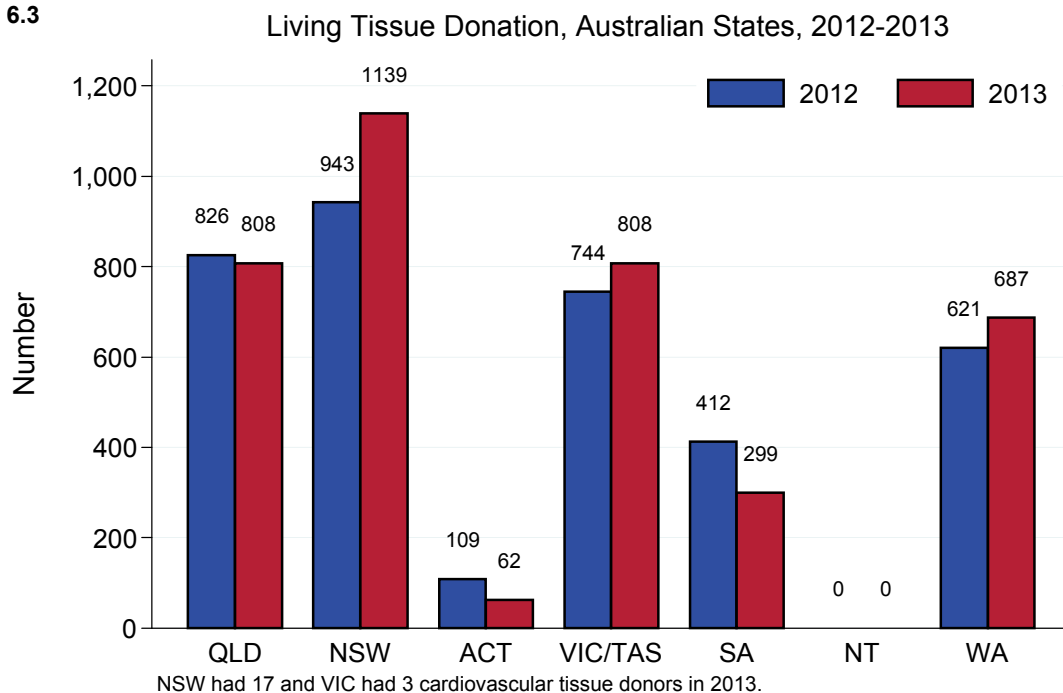
Donated skin contributes to saving lives and improving long term outcomes for patients who suffer severe burns. Donated tissue is essential when a patient's own skin can not be used for grafting. Using donated skin as a wound "dressing" helps reduce infection, fluid loss and pain, promotes wound healing

and minimises scarring. Often recipients will require more than one donated graft for their wounds to heal. Skin grafts are also used to treat wounds resulting from trauma and serious infection.

Among 4,032 tissue donors in Australia during 2013, there were 3,803 tissue donations from live donors and 390 tissue donations from deceased donors. Donations from live donors (93% of all donations) consisted predominately of musculoskeletal tissue, where 3,783 people donated femoral heads whilst undergoing hip replacement surgery. Twenty live donors provided cardiovascular tissue, an increase from three in 2012. Tissue donation from live donors is managed by the individual tissue banks across Australia and New Zealand.

Figure 6.3 provides the breakdown by jurisdiction of the 3,803 tissue donations from live donors and similarly the breakdown by jurisdiction of 390 tissue donation from deceased donors is shown in Figure 6.4.

