

Your Child and Hydrocephalus

What is Hydrocephalus?

Inside every brain, there is a clear fluid called 'Cerebrospinal Fluid' (CSF). This fluid is made inside spaces in the brain, called ventricles.

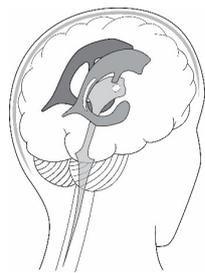
The CSF flows out over the surface of the brain and down the spinal cord before being absorbed into the bloodstream. CSF provides nutrients to the brain and spinal cord and removes waste products. It also acts as a cushion to protect the brain and spinal cord.

Hydrocephalus is when your child has too much CSF in the ventricles in their brain, and the ventricles get bigger and begin to cause problems.

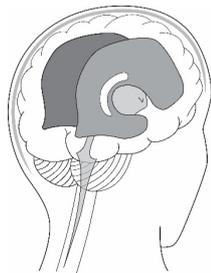
Hydrocephalus is either:

- Non communicating: Fluid cannot drain properly because there is a blockage; or
- Communicating: There is too much CSF (either too much CSF is made, or not enough is reabsorbed)

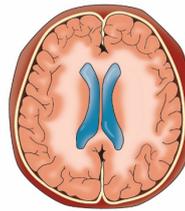
As the fluid is still being made by the brain, the build-up of CSF will cause pressure to rise inside the brain. This can then lead to signs of raised pressure and eventually damage to the brain, if not treated.



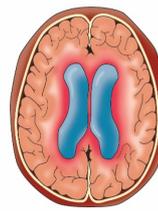
Ventricles:



Ventricles:



Normal ventricles(L)



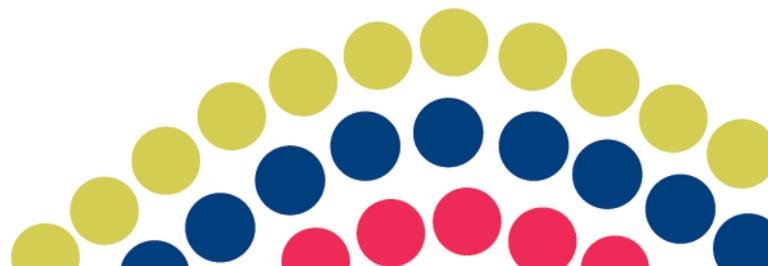
Enlarged ventricles(R)

What causes Hydrocephalus?

Your child may be born with hydrocephalus, known as Congenital Hydrocephalus. Otherwise, your child may develop hydrocephalus after birth as a result of a syndrome, head injury, bleeding, infection around the brain (meningitis) or brain tumour. This is known as acquired hydrocephalus.

What children with Spina Bifida often have Hydrocephalus?

Many children with Spina bifida have hydrocephalus. Some have it before they are born, while other develop hydrocephalus soon after birth when they have an operation to close the lesion on their back.



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How is hydrocephalus diagnosed?

Hydrocephalus may be found before birth on routine antenatal ultrasounds.

Generally, babies and children that show sign/s of hydrocephalus have the size of ventricles checked to assist in the diagnosis of hydrocephalus.

Babies may have an ultrasound taken over the top of their fontanelle, or babies and children may have computerised tomography (CT scan) or magnetic resonance imaging (MRI) to diagnose hydrocephalus.

Babies may also have their head circumference regularly measured to monitor for increases.

What are the signs of Hydrocephalus?

Signs of hydrocephalus (may have one or more):

Signs for baby	Signs for child
Irritable, unsettled	Irritable, confused, disorientated or just not usual self
More sleepy than usual	More sleepy than usual
High pitched cry	Headache
Vomiting	Vomiting
Sunsetting eyes (unable to look up)	Double or blurred vision
Poor Feeding	Photophobia (eyes sensitive to light)
Head getting bigger	Unsteady on feet
Fontanelle (soft spot on top of head) full and firm when sitting up and quiet	Difficulty doing routine tasks
Seizures (fits)	Seizures (fits)

How will hydrocephalus affect my child?

Like all babies and children, those with hydrocephalus are individuals and the effects of hydrocephalus will vary. Hydrocephalus is usually a lifelong condition that is controlled, not cured. Treatment will help your child live a full and active life.

Some children may experience delays in learning, and problems with eyesight and/or movement, such as sitting, crawling, walking and coordination. Your child may not experience any of these difficulties. Having hydrocephalus does not mean they can't enjoy life's every day pleasures. Your Neurosurgeon may be able to give you information more specific to your child.

For more information

Department of Neurosurgery
 Women's and Children's Hospital
 72 King William Rd, North Adelaide SA 5006
 Telephone (08) 8161 7000
 March 2023



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Women's and Children's
 Health Network



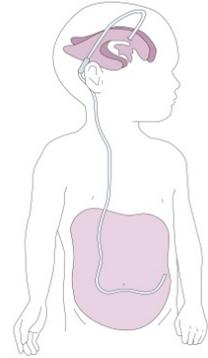
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How is hydrocephalus treated?

The aim of hydrocephalus treatment is to lower the pressure inside the brain by having an operation to make a new pathway for the CSF to drain.

There are two different surgical procedures that we most commonly perform for treatment hydrocephalus:



Endoscopic Third Ventriculostomy (ETV) is a procedure that involves creating a small opening in the bottom of one of the ventricles to create a new pathway for CSF to drain out. The fluid is then reabsorbed into the bloodstream. This procedure is only helpful to children with hydrocephalus caused by a blockage of the flow of CSF.

Ventricular-Peritoneal (VP shunt) is usually done by placing a very fine tube (called a shunt) from inside one of the ventricles in the brain and another tube in a place to dump the CSF, usually the peritoneum (tummy). These two tubes are connected by a valve which sits behind the ear and controls the pressure. Once this pressure is reached, some CSF will be drained from the ventricles to reduce the pressure. This type of shunt is called a ventricular-Peritoneal (VP shunt) as shown.

Occasionally other locations for shunts are used. If your child needs another type of shunt, your Neurosurgeon can provide you with more specific information.

Other useful factsheets

- Endoscopic Third Ventriculostomy
- Your Child's Shunt: General Information
- Your Child's Shunt: Everyday living for my infant/toddler
- Your Child's shunt: Everyday living for my child/teen
- Your Child's shunt: Frequently Asked Questions

Available on:

www.wch.sa.gov.au/patients-visitors/children/surgical-care/neurosurgery

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