



Empowering Children. Supporting Families. Building Brighter Futures.

**Resource 061 | Brain, spinal cord, and seizure conditions**

# Hydrocephalus

## What it means

Hydrocephalus is an abnormal buildup of cerebrospinal fluid within the brain's fluid spaces. It can increase pressure and affect brain function. Some children have developmental difficulties; others have fewer lasting effects. Treatment and ongoing monitoring are essential, including for children who appear well after surgery. [1]

## Causes and risk factors

Fluid can accumulate because its flow is blocked, absorption is impaired, or, less commonly, too much is produced. Causes include congenital differences, bleeding associated with prematurity, infection, and tumors. Hydrocephalus may accompany spina bifida or other conditions. Its developmental effects depend on the cause, severity, and course. [1,2]

General family education. A concern deserves assessment, but this guide does not diagnose a child or prescribe treatment.



## Signs and everyday impact

Infants may have unusually rapid head growth, a bulging soft spot, poor feeding, vomiting, sleepiness, or abnormal downward eye positioning. Older children may develop headache, vomiting, balance changes, or reduced alertness. Learning and attention difficulties can occur. A single head-size measurement does not establish the diagnosis. [1,2]

## Assessment and diagnosis

Clinicians review head-growth measurements, symptoms, examination, and brain imaging. Ultrasound may be used in infants with an open soft spot; MRI or other imaging is selected as appropriate. Neurosurgical review determines whether treatment is needed. Developmental assessment identifies communication, motor, and learning supports. [1,2]

## Treatment and therapy

Many children need surgery to divert fluid through a shunt. Endoscopic surgery is an option for selected cases. The neurosurgical team explains follow-up and signs of blockage or infection. Therapy, educational accommodations, and treatment of associated conditions address ongoing needs. A shunt can require later revision, so monitoring continues beyond the initial operation. [1,2,3]

## Support at home

Keep the neurosurgical team's contact details and emergency instructions readily available. Know the child's usual behavior and promptly report significant changes. Share the shunt or surgical history with other clinicians. Encourage play and movement within the team's advice, and review developmental progress and learning needs over time.

## When to seek help

Seek urgent medical help for new persistent vomiting, severe headache, unusual sleepiness, or neurological change, particularly in a child with a shunt. Reduced consciousness or breathing difficulty requires emergency services.

## Questions for your care team

- Which symptoms should trigger our shunt emergency plan?
- What follow-up and imaging are planned?
- Which developmental or learning supports are needed?



## Podcast preparation

Use this outline to develop a later podcast script.

### Suggested opening

Welcome to Mariel Early Intervention. Today we discuss hydrocephalus. Hydrocephalus is an abnormal buildup of cerebrospinal fluid within the brain's fluid spaces. This is general education; each child needs individualized care.

**Opening:** Define the topic and its developmental context.

**Understanding:** Explain causes and signs without inviting self-diagnosis.

**Assessment:** Describe evaluation and distinguish screening from diagnosis.

**Support:** Discuss treatment, therapy, and practical family supports.

**Closing:** Explain urgent signs and one clear next step.

Misconception to address: Myth: shunt placement ends the need for follow-up. Fluid diversion systems require ongoing monitoring.

Before recording: update clinical references and local service details, arrange clinical review, and use fully consented or fictional examples.

### Terms in plain language

- Cerebrospinal fluid: fluid that surrounds and cushions the brain and spinal cord.
- Shunt: a surgically placed system that diverts fluid.
- Ventricles: fluid-filled spaces inside the brain.

### Sources and further reading

Sources accessed 3 October 2026. Numbered references support the clinical overview. Treatment availability and referral routes vary by country.

**[1] Hydrocephalus**

<https://www.ninds.nih.gov/health-information/disorders/hydrocephalus>

**[2] Manage Spina Bifida**

<https://www.cdc.gov/spina-bifida/treatment/index.html>

**[3] Assessing Developmental Delays in Children**

<https://www.healthychildren.org/English/ages-stages/toddler/Pages/Assessing-Developmental-Delays.aspx>