SYMPTOM

Fontanelles - enlarged

An enlarged fontanelle is a soft gap between a baby's skull bones that is larger or stays open longer than expected.

WHAT IT FEELS LIKE
A larger-than-expected soft gap between your baby's skull bones

WHERE IT IS FELT
Top or back of a baby's head

MOST COMMON CAUSES
Normal size variation, low thyroid hormone, vitamin D deficiency

WHEN IT IS URGENT
Tense bulging while calm, with fever or unusual sleepiness

USUALLY LASTS
Until skull bones join; timing relates to age and cause

SEE A DOCTOR IF
The gap widens or remains open beyond the expected age

Overview

Fontanelles are the soft gaps between the bones of a baby's skull. They allow the skull to change shape during birth and make room for the rapidly growing brain.

The largest fontanelle is usually on top of the head, near the front. A smaller one is at the back. The back fontanelle generally closes first, while the front one often remains open into the second year of life. Healthy timing and size differ from one baby to another.

An enlarged fontanelle is wider than expected for a baby's age or remains open longer than expected. It is a physical finding, not a disease. Sometimes it is part of normal development. In other cases, it can be associated with a nutritional, hormonal, genetic, or neurological condition.

An enlarged fontanelle is not the same as a bulging fontanelle . Bulging means the soft spot is tense or raised, which can sometimes indicate pressure inside the skull. It is also different from a sunken fontanelle , which may occur with dehydration.

What it may feel or look like

You may notice a soft, flat area on the top or back of your baby's head that seems larger than expected. More often, a healthcare professional notices it during a routine examination.

A normal fontanelle may:

The area should not be painful when touched gently. Normal handling, washing, or brushing over it will not harm the brain. A strong layer of tissue protects the structures underneath.

Size can be difficult to judge at home. Head shape, hair, and the position of the skull bones can affect how the area looks. A single observation does not show whether the fontanelle is growing, shrinking, or staying the same.

- Feel soft and slightly curved inward
- Pulse gently with the heartbeat
- Temporarily look fuller when your baby cries, coughs, or lies flat

Common causes

Normal variation is often considered first. Fontanelle size and closure timing naturally differ among babies. The opening can also seem larger shortly after birth as the skull bones settle into position.

Slower skull bone development can leave the fontanelle open longer. Babies born early may need their growth and development assessed using their corrected age, which accounts for how many weeks early they were born.

Low thyroid hormone , called hypothyroidism, can slow bone growth and fontanelle closure. Most newborn screening programs test for congenital hypothyroidism, meaning low thyroid hormone present from birth. Screening does not rule out every later thyroid problem.

Rickets causes bones to become softer because they are not mineralising normally. It is often related to vitamin D, calcium, or phosphate problems. Feeding, limited vitamin D exposure, absorption disorders, and some kidney or liver conditions can contribute.

Less common causes include certain genetic or skeletal conditions that affect skull development. Examples include Down syndrome and skeletal dysplasias, which are conditions affecting bone and cartilage growth. These usually cause other physical or developmental findings as well.

Pressure inside the skull can widen the spaces between skull bones. Possible causes include excess fluid around the brain, bleeding, infection, or a mass. These are not the usual explanation for an enlarged, flat fontanelle in an otherwise well baby, but they require prompt assessment when warning signs are present.

When to seek medical care

Arrange a routine appointment if the fontanelle seems unusually large, is getting wider, or remains open beyond the age expected for your child. Mention any concerns about slow growth, feeding, constipation, delayed movement or speech, unusual head shape, or bowed limbs.

Seek same-day medical advice if the fontanelle is newly tense or bulging while your baby is calm and upright. Crying, vomiting, or lying down may briefly make it look fuller, but it should settle afterward.

Get urgent medical help if a bulging fontanelle occurs with:

Call emergency services if your child is difficult to wake, has a seizure that does not stop, has trouble breathing, or becomes unresponsive.

- Fever, repeated vomiting, or marked irritability
- Unusual sleepiness or difficulty waking
- A seizure, weakness, or abnormal movements
- Rapidly increasing head size
- Poor feeding with a clear change from usual behaviour

How the cause is found

A healthcare professional will consider your baby's age, whether they were born early, and how the fontanelle has changed over time. They may ask about feeding, vitamin supplements, newborn screening results, growth, development, illnesses, and family head shapes.

The examination usually includes measuring the fontanelle and head circumference. Head measurements are most useful when plotted over time. The skull shape and the seams between its bones, called sutures, will also be checked. The clinician may look for signs involving the skin, muscles, bones, reflexes, eyes, growth, or development.

Many babies do not need tests. If there are signs of an underlying condition, blood tests may check thyroid function, calcium, phosphate, vitamin D, and markers of bone health.

Imaging is considered when there are concerns about head growth, pressure inside the skull, or neurological symptoms. Ultrasound can sometimes examine the brain through an open fontanelle. MRI or CT may be used in selected situations.

Treatment and self-care

An enlarged fontanelle itself does not need to be closed or covered. Treatment, when needed, is directed at the cause.

A healthy baby whose measurements and development are reassuring may only need routine monitoring. Follow-up allows head growth, fontanelle size, and developmental progress to be compared over time.

If testing identifies hypothyroidism, rickets, or another condition, treatment may help normal bone growth continue. The exact treatment depends on the diagnosis. Do not give extra vitamin D, calcium, thyroid medicine, or other supplements specifically for the fontanelle unless a healthcare professional recommends them.

You can wash and touch the area gently as part of normal care. There is no need for a helmet, bandage, massage, or special sleeping position solely because the fontanelle is large. Continue to use a flat, firm sleep surface and follow usual safe-sleep advice.

What to expect

The back fontanelle usually closes during early infancy. The larger front fontanelle closes later, commonly during the second year, although healthy children can fall outside typical ranges.

If the opening reflects normal variation, it should gradually become smaller as the skull grows. When an underlying condition is present, the outlook depends on that condition and how early it is identified and managed.

Follow-up is more important than one measurement. A steady head-growth pattern, normal development, and a soft, flat fontanelle are generally more reassuring than size alone.

Common questions

Can I damage my baby's brain by touching the fontanelle?

Gentle touching, washing, and brushing are safe. Tough protective tissue lies beneath the skin.

Is visible pulsing normal?

A slight pulse can be normal because blood vessels beneath the area move with the heartbeat. Seek advice if the fontanelle is persistently tense or bulging while your baby is calm.

Does a large fontanelle mean the brain is too large?

Not necessarily. Fontanelle size is affected by age, skull bone growth, nutrition, hormones, and natural variation. Head-circumference measurements and other findings provide more information.

Can dehydration enlarge the fontanelle?

Dehydration is more often associated with a sunken fontanelle, along with fewer wet nappies, a dry mouth, or reduced alertness. A sunken appearance with these symptoms needs prompt medical advice.

Sources

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