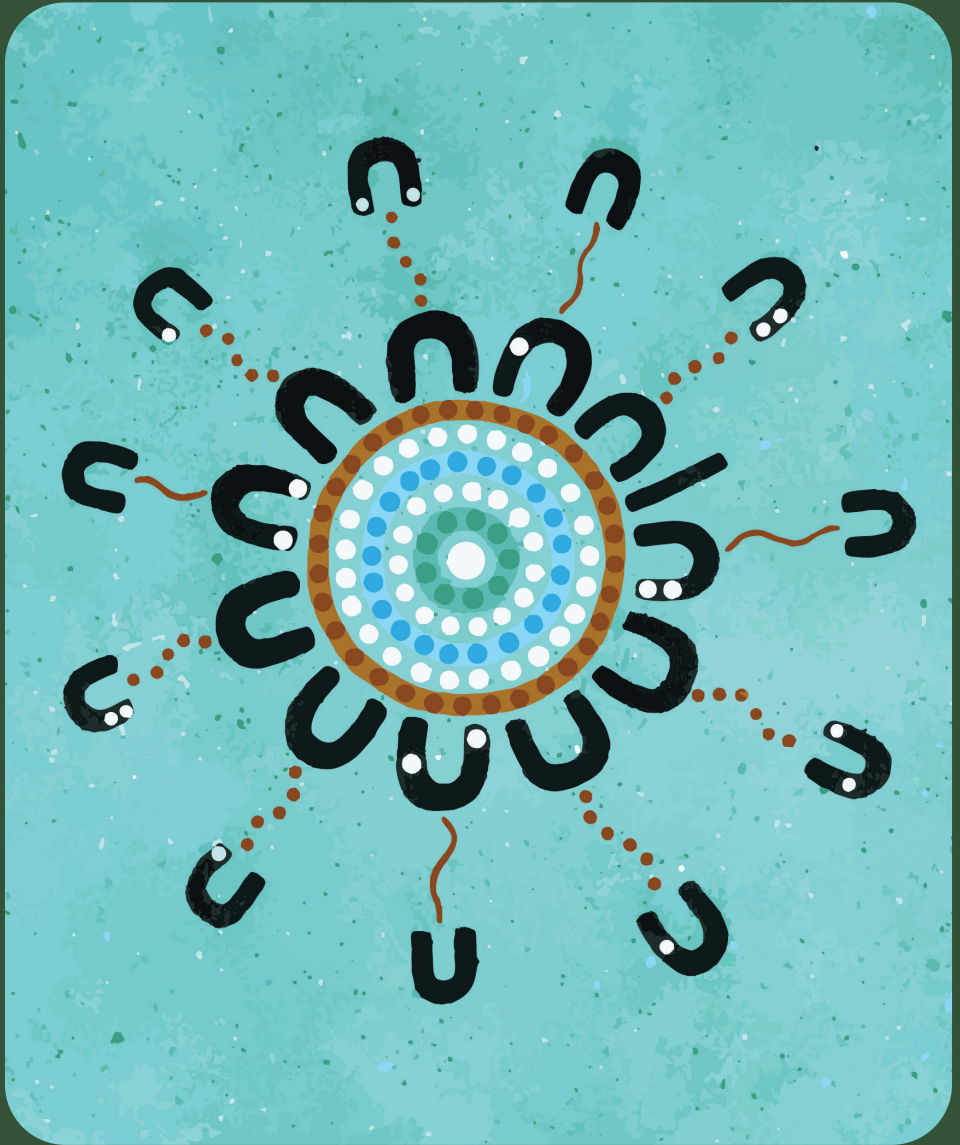


The Brain Story



Talking together about organ and tissue donation
helps make a healthier community.

Artwork by Turid Calgaret

This is a story about the brain, how it works and what can happen if it gets injured.

Our brain is soft and is protected by the skull. It keeps us alive by sending messages to different parts of our body through the nervous system, so we can walk, talk, see, eat, smell, hear and think. Our brain also controls our breathing and our heartbeat.

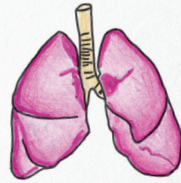
Our heart pumps blood around our body through arteries, veins and blood vessels. These are everywhere in our body including our brain.

Our blood carries food and oxygen to our brain and body. Oxygen is part of the air that we breathe.

Oxygen is picked up by our blood through our lungs as we breathe. Our brain would die if it stopped getting oxygen.



Brain



Lungs



Heart

How our brain can be injured?

Our brain can be hurt like any other part of our body.

It can be hurt by hitting our head in a car crash, being hit over the head, or by falling over and hitting our head accidentally.

After a knock to the head, sometimes the blood vessels inside the brain can get blocked by a clot or sometimes bleed.

Sometimes our brain can be hurt by harming it with alcohol, drugs, and smoking, or by sniffing dangerous fumes.

If bad germs that cause infections get into our body, they may show up as a boil, abscess or sore and can cause serious problems. The brain can also be damaged by cancer.

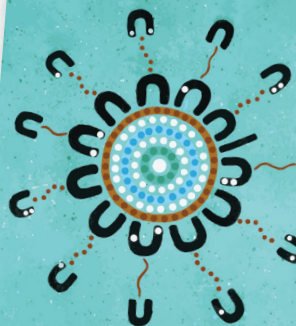
Damage can also happen when our brain does not get enough oxygen, like drowning or a heart attack where a person has stopped breathing.



Healthy brain



Injured brain



What happens when a person has a brain injury?

When accidents or injuries happen, our brain can get knocked hard against our skull. This can cause bleeding, swelling, pressure and pain. Sometimes our skull can be broken, and parts of the bone can poke into our brain and make it bleed.

