

Intraventricular Hemorrhage (IVH)

What is Intraventricular Hemorrhage?

Our brains are made up of brain tissue, blood vessels and fluid filled chambers called ventricles. When a baby is born prematurely, the blood vessels in the brain are very fragile and can bleed easily. When this occurs, the term intraventricular hemorrhage or IVH is used. The bleeding will also be described as a Grade or Category.

Grade 1 IVH: Bleeding occurs in a small area and has not spread

Grade 2 IVH: Bleeding is in the area it started and in the ventricles

Grade 3 IVH: Bleeding has increased to the point where the blood has now caused the ventricles to increase in size

Grade 4 IVH: Bleeding is in the ventricles and spread into the brain tissue

How is IVH found?

Your baby will have a picture taken of the brain (called a head ultrasound) within the first 7 days of life. The head ultrasound is painless and done at your baby's bedside. If IVH is found, your baby will have additional head ultrasounds to monitor the bleeding. Regardless if there is a bleed, a head ultrasound will be done prior to going home to help predict long-term brain development.

What is the Treatment?

There is no treatment or surgery for IVH. However, with advances in current bedside medical care we have seen significant decreases in IVH in extremely premature infants. Despite all these advances, IVH can still occur.

What are the complications?

All bleeding can result in medical complications unfortunately. Complications most commonly occur with severe IVH (Grade 3 and 4).

Neurologic complications are common with any grade IVH. These neurologic complications include motor delays, learning problems, and hearing and vision problems.

Here are some examples of neurologic complications:

- Muscles that are tight or stiff
- Not sitting, crawling, standing or walking when expected or not at all
- Frequently arching his or her back and not just because your baby is upset
- Seizures can occur, but these are not common
- Behavioral problems
- Learning disabilities, especially in reading and math
- Hearing can be affected, and deafness can occur
- Vision can be affected, and blindness can occur

The most severe complication of IVH is hydrocephalus. Hydrocephalus is the buildup of fluid in the ventricles. This can cause the ventricles to increase in size and results in increased pressure on the brain. Neurosurgeons usually join our medical team to help decide what to do next.

There are 2 medical treatments for hydrocephalus available:

1. Daily removal of fluid with a needle placed in the lower back, called a lumbar puncture. This is done primarily when the baby is too small for surgery.
2. Surgery may be needed to decrease fluid build up

Each baby is different. Please talk to the health care team if you have any questions. They are your greatest resource for information and guidance.