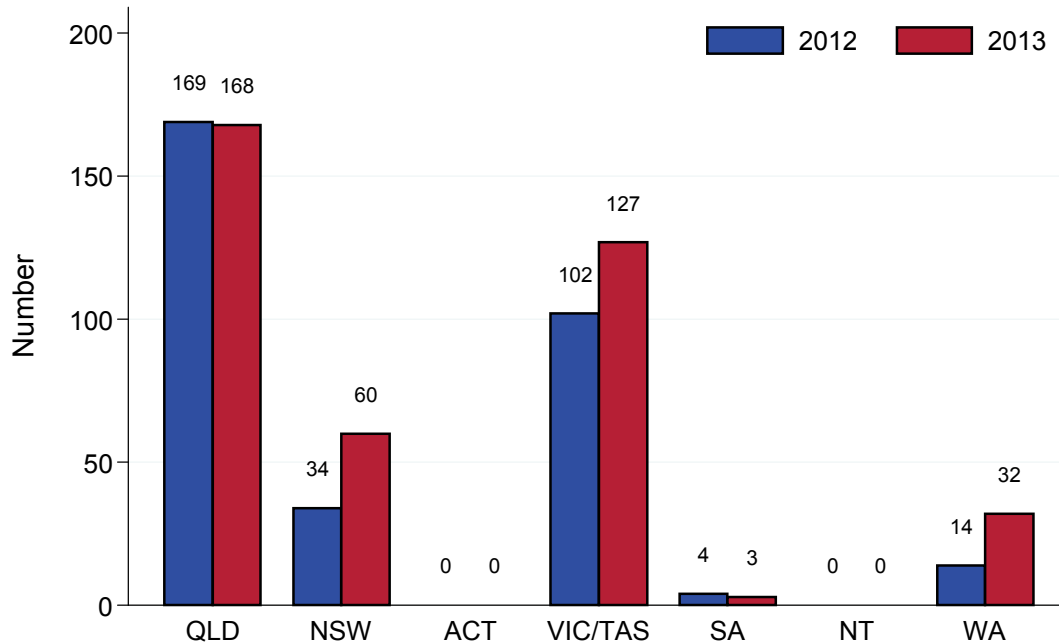
Figure 6.3





Tissue & Eye Data

Figure 6.4 Deceased Tissue Donation, Australian States, 2012-2013



Tissue donation from deceased donors in 2013 included donations from tissue only and solid organ/tissue donors. Combined, this consisted of 158 musculoskeletal tissue, 109 cardiovascular tissue and 123 skin tissue, for a total of 390 donations. Figure 6.5 shows the state of donation for tissue retrieved from deceased donors by tissue type and donation sector. Fifty five percent (216) of tissue retrieved from

deceased donors were from the tissue only sector, while 45% (174) were from the solid organ/tissue sector. Donors comprising the tissue only sector include 19 (9%) solid organ donors who did not proceed to solid organ retrieval, but continued to donate one or more tissues and 197 (91%) donors where solid organ donation was not a valid option and tissue only retrieval took place.

Figure 6.5

Tissue Donation from Deceased Donors in 2013 by State and Donation Sector									
State	Tissue Only Sector			Solid Organ/Tissue Sector			Tissue Total		
	ms	cv	skin	ms	cv	skin	ms	cv	skin
QLD	46	8	46	29	13	26	75	21	72
NSW	23	1	0	12	24	0	35	25	0
ACT	0	0	0	0	0	0	0	0	0
VIC/TAS	19	19	34	10	28	17	29	47	51
SA	0	0	0	0	3	0	0	3	0
NT	0	0	0	0	0	0	0	0	0
WA	13	7	0	6	6	0	19	13	0
AUSTRALIA	101	35	80	57	74	43	158	109	123

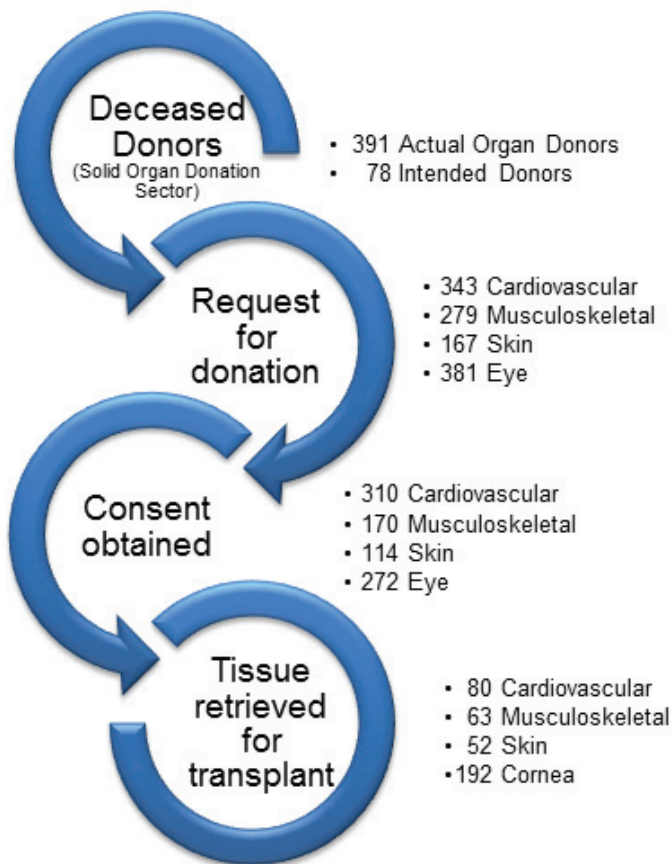
ms = musculoskeletal tissue cv = cardiovascular tissue



