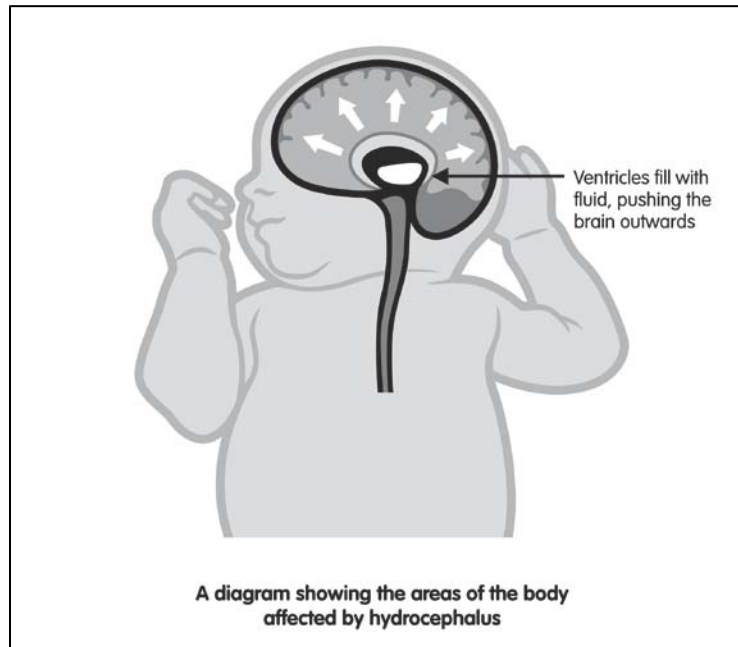


Hydrocephalus



Hydrocephalus is commonly known as water on the brain.

A fluid known as 'cerebro spinal fluid' (CSF) is produced constantly inside each of the four ventricles (spaces) inside the brain.

This fluid exists, amongst other things, to protect the brain. CSF flows through small pathways from one ventricle to another, around the outside of the brain and then down the spinal cord. From here it is absorbed into the bloodstream.

If these pathways become blocked the fluid will begin to build up within the ventricles and cause them to swell, resulting in hydrocephalus. The effect of the swelling is an increased pressure on the surrounding brain tissue.

What causes hydrocephalus?

Hydrocephalus can occur in all age groups. There could be many different reasons why your baby has developed this condition and often there is no known cause.

Some factors include:

- **Prematurity** - Premature babies have very fragile blood vessels within their brains. Sometimes there can be a bleed from these vessels which occasionally leads to a clot of blood blocking the flow of CSF.
- **Trauma** - It may develop as a result of a bleed within the brain following a traumatic delivery – this is found in some babies born premature.
- **Infection** - Hydrocephalus can occur after an infection such as meningitis. It may also be associated with infections in the baby's mother before birth.
- **Spina bifida** - Most babies with spina bifida have hydrocephalus.
- **Tumours** - These cause swelling of brain tissue which can result in poor drainage of the CSF.

How do we recognise hydrocephalus?

During pregnancy - Sometimes hydrocephalus can be identified on an ultrasound scan. We may see enlarged ventricles or maybe an increase in the size of the head.

After birth - It can be detected by an increase in the head size greater than expected or by an ultrasound scan of the baby's head. This is normally before the baby demonstrates any other symptoms.

Before any treatment a further scan is normally necessary.

What are the symptoms associated with hydrocephalus?

These are varied and often the problem is identified before physical signs become apparent.

The symptoms can include:

- Increase in your baby's head size over and above the normal growth expected.
- The fontanelle (the soft spot on top of the baby's head) may be tense.
- Vomiting, irritability, high-pitched cry, poor feeding and drowsiness.
- 'Sunset eyes' (more difficult for your baby to look upwards).
- Fits - these are not due to the hydrocephalus itself but are usually associated with the underlying cause.

What treatment is necessary?

Sometimes hydrocephalus does not seem to worsen and your baby can be observed and regular measurements of their head taken. More frequently however, further active treatment is necessary.

The two types of treatment normally used are the insertion of a shunt or a ventriculostomy. Treatment prevents the condition from becoming worse but it does not cure the hydrocephalus. Any damage that has been caused to the brain tissue will remain.

Shunt

A shunt is a device that drains the excess fluid from the pathways in your baby's brain and returns it to their blood stream. This involves placing a thin tube into your baby's head, usually under the skin above the ear, and the other end is tunnelled under the skin to the stomach.

Inserting the shunt is fairly straightforward procedure and is carried out by a specialised surgeon. Sometimes, however, these shunts do not function well or become infected and will need replacing.

Ventriculostomy

During an operation a small telescope is passed through the fontanelle of your baby's head. A small hole is then made through the floor of the third ventricle in your baby's brain which should allow the CSF to drain away and be absorbed back into the bloodstream.

The main risk of this procedure is bleeding which is normally minor but occasionally more severe. Risk of infection is much lower when compared to a shunt as there is no implanted tube left behind. Sometimes it is clear that this procedure has not controlled the hydrocephalus. In this case it would be necessary to then insert a shunt.

Not all types of hydrocephalus are suitable to be treated by this method.

What are the effects of hydrocephalus?

There can be learning difficulties associated with hydrocephalus such as problems with concentration, reasoning and short-term memory.

Hydrocephalus can also result in subtle effects: giving problems with co-ordination and motor skills but the effects vary greatly from one baby to another. Physical effects such as visual impairment may also be possible.

More information about Bliss and its services

Further advice, support and information can be requested by phoning our Family Support Helpline on freephone **0500 618140**. The line is open from 9am to 9pm, Monday to Friday. You can also email us at enquiries@bliss.org.uk