Let's Talk About...

Prenatal Counseling: Ventriculomegaly and hydrocephalus

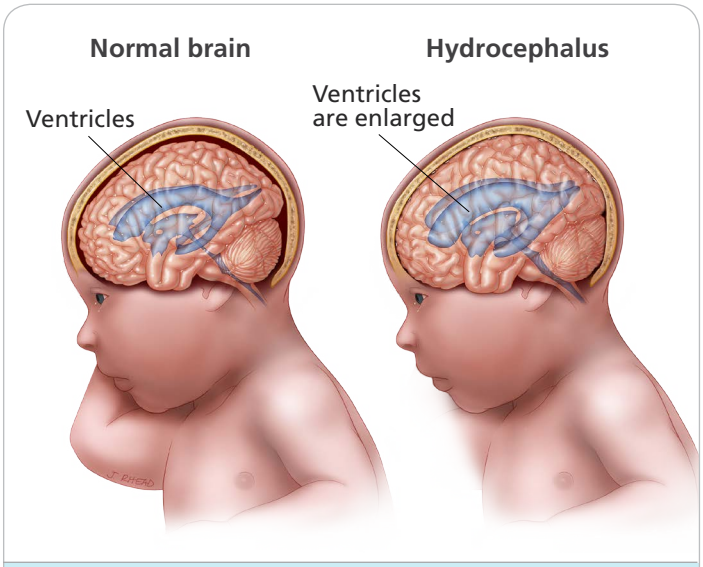
What is ventriculomegaly?

Ventriculomegaly [ven-TRICK-you-loh-MEG-uh-lee] occurs when the ventricles (fluid-filled spaces) in the brain are larger than normal. A doctor usually notices this on a fetal ultrasound. Ventriculomegaly occurs when:

- **There is too much cerebrospinal fluid (CSF).** In a normal brain, there is a balance between the amount of cerebrospinal [ser-EE-bro-SPY-null] fluid the brain produces in the ventricles and the amount it absorbs.
- **Your baby has idiopathic intraventricular** [id-ee-oh-PATH-ic in-tra-ven-TRICK-you-lar] **hemorrhage** [HEM-or-rej], or bleeding in the brain.
- **Your baby has ischemia** [is-KEEM-ee-uh], or not enough blood to the brain.
- **The brain has not formed normally.**
- **Your baby has a brain tumor.**

Your baby only needs treatment for ventriculomegaly if they show signs of hydrocephalus (see picture at right). Not all babies with big ventricles develop hydrocephalus. This can only be diagnosed after birth.

The **Utah Fetal Center team** will help you make the best possible decisions about your baby's ventriculomegaly and hydrocephalus. The team includes maternal-fetal medicine specialists for the pregnant mother, neonatologists who are specially trained to care for newborns, and pediatric specialists to help with your baby's needs before and after delivery.



Hydrocephalus occurs when cerebrospinal fluid (CSF) builds up within the ventricles of the brain.

What is hydrocephalus?

Hydrocephalus [high-drow-SEFF-ah-luss] occurs when CSF builds up within the ventricles of the brain, causing them to grow larger and put pressure on the brain. About 2 out of every 1,000 babies are born with hydrocephalus each year.

Hydrocephalus occurs when:

- A blockage prevents CSF from draining
- The brain doesn't absorb enough CSF
- The brain produces too much CSF (this is rare)

Babies with hydrocephalus often have other birth defects and genetic problems. It's important for a healthcare provider to carefully examine your baby after their birth.

How are ventriculomegaly and hydrocephalus different?

Ventriculomegaly is the term for enlarged brain ventricles, while hydrocephalus is the combination of ventriculomegaly and pressure on the brain.

Because hydrocephalus and ventriculomegaly can be caused by many different things, it can be challenging to determine your baby's outcome.

How is ventriculomegaly diagnosed and managed during pregnancy?

A healthcare provider typically finds ventriculomegaly during a pregnancy ultrasound between 15 to 20 weeks of pregnancy. Your provider will look for other health problems, which may offer clues about what is causing the enlarged ventricles.

Your baby may need an MRI, an imaging test, so providers can get more detailed images of the brain and rule out more problems. Ultrasounds also let the provider watch the ventriculomegaly and see if the ventricles continue to grow. Unfortunately, there is no fetal treatment for ventriculomegaly, and hydrocephalus can only be diagnosed after birth.

The fetal center team will review your imaging and tell you more about ventriculomegaly and hydrocephalus. They'll also recommend ways to manage your pregnancy and help you meet the pediatric specialists who'll care for your baby after delivery.

How is hydrocephalus managed after delivery?

All babies with severe ventriculomegaly will be closely observed after delivery to see if they show signs of hydrocephalus, including:

- Increased head size
- Full, tight, or bulging soft spot
- Thin and shiny scalp with obvious veins
- Vomiting
- Being sleepy or irritable
- Seizures
- Trouble looking up

If your baby does not show hydrocephalus symptoms and can eat normally, they can go home and see a neurologist (brain doctor), neurosurgeon, and pediatrician as an outpatient.

If your baby has signs of hydrocephalus, they'll need more tests. A pediatric neurologist and neurosurgeon will care for them at Primary Children's Hospital.

How is hydrocephalus treated?

The most common treatment for hydrocephalus is surgery to insert a shunt (flexible tube) into the ventricle to provide another path for the CSF to drain.

The shunt carries the extra CSF from the brain ventricle to the abdomen, where the body absorbs it.

Questions for my doctor

What outcome can I expect for my baby?

Your baby's outcome depends on how severe the ventriculomegaly or hydrocephalus is. It also depends on whether your baby has other birth defects or genetic disorders.

Because hydrocephalus can injure the brain, it can cause brain damage and other problems, including:

- Seizures
- Learning disabilities
- Memory loss
- Coordination problems
- Vision problems
- Early puberty

Your baby will need to regularly see a primary care physician, pediatric neurologist, and pediatric neurosurgeon.

For additional information

Utah Fetal Center

intermountainhealthcare.org/locations/primary-childrens-hospital/medical-services/utah-fetal-center

American Association of Neurological Surgeons

aans.org/Patients/Neurosurgical-Conditions-and-Treatments/Hydrocephalus

Hydrocephalus Association

hydroassoc.org/what-is-hydrocephalus-an-overview

Kids Health

kidshealth.org/en/parents/hydrocephalus.html?view=ptr&WT.ac=p-ptr

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