

Hydrocephalus

What is hydrocephalus?

Hydrocephalus (hi-droh-sef-ah-lus) is too much cerebrospinal fluid (CSF) in the brain. CSF is normally found in the 4 ventricles (spaces in the brain) and around the brain and spinal cord. It is constantly produced by the brain, absorbed into the blood stream, and eventually leaves the body through the kidneys.

The increase in CSF makes the ventricles and the child's head bigger than normal, and may cause pressure on the brain. If not treated, brain damage can occur.

A child can get hydrocephalus if the body produces too much CSF, or if the flow of the fluid is blocked.

How is hydrocephalus diagnosed?

Tests that can be done to check for hydrocephalus include:

Ultrasonography (ultrasound) - uses high-frequency sound waves to outline the size of the ventricles

Computerized tomography scan (CT scan) - uses a computer to take a head X-ray, which records pictures of the ventricles

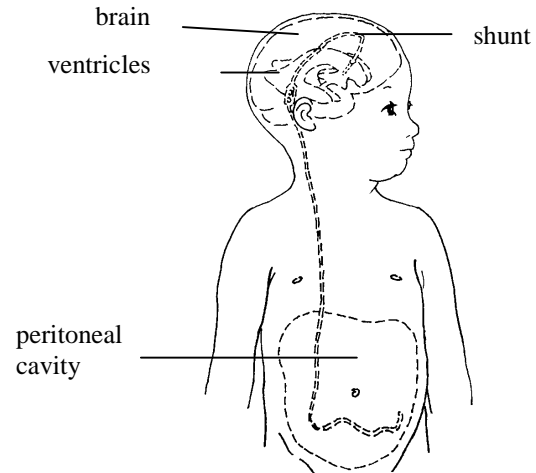
Magnetic resonance imaging (MRI) - uses magnets and computers to produce pictures of the ventricles

What is the treatment?

There are 2 **main** types of surgery for hydrocephalus:

- ventriculo-peritoneal (VP) shunt
- endoscopic third ventriculostomy (ETV)

A **VP shunt** is a tube that is put in the head to direct the flow of CSF from the ventricles to a space in the peritoneal cavity inside the abdomen (belly).



An **endoscopic third ventriculostomy** is useful if CSF flow is blocked. The surgeon uses an endoscope, a thin tube with a light on the end, to make a hole in the bottom of the third ventricle. This increases the flow of CSF.

What can I expect after surgery?

Your child may spend up to 24 hours in an intensive care unit after surgery. Then your child is transferred to a medical/surgical unit.

Your child may have a slight fever for 2 or 3 days.

The head of your child's bed may be raised to help the shunt work better.

How should I care for my child at home?

Keep the incision clean and dry until your doctor tells you it is okay to wash it. Until that time, do not wash or soak; give your child sponge baths.

When it is okay to start cleaning the incisions, follow these steps once a day, or as often as your doctor says.

1. Wash your hands with antibacterial soap, rubbing all surfaces briskly, or use an alcohol hand sanitizer.
2. Dampen a clean washcloth with water and apply antibacterial soap.
3. Use a gentle, circular motion to clean from one end of the incision to the other.
4. Rinse the washcloth and with a gentle circular motion, rinse from one end of the incision to the other.
5. Gently pat dry with a clean cloth.
6. Apply a small amount of antibiotic ointment to the incision, if ordered by the doctor.
7. Wash your hands again.

If your child has an incision on the abdomen, avoid active play, lifting more than 3 pounds or straining for 4 to 6 weeks after surgery.

If your child has a **programmable shunt**, avoid strong magnetic sources near or moving over the shunt:

- magnets in toys
- multiple refrigerator magnets

If your child has a programmable shunt and needs an MRI, be sure to have the shunt checked afterward.

Use sunscreen on the scar for 1 year to prevent permanent darkening.

When should I call the clinic?

Call the clinic **right away** if:

All ages:

- fever higher than 101.5° F within 6 months of surgery
- the incision or shunt is painful, red, swollen, or warm to the touch
- clear or other drainage from the incision
- vomiting (throwing up)
- irritable (crabby or fussy)
- sleepiness, hard to wake
- eyes appear to be looking downward
- loss of previous abilities
- seizures
- behavior changes

Infants - other signs:

- high-pitched cry
- when baby's head is upright, the fontanel (soft spot) still feels full to the touch
- bulging of scalp veins
- enlargement of the head

Older children - other signs:

- decreased appetite
- nausea (upset stomach)
- headache that does not go away with pain medicine
- blurred or double vision
- fall off in school performance

Questions?

This sheet is not specific to your child, but provides general information. If you have any questions, please call the clinic.

For more information on Hydrocephalus, contact the Hydrocephalus Association at 1-888-598-3789 or visit their Web site at <http://www.hydroassoc.org>.

For more reading material about this and other health topics, please call or visit the Family Resource Center library, or visit our Web site: www.childrensmn.org.

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