

Hydrocephalus



What is hydrocephalus in children?

A baby with hydrocephalus has extra fluid in and around the brain. This fluid is called cerebrospinal fluid (CSF). Most CSF is normally found in fluid-filled areas (ventricles) inside the brain. Its purpose is to cushion and protect the brain and the spinal cord.

Too much CSF can increase the pressure in your baby's head. This causes the bones in your baby's skull to expand and separate. The baby's head may look larger than normal.

What causes hydrocephalus in a child?

Hydrocephalus is rare. It may be caused by any of these problems:

- The fluid is blocked from flowing through your baby's head.
- Your baby has problems absorbing the fluid.
- Your baby makes too much fluid (rare)

This condition can be congenital. This means that your baby is born with it. Hydrocephalus can also happen later in life. Causes of this condition include:

- Congenital aqueductal stenosis (narrowing of the aqueduct)
- Neural tube defects, such as spina bifida
- Premature birth
- Infections
- Tumors
- Bleeding inside your baby's brain
- Birth injuries
- Blood vessels in your baby's head that aren't formed right
- Injuries

What are the symptoms of hydrocephalus in a child?

Symptoms can occur a bit differently in each child and depend on age.

In babies, they may include:

- A full or bulging soft spot on the top of your baby's head (fontanel)
- A rapid increase in head size (circumference)
- An unusually large head
- Seizures
- Eyes that are fixed downward ("sun setting") or are not able to turn outward
- Visible scalp veins

- Irritability
- High-pitched cry
- Problems sucking or feeding
- Vomiting
- Sleepiness or being less alert than usual
- Developmental delays

In older children, they can include:

- Headache
- Blurred or double vision
- Nausea or vomiting
- Problems with balance
- Slowing or loss of developmental progress like walking or talking
- Vision problems
- Decline in school or job performance
- Poor coordination
- Loss of bladder control, frequent urination, or both
- Difficulty remaining awake or waking up
- Sleepiness
- Irritability
- Changes in personality or cognition including memory loss

The symptoms of hydrocephalus may seem like symptoms of other conditions. Make sure your child sees their healthcare provider for a diagnosis.

How is hydrocephalus diagnosed in a child?

A healthcare provider may first spot this condition in your baby during an ultrasound in pregnancy. In many cases, hydrocephalus doesn't develop until the third trimester of the pregnancy. Ultrasounds done earlier in pregnancy may not show this condition.

Your child may be diagnosed with this condition after birth. Your child's healthcare provider will examine your child and ask you about their prenatal, birth, and family history. If your baby is older, your child's provider may ask if they are meeting milestones. Children with this condition may be likely to have developmental delays. If your child has a delay, their healthcare provider may check for underlying problems.

Your baby's head may be larger than normal. Your child's healthcare provider will measure their head. This measurement is called the head circumference. If your baby's head size isn't in the normal range or is growing faster than normal, they will have tests. These tests can confirm hydrocephalus.

Ultrasound

This test uses sound waves to create an image of the inside of the body. During pregnancy, this test can show the size of the ventricles inside of your baby's head. It can also be used after birth while the anterior fontanelle

remains open.

MRI

This test uses large magnets, radio waves, and a computer. Together, these show detailed images of organs and structures inside your baby's body.

CT scan

This test uses X-rays and computer technology to make detailed images of any part of your baby's body. These include bones, muscles, fat, and organs. CT scans are more detailed than X-rays.

How is hydrocephalus in a child treated?

Treatment will depend on your child's symptoms, age, and general health. It will also depend on how severe the condition is.

The goal of treatment is to reduce the pressure inside your baby's head. This can be done by draining the fluid. Your child may need medicine to remove the extra fluid. Some children need surgery.

In surgery, a healthcare provider usually places a mechanical shunting device in your baby's head. This helps to drain the fluid from your baby's brain. The fluid is directed to another part of your baby's body, where it can be absorbed.

The shunt usually runs behind your baby's ear. The tubing goes under your baby's skin to the belly (abdomen), heart, or lung. Your baby's healthcare provider will decide the drainage location. This will be based on your baby's condition, age, and other factors. The belly is generally the first choice. A VP (ventriculoperitoneal) shunt is often used to direct fluid into the abdomen.

What are possible complications from the shunts or surgery for hydrocephalus in a child?

Sometimes surgery and shunts can cause problems. Possible complications include:

- Infection
- Bleeding
- A shunt that doesn't work, and may drain too much or not enough fluid

After surgery, your child's healthcare team will tell you how to care for your baby at home. They'll also tell you symptoms that are an emergency. If your child has these symptoms, call their healthcare provider right away.

What can I do to prevent hydrocephalus in my child?

You can't prevent hydrocephalus in your child. But your baby's healthcare provider may suggest genetic counseling if you plan to have more children. Through counseling, you can learn about the risk for this condition in future pregnancies. You may also need testing during pregnancy to check for hydrocephalus.

How can I help my child live with hydrocephalus?

Hydrocephalus can affect your baby's brain and development. Your child's outlook depends on how severe the condition is. It also depends on other brain and health problems your baby has.

The key to treating this condition is getting it diagnosed and treated early, and preventing infections. Your baby will need regular checkups to make sure their shunt is working right. Your child's healthcare team will work closely with you as your baby grows.

When should I call my child's healthcare provider?

The key to treating this condition is getting it diagnosed and treated early, and preventing infections. If your child has a shunt, they will need regular checkups to make sure their shunt is working right. Your child's healthcare team will work closely with you as your child grows. Ask your child's healthcare provider for symptoms to look out for and when and where to get medical care. Some symptoms of shunt malfunction that need immediate medical help include:

- Nausea or vomiting
- Headache
- Change in behavior or mental status
- Increased sleepiness or exhaustion
- Fever
- Redness or tenderness along the shunt track
- Double vision or sensitivity to light
- Soreness of the neck or shoulder muscles
- Recurrence of hydrocephalus symptoms
- Seizures
- Eyes that are fixed downward ("sun setting") or are not able to turn outward

Key points about hydrocephalus in children

- A baby with hydrocephalus has extra cerebrospinal fluid (CSF) around the brain. The baby's head may look larger than normal.
- This is a rare condition.
- A healthcare provider may diagnose this condition during an ultrasound in pregnancy.
- The goal of treatment is to reduce the pressure inside your baby's head. This is done by draining the fluid or decreasing its production.
- The key to treating this condition is getting it diagnosed and treated early, and preventing infections.

Next steps

Tips to help you get the most from a visit to your child's healthcare provider:

- Know the reason for the visit and what you want to happen.
- Before your visit, write down questions you want answered.
- At the visit, write down the name of a new diagnosis, and any new medicines, treatments, or tests. Also write down any new instructions your provider gives you for your child.
- Know why a new medicine or treatment is prescribed and how it will help your child. Also know what the side effects are.
- Ask if your child's condition can be treated in other ways.
- Know why a test or procedure is recommended and what the results could mean.
- Know what to expect if your child does not take the medicine or have the test or procedure.
- If your child has a follow-up appointment, write down the date, time, and purpose for that visit.

- Know how you can contact your child's healthcare provider after office hours. This is important if your child becomes ill and you have questions or need advice.

© 2000-2027 The StayWell Company, LLC. All rights reserved. This information is not intended as a substitute for professional medical care. Always follow your healthcare professional's instructions
This information is not intended as a substitute for professional medical care. Always follow your Healthcare professional's instructions. Copyright Krames LLC.