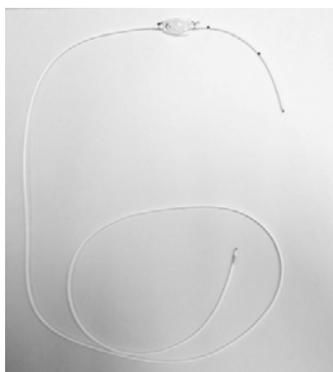


Your child's shunt: General information

What is a shunt?

A shunt is used to treat hydrocephalus, a build-up of cerebrospinal fluid (CSF) in the brain. It is a very fine tube that drains CSF from the ventricles in the brain to a place to dump the CSF.



A shunt is made up of two lengths of soft tubing with a valve that sits between them. One tube goes into one of the ventricles in the brain. The other tube goes into the area where the CSF is dumped, usually the peritoneum (tummy). The valve usually sits behind the ear and controls the pressure. Once a certain pressure is reached some CSF will be drained from the ventricles to reduce the pressure.

Some valves are set pressure; the pressure can only be changed if the valve is replaced. Other valves are programmable; the pressure can be changed without an operation by a programmer that is held on the skin over the valve.

What do I need to know about programmable shunt valves?

Programmable shunt valves can be affected by strong magnets, possibly changing the pressure setting of the shunt.

MRI scanners use strong magnets. If your child needs an MRI, inform your child's local doctor (GP) that they have a programmable shunt, as the shunt pressure will need to be checked by a Neurosurgeon immediately after an MRI scan.

Some audio headphones contain magnets, and as they sit over the ears, close to the shunt valve, this may affect the valve.

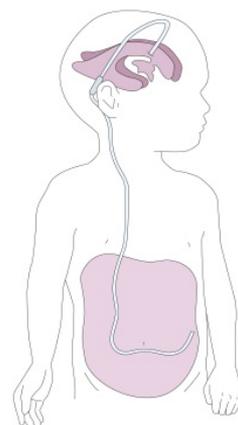
Metal detectors, security scanners at airports and shops, microwave ovens and mobile phones will not affect the valve.

There has been some research into Tablet PC's and their effect on programmable shunt valves. It is recommended if your child is using a Tablet PC and has a programmable shunt, the Tablet PC is not to be held close to the child's head.

Can you see the shunt?

The shunt will sit completely under the surface of the body, so will not be seen. When a ventricular-peritoneal (VP) shunt is inserted there will be a cut made behind the ear for the tube to go into the ventricle and for the valve to sit under. There will also be a small cut on the tummy, for the end that sits in the peritoneum.

Other types of shunts will also be completely under the surface, but may have different insertion points. Your Neurosurgeon can give you more specific information.



What can go wrong with the shunt?

Shunts may last for many years without problems, but sometimes a shunt may have problems or complications.

Infection

Infection could develop around the shunt. Your child may have a fever, redness, swelling or discharge from their wound/s. They may also show one or more signs that the shunt may not be working properly (see table below).

Obstruction (blockage)

The shunt may stop working properly. Sometimes the tubing can kink or break, or the connections can separate. The tubing or the valve that connects them can become blocked by blood, brain tissue or infection. If any of these happen your child may show one or more of the signs that the shunt may not be working properly (see table below).

If the tubing that goes into the peritoneum becomes blocked your child may experience abdominal tenderness or pain.

These problems will cause the shunt to not work properly and the hydrocephalus will come back. You will need to watch for any sign that your child shows that the shunt may not be working properly (see table below).

Over drainage

Sometimes the shunt will drain too much fluid. If this happens your child will complain of headaches while sitting up, which will get better when they're lying down.

If this happens you need to bring your child into the Women's and Children's Hospital Emergency Department immediately. If you are in a rural or remote area, take your child to the nearest emergency department.

How do I know if the shunt may not be working properly?

The most important thing is for you to notice if your child isn't their usual self or if your child shows a sign that the shunt may not be working properly.

Signs that shunt may not be working (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 (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 head) full and firm when sitting up and quiet	Difficulty doing routine tasks
Seizures (fits)	Seizures (fits)
Fever	Fever
Swelling/redness along shunt tract	Swelling/redness along shunt tract

If your child shows one or more signs that the shunt is not working properly or may be infected then you need to bring your child into the Women's and Children's Hospital Emergency Department. If you are in a rural or remote area, take your child to the nearest emergency department.

In an emergency call 000 for an ambulance.

How likely is it that my child will have a seizure (fit)?

A seizure may be a late sign of a shunt not working properly or may be unrelated to the shunt. It is important that you know the signs and symptoms of a shunt not working properly and get your child to a local doctor (GP) as soon as possible to help prevent seizures and other complications.

What should I do if my child has a seizure (fit)?

If your child is having a seizure you need to:

- Keep them safe
- Make sure their airway is clear
- Call 000 for an ambulance
- Roll them onto their side when able
- Reassure your child
- Stay with your child until the ambulance is with you.

Do not hold them down or put anything in their mouth.

If your child has had seizures before, your local doctor (GP) may have given you a seizure plan to follow, and you should follow this plan.

Where can I get support?

There are many support groups for patients, parents, families and friends of children with hydrocephalus:

- The Women's and Children's Hospital, Adelaide <http://www.wch.sa.gov.au/>
- The Women's and Children's Hospital, Adelaide, Neurosurgery Department <http://www.wch.sa.gov.au/services/az/divisions/psurg/neuro/index.html>
- The Hydrocephalus Support Association: <http://www.hydrocephalus.org.au/>
- Hydro Kids: <https://www.hydro-kids.com/what>
- MedicAlert bracelets: https://medalr-px.rtrk.com.au/?utm_source=THEM&utm_medium=cpc&utm_campaign=Search

Other useful factsheets

- Your child and hydrocephalus
- 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

For more information

Women's and Children's Hospital
Department of Neurosurgery
72 King William Road
North Adelaide South Australia 5006
Telephone: (08) 81617230
www.wch.sa.gov.au