Outcome of Request for Tissue Donation

Figure 6.6

Outcome of Request for Tissue Donation Australia 2013 (Deceased Solid Organ Donation Sector)



The outcome of request for tissue donation from the solid organ donation sector is displayed in Figure 6.6. DonatLife agencies across Australia provide data to ANZOD that includes tissue retrieved from either an actual or intended solid organ donor. This data may vary slightly from data supplied from tissue banks due to unidentified data duplication and mistaken identity of data from solid organ/tissue donors, in the event solid organ retrieval did not eventuate at the time. All effort however, is taken to report data without duplication of counts by reconciliation with tissue banks and EBAANZ when indicated.

In 2013, there were a total of 387 tissue donations from a potential 469 donors who followed the solid organ donation pathway. These donors were consented for solid organ and tissue donation although retrieval of solid organs may or may not have proceeded. Of those donations, 16% (63) were musculoskeletal (up 5% from 2012), 20% (80) were cardiovascular (up 9% from 2012), 13% (52) were skin (up 5% from 2012) and 50% (192) were corneas.

Consent for eye donation can result in retrieval of two cornea. Cornea's retrieved from donors from the solid organ donation sector consist of 31% of deceased donors Australia wide.

Age of Tissue Donors

Of the 4,032 tissue donor across Australia, 4,004 donors had age reported. The average age was 64.8 years in 2013, with the youngest donor aged less than 6 months old and the oldest donor aged 93.1 years.

Figures 6.7 to 6.9 represent the donor age per donor type, donor age by tissue type and donor age by retrieval state in Australia for 2013.

As too with age, reporting gender was added to the collection after data collection commenced for 2013. As a result, 270 donors had gender reported as unknown, while 47% (1785) of the remaining donors were male and 53% (1977) were female. The average age of female tissue donors was slightly higher by 3 years compared to male tissue donors. The median age for tissue donors was 65.8 years.



Figure 6.7

Donor Age by Donor Type						
Solid Organ Donation Sector Tissue Donation in 2013						
Donor Type	Number	Mean	Median	IQR	Min	Max
Deceased Donor	368	50.6 yrs	53.5 yrs	23.3 yrs	1.3 yrs	87.7 yrs
Living Donor	3786	65.8 yrs	66.3 yrs	14.5 yrs	0.4 yrs	93.1 yrs
Total	4004	64.8 yrs	65.8 yrs	15.0 yrs	0.4 yrs	93.1 yrs

Figure 6.8

Donor Age by Tissue Type						
Solid Organ Donation Sector Tissue Donation in 2013						
Donor Type	Number	Mean	Median	IQR	Min	Max
Cardiovascular	113	40.2 yrs	46.5 yrs	31.4 yrs	0.4 yrs	80.3 yrs
Musculoskeletal	3848	65.6 yrs	66.2 yrs	14.6 yrs	18.2 yrs	93.1 yrs
Skin	43	58.5 yrs	62.2 yrs	16.3 yrs	17.9 yrs	85.5 yrs
Total	4004	64.8 yrs	65.8 yrs	15.0 yrs	0.4 yrs	93.1 yrs

Figure 6.9

Donor Age by Retrieval State						
Solid Organ Donation Sector Tissue Donation in 2013						
Retrieval State	Number	Mean	Median	IQR	Min	Max
ACT	61	64.4 yrs	65.6 yrs	15.1 yrs	30.0 yrs	89.9 yrs
NSW	1183	64.6 yrs	65.6 yrs	15.0 yrs	0.4 yrs	91.5 yrs
QLD	894	64.8 yrs	66.0 yrs	15.4 yrs	14.2 yrs	88.5 yrs
SA	297	67.6 yrs	67.8 yrs	13.7 yrs	35.8 yrs	91.9 yrs
TAS	1	60.7 yrs	60.7 yrs	0	60.7 yrs	60.7 yrs
VIC	858	64.4 yrs	65.4 yrs	14.7 yrs	1.3 yrs	90.5 yrs
WA	710	64.7 yrs	65.5 yrs	15.0 yrs	1.3 yrs	93.1 yrs
Total	4004	64.8 yrs	65.8 yrs	15.0 yrs	0.4 yrs	93.1 yrs



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