SYMPTOM

# Increased head circumference

Increased head circumference means a child's head is larger than expected or growing faster than expected.

**WHAT IT FEELS LIKE**
My child's head seems larger than expected

**WHERE IT IS FELT**
Around the skull

**MOST COMMON CAUSES**
Family traits, normal growth variation, benign extra fluid spaces

**WHEN IT IS URGENT**
Rapid growth with vomiting, unusual sleepiness, or a bulging soft spot

**USUALLY LASTS**
Often lifelong if familial; otherwise follows the underlying cause

**SEE A DOCTOR IF**
Head size seems to grow faster between routine checks

## Overview

Head circumference is the distance around the widest part of the head. It is measured regularly in babies and young children because head growth can provide information about brain and skull development.

An increased head circumference may mean the measurement is above the expected range for a child's age and sex. It may also mean the head is growing faster than before, even if the measurement is not unusually large yet.

A large head is often a healthy family trait. Some children simply have larger heads and continue to develop normally. In other cases, faster growth may be linked to extra fluid, a genetic condition, or another medical problem.

One measurement cannot usually explain the cause. The pattern over time, the child's development, and any other symptoms are more informative.

## What it may feel or look like

Increased head circumference usually does not cause a feeling or discomfort by itself. You may notice that your child's head looks large compared with their body or that hats no longer fit.

A healthcare professional may identify the change during a routine check. The measurement may move upward across lines on a growth chart. These lines show the expected pattern of growth over time.

Other signs depend on the cause. A child might have no other symptoms, or there may be:

A soft spot can briefly look fuller when a baby cries or lies flat. A soft spot that stays tense or bulging while the baby is calm and upright needs prompt assessment.

- A prominent forehead or widely spaced skull seams
- A full or bulging soft spot on a baby's head
- Delayed movement, speech, or other developmental skills
- Unusual irritability, vomiting, sleepiness, or feeding problems
- Headache, vision changes, or balance problems in an older child

## Common causes

Family traits are a frequent explanation. One or both parents may also have a larger-than-average head. A child with familial large head size usually follows a steady growth curve, develops as expected, and has a normal examination.

Normal growth variation can also affect measurements. Differences in measuring technique, growth charts, or correction for premature birth may change how a result is interpreted. A repeat measurement can help confirm whether the head is truly growing faster.

Benign enlargement of the subarachnoid spaces occurs mainly in infancy. This means the normal fluid-filled spaces around the brain are wider than usual. Many affected babies are otherwise well, although follow-up may be needed to check growth and development.

Less common causes include hydrocephalus, in which too much cerebrospinal fluid collects within spaces inside the brain. Cerebrospinal fluid is the clear liquid that surrounds and protects the brain and spinal cord.

Other possible causes include a collection of blood or fluid around the brain, a cyst or growth, certain skull or bone conditions, and genetic or metabolic conditions. These causes often produce other examination findings or developmental concerns. Increased head circumference alone does not show which cause is present.

## When to seek medical care

Arrange a routine appointment if your child's head seems large or is growing faster between health checks. An appointment is also appropriate if you have concerns about development, movement, learning, feeding, hearing, or vision.

Seek urgent medical assessment today if rapid head growth occurs with:

Call emergency services if your child has a seizure, becomes difficult to wake, has trouble breathing, suddenly becomes weak, or develops serious symptoms after a head injury.

A child who is well, developing normally, and following a steady growth curve usually does not need emergency care solely because their head measurement is above average. The trend should still be discussed during routine care.

- Repeated vomiting or poor feeding
- Unusual sleepiness or marked irritability
- A tense or bulging soft spot while calm and upright
- Eyes that appear driven downward
- A new headache, balance problem, or vision change
- Loss of a skill your child previously had

## How the cause is found

The healthcare professional will measure the head with a flexible tape and plot the result on an age-appropriate growth chart. Earlier measurements are important because they show whether growth is steady or accelerating.

They may ask about pregnancy, birth, premature delivery, illnesses, injuries, and development. Measuring the parents' heads can help identify a family pattern.

The examination may include the soft spot and skull shape, eye movements, muscle tone, reflexes, movement, and developmental skills. Height and weight are considered because a larger head may be expected in an otherwise larger child.

Imaging is not routinely needed for every child with a large head. It is more likely to be considered when measurements rise quickly, development is delayed, or the examination is abnormal. Ultrasound may be possible while the soft spot remains open. MRI or CT may be used when more detailed images are needed. Genetic tests or blood tests are sometimes appropriate when other features suggest a specific condition.

## Treatment and self-care

Treatment depends on the cause rather than the measurement itself. A healthy child with a stable family pattern may need only routine monitoring.

Benign enlargement of the fluid spaces is often observed with repeat measurements and developmental checks. Hydrocephalus or another condition affecting pressure inside the skull may require specialist treatment, sometimes including surgery to redirect fluid.

Keep scheduled growth and developmental appointments. Bring previous measurements or health records if your child changes clinics. Avoid repeatedly measuring at home unless a healthcare professional has shown you how, as small differences in tape position can create misleading results.

There is no safe home treatment for rapidly increasing head size or signs of pressure inside the skull.

## What to expect

The outlook depends on why the head circumference is increased. Children with a family pattern or normal growth variation often remain healthy and simply continue to have a larger head.

Some causes need monitoring over months or years. Follow-up may include head measurements, developmental reviews, eye checks, or imaging. If an underlying condition is found, its course and treatment will guide what happens next.

The most useful sign is the growth pattern over time. A steady large measurement is generally less concerning than a sudden rise accompanied by new symptoms.

## Common questions

Does a large head mean there is pressure on the brain?

No. Many children with large heads do not have increased pressure. Pressure is more concerning when rapid growth occurs with vomiting, unusual sleepiness, a persistent bulging soft spot, eye changes, or worsening headaches.

Can head circumference be measured accurately at home?

It can be difficult. The tape must pass around the widest part of the head in the same position each time. If you are concerned, ask for a professional measurement rather than relying on

repeated home readings.

Will my child need a brain scan?

Not necessarily. Imaging is usually considered in the context of growth speed, development, examination findings, and other symptoms. A stable measurement in a well child with a family history may not require a scan.

What if an adult notices that their head seems larger?

An adult skull does not normally expand in the way an infant's skull can. New swelling, changes in skull shape, or enlargement after an injury should be medically assessed.

## Sources

- National Institute for Health and Care Excellence: Suspected neurological conditions-recognition and referral, head shape or size abnormalities
- Centers for Disease Control and Prevention: WHO growth standards for children from birth to 2 years
- American Academy of Pediatrics Section on Neurological Surgery: Choosing Wisely recommendation on imaging for infant macrocephaly
- Accogli A, et al. Diagnostic Approach to Macrocephaly in Children. Frontiers in Pediatrics. 2022;9:794069
- NHS: Hydrocephalus-symptoms