

FACTSHEET



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Brain death

How is 'brain death' different from 'circulatory death'?

Most people understand that death is when a person's heart and breathing stop. This can also be called circulatory death and it is how most people die. When someone has died a circulatory death, they do not breathe or move, they do not have a heart beat and their skin is cold.

Death also happens when the brain and brainstem have stopped working completely – this is called **brain death**. Brain death may happen as a result of a:

- serious injury where there is injury to the head,
- bleeding into the brain,
- infection, or
- a period of time without oxygen or blood flow to the brain.

If your child suffers an injury, like those listed above, every effort will be made to save your child's life. Your child will be artificially ventilated to prevent further injury

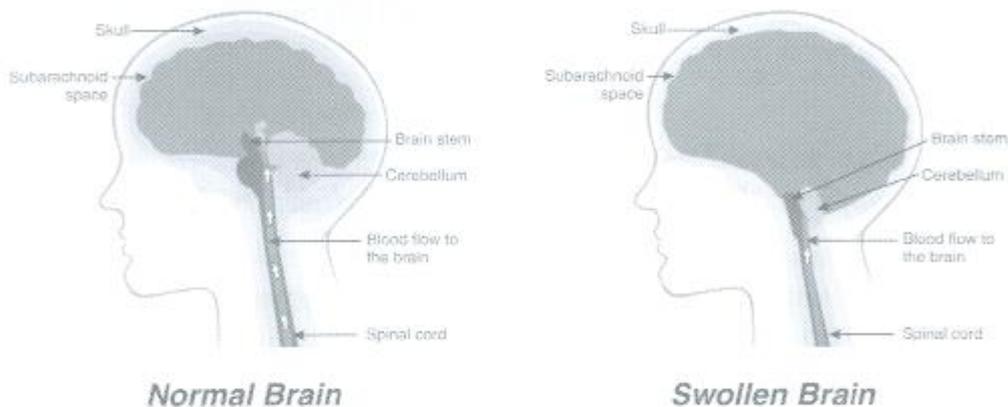
to the brain. A ventilator pushes oxygen into the lungs, making the chest rise and fall. Your child's basic brain functions will be tested. Unfortunately, a severe injury may result in permanent loss of ALL brain function. If ALL brain function is absent, then death has occurred. This may be confusing because there is a heartbeat. The heartbeat however is only there because a ventilator is connected. Your child cannot breathe for themselves once the brain has stopped working. This kind of death is called "brain death".

Brain death is not the same as "brain damage," "brain injury," or "coma". Brain death is permanent and it means the child had died.

What causes the brain to die?

The brain needs a constant supply of oxygen rich blood. Interruption of this supply causes the brain to swell.

With brain swelling, pressure builds up in the skull. This increased pressure in the skull causes permanent



damage to the brain.

Blood vessels supplying the brain get squeezed and this stops blood and oxygen flowing to the brain.

The swollen brain expands in a downwards direction further injuring the brainstem (where the spinal cord and the brain connect) and this swelling results in brain death.

How can the doctors tell when a person's brain has died?

A number of specific tests are performed to find out whether or not the brain is working. Two senior doctors will separately test the nerves in the brainstem. The brain stem is important for life - it controls breathing, coughing, heart rate, blood pressure, response to pain and body temperature.

For a child to be declared brain dead, the functions of the nerves to the brainstem are no longer working.

There are times when some children may not be able to have all of these nerve tests performed. In these cases, perfusion scans are done to see if there is any blood flow to the brain.

What happens after a person is confirmed to be brain dead?

Once death has been confirmed, appropriate members of the medical team will speak with the family.

At this stage the medical team will discuss the possibility of organ and tissue donation with the family.

If the family is interested in discussing organ and tissue donation, then a donation specialist will give information to families about what needs to happen. If donation is not an option the family wishes to consider or there are medical reasons why the child cannot be an organ donor, the medical team will speak with the family about the timing of end of life care.