

Hydrocephalus

What is Hydrocephalus?

Hydrocephalus means “water on the brain”. It is an abnormal accumulation of fluid—cerebrospinal fluid (CSF) within cavities called ventricles inside the brain. CSF is produced in the ventricles, circulates through the ventricular system and is absorbed into the bloodstream. CSF is in constant circulation and has many important functions. It surrounds the brain and spinal cord and acts as a protective cushion against injury. CSF contains nutrients and proteins that are needed for the nourishment and normal function of the brain. It also carries waste products away from surrounding tissues. Hydrocephalus occurs when there is an imbalance between the amount of CSF that is produced and the rate at which it is absorbed. As the CSF builds up, it causes the ventricles to enlarge and the pressure inside the head to increase. If the buildup is not released, the baby’s head can grow to be extremely large, and normal brain tissue can be damaged further.

What Causes Hydrocephalus?

Hydrocephalus occurs when the body is making more CSF than it is able to reabsorb. There are two reasons this may happen:

1. there is blockage to the flow of CSF within the ventricles.
2. the CSF is not being reabsorbed fully.

How is Hydrocephalus treated?

There is no known way to prevent or cure hydrocephalus. If your baby develops hydrocephalus, he/she needs some way for the fluid to escape from the inside of the brain. This may include:

--Frequent spinal taps/lumbar punctures (LPs). In an LP, a needle is placed into the spinal canal in the lower back and fluid is withdrawn. This therapy will not work if a clot is blocking a channel. The baby may need a shunt later.

--A reservoir. This is a tube placed into one of the larger ventricles that then connects to a chamber. This chamber may be placed under the scalp. Whenever necessary, fluid can be withdrawn from the chamber by a needle. This is usually a temporary solution to the problem and the baby will need to have a shunt at some later time.

--A ventriculostomy. This is tubing that goes from the ventricle in the baby’s brain, and comes out to drain in a bag. This is a temporizing measure only, until a shunt can be placed.

--A shunt. In this surgical procedure a tiny tube is placed into one of the two larger ventricles. It is attached to another longer piece of tubing. This connection is behind the ear, under the skin. The longer tubing continues under the skin, down the neck and chest to the baby’s abdomen where the fluid can be absorbed.

Your baby’s doctor will explain this to you if your baby should happen to need a shunt.