

Hydrocephalus

What is it?

Hydrocephalus (pronounced hi-dro-sef-eh-les) occurs when there is extra **cerebrospinal fluid (CSF)** in the brain. Normally, CSF surrounds the **brain** and **spinal cord**, helping to cushion them. It also delivers nutrients to the brain and removes waste. Too much CSF results in widening of the four spaces, called **ventricles**, around the brain. This increases the pressure on the brain and may also cause damage to brain tissue and changes to brain function. There are two different types of hydrocephalus in babies. **Communicating hydrocephalus** is when CSF is blocked after leaving the ventricles. **Non-communicating**, also called **obstructive**, hydrocephalus is when CSF is blocked somewhere between the ventricles. Hydrocephalus can be congenital or acquired. **Congenital** means present at birth, while **acquired** is developed after birth. Hydrocephalus is also called “water on the brain”

How common is it?

About 1 out of every 1,000 babies born each year have it.

What causes it?

Congenital hydrocephalus may be caused by genetic conditions or other factors during pregnancy. One of the most common causes of hydrocephalus is **aqueductal stenosis**. This is the narrowing of the path between the third and fourth ventricles. Other possible causes include neural tube defects, certain viruses, a tumor, a hemorrhage near the brain, or premature birth. An exact cause may not be identified for all babies. Acquired hydrocephalus can be caused by injury or disease.

How is it diagnosed?

It can be diagnosed during pregnancy or after birth. During pregnancy screening tests can check for birth defects and other conditions. Specific tests that view the brain will need to be done to confirm hydrocephalus.

How is it treated?

Hydrocephalus is usually treated by surgically placing a **shunt** near the brain or spinal cord. A shunt allows the extra CSF to flow from the brain to another part of the body. From there, it is put back into the body's circulation. Your child's doctor will discuss appropriate treatment options with you.



For more information:

National Institute of Neurological Disorders and Stroke
<https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Fact-Sheets/Hydrocephalus-Fact-Sheet>

Mayo Clinic
<https://www.mayoclinic.org/diseases-conditions/hydrocephalus/symptoms-causes/syc-20373604>