If the blood vessels to our brain get blocked this can hurt our brain by stopping oxygen and blood flow. If we have high blood pressure, or the blood vessels in our brain are weak, they can break open and bleed.

A bad injury can increase the pressure inside our skull and this slows the blood and oxygen to our brain.

Brain injury treatment in the Intensive Care Unit (ICU)

If the brain injury is very serious the person will have trouble breathing. They will need a breathing machine to help them and calming medicines to make them sleep so they can try and get better.

A special X-ray of the head called a CT scan, takes pictures of the brain so the doctors can see how injured it is.

In the ICU there will always be one nurse looking after one person all the time.

The person will not be able to talk while attached to the breathing machine. The doctors and nurses can check how much oxygen is in a person's blood with a monitor that is attached to the finger.



Calming medicine



Nurse

Brain swelling

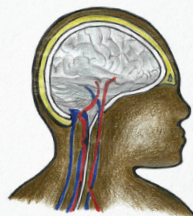
One problem that can happen after the brain is injured is brain swelling. Just like an ankle swells up when it is injured, the brain swells if it is injured.

As the brain swells, pressure builds up inside the head because the skull cannot move to make room for the swollen brain. Messages from the brain to the body begin to slow down. When the brain is healthy the messages can go through the brain stem into the nervous system. When the brain is injured and swollen, the messages cannot get through to the nervous system.

Doctors and nurses will give medicines to try to stop the brain swelling. Sometimes the medicines don't work and the swelling gets worse. Sometimes an operation is needed to try to stop the damage in the brain.



Healthy brain

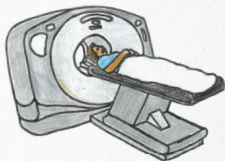


Injured brain

Brain swelling – what happens next?

Each day the doctors will check the person and decide if they are ready to stop the calming medicines. To help doctors decide, the person may need another CT scan.

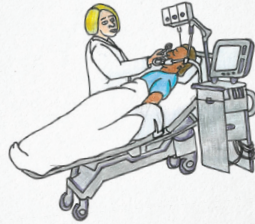
Usually the calming medicines are stopped a few days after coming to the hospital. When calming medicines are stopped, it may take a while before the doctors know how badly the brain is damaged.



CT scan



Doctor



Breathing machine

Brain death

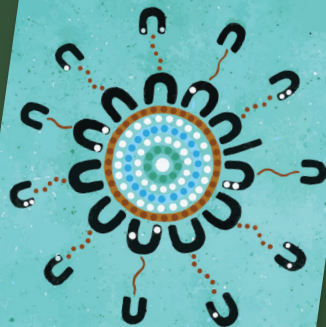
Sometimes the brain is damaged very badly and swells so much that blood and oxygen can't get to the brain. When this happens, the doctors need to do more testing to check if the brain is still responding to body reactions.

If they think the brain has passed away, special tests must be performed by two doctors, at different times. You may watch the tests if you wish:

- Pupil reflex test
- Corneal reflex test
- Cough reflex test
- Gag reflex test
- Pain reflex test
- Cold water in the ear test
- Breathing test

If the person does not respond to all of these tests, it will mean the brain is dead. This is called "Brain Death", which means the person has passed away, but their heart continues to beat, while the breathing machine is giving air.

The two doctors will confirm this, and that date is what will appear on the death certificate.



Circulatory death

Sometimes the brain is injured very badly, but some parts still work a little. This can mean the person will not recover.

Sometimes there are people with very bad heart or lung failure, or a very severe spinal injury where they cannot breathe without the machine.

These people are so sick that the doctors do not think they have any chance of living without the breathing machine, and they will pass away without this.

The person is given medicine to ensure they have no pain or suffering. Their family and friends can be with them when the breathing machine is stopped, and the person passes away.

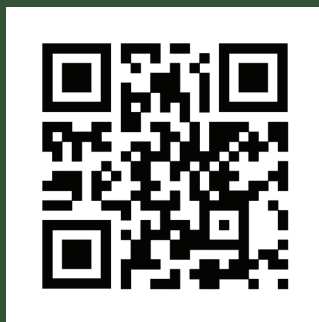
After the breathing machine and tube are removed, it can be difficult to predict how quickly the person will pass away. Often, this happens within 10-20 minutes, but some people may not pass away until some hours or days later.

After the machines are removed, the doctors will monitor the person's breathing and blood pressure. When the person stops breathing the doctor will wait five minutes before confirming they have passed away. This is the date that appears on the death certificate.



Join the Australian Organ Donor Register

Registering is easy – it only takes a minute to register as an organ and tissue donor at donatelife.gov.au or in person at a Medicare office, via Medicare or MyGov Online accounts when downloading your COVID-19 vaccination certificate, or scan here:



It's important to talk to your family about your choice to register so that they understand your wishes.

For more information about organ and tissue donation go to donatelife.gov.au or contact DonateLife WA

1800 950 155

donatelifewa@health.wa.gov.au

Adapted with permission from resources developed by DonateLife NT, Northern Territory Department of Health.



Cover Artwork: Kurongkurl Kaardijin (2021) by Turid Calgaret

Kurongkurl Kaardijin is a Noongar phrase that means 'coming together to learn.' In the artist's words, the painting represents a "community of men and women coming together to discuss and learn about the concept of organ and tissue donation." Noting that organ and tissue donation is not a traditional practice, the colours represent a calming, mutual environment to discuss a serious topic.

About the Artist

Turid Calgaret uses art as therapy and as a reconnection to her family, ancestors, country and culture. Her mother is Nyungar and was part of the Stolen Generation. Turid is also connected to the Kimberley through her grandfather, a Mirrawong-Gadgerong man.