SYMPTOM

Metopic ridge

A metopic ridge is a firm raised line along the middle of the forehead.

WHAT IT FEELS LIKE
A firm, painless line down the forehead

WHERE IT IS FELT
Centre of the forehead above the nose

MOST COMMON CAUSES
Normal suture closure, naturally prominent forehead shape

WHEN IT IS URGENT
Repeated vomiting with severe headache or unusual drowsiness

USUALLY LASTS
Often remains but becomes less noticeable with growth

SEE A DOCTOR IF
The forehead looks triangular, narrow, or increasingly uneven

Overview

A metopic ridge is a raised line of bone running down the centre of the forehead. It is most often noticed in a baby or young child.

The metopic suture is the natural seam between the two bones that form the front of the skull. Unlike most skull sutures, it normally closes during infancy. A ridge may develop as the bones join. In many children, this is a normal part of skull growth.

A ridge alone does not necessarily mean that the skull closed abnormally. Doctors consider the shape of the whole forehead, the spacing around the eyes, and how the head is growing.

Less commonly, a ridge forms part of metopic craniosynostosis. This means the metopic suture fused too early and affected the shape of the skull. An examination is needed to tell this apart from an isolated, harmless ridge.

What it may feel or look like

The ridge may feel like a firm, narrow line under the skin. It can run from the hairline or soft spot toward the top of the nose. It is usually not painful, warm, or red.

The line may be easier to see in side lighting or when the child raises their eyebrows. It can feel more obvious than it looks.

An isolated ridge usually occurs without major changes to the rest of the forehead. Features that deserve medical assessment include:

These features do not confirm craniosynostosis. Other normal differences in head shape can look similar.

- A forehead that looks pointed or triangular from above
- Narrowing or flattening at both temples
- Eyes that appear unusually close together
- A forehead shape that becomes more noticeable over time
- Head growth that does not follow the expected pattern

Common causes

The most common cause is normal closure of the metopic suture. Bone can become slightly raised where the two sides meet. The ridge may remain noticeable for some time even though the skull is growing normally.

Some children also have a naturally prominent midline forehead contour. Thin skin and limited soft tissue over a baby's forehead can make normal bone structure easy to see or feel.

A less common cause is metopic craniosynostosis. Early fusion restricts growth across the front of the skull. The forehead may become triangular, with narrowing at the temples. Doctors sometimes call this shape trigonocephaly , meaning a triangular skull.

Most metopic craniosynostosis occurs on its own. In some children, it is associated with a genetic condition or differences affecting other parts of the body.

Sleeping position can change the shape of the back or side of a baby's head, but it does not usually cause a true metopic ridge. Touching or gently washing the ridge does not make the suture fuse.

When to seek medical care

Arrange a routine appointment with your child's doctor if the ridge is prominent, the forehead looks triangular or narrow, or the head shape seems to be changing. You should also book an assessment if you are concerned about head growth, vision, feeding, movement, or

development.

Contact a healthcare professional promptly if the area becomes painful, red, warm, or swollen. Those findings are not typical of a simple bony ridge and may have another cause.

Seek same-day medical care for repeated vomiting with a severe headache, unusual sleepiness, a persistent bulging soft spot, or a clear change in alertness. These symptoms do not usually result from an isolated metopic ridge, but they need assessment.

Call emergency services if your child has a seizure, is very difficult to wake, develops sudden weakness, or has trouble breathing. A ridge noticed after a significant head injury should be assessed according to the injury symptoms rather than assumed to be related to the suture.

How the cause is found

The doctor will ask when you first noticed the ridge and whether the forehead shape has changed. They may ask about pregnancy, birth, development, vision, feeding, and family head shapes.

During the examination, the doctor looks at the head from the front, side, and above. They feel the ridge and other skull sutures, examine the soft spot, and measure head circumference. Measurements are compared with earlier results on a growth chart.

If the shape suggests craniosynostosis, your child may be referred to a specialist craniofacial team. This team may include a paediatric neurosurgeon and a plastic surgeon with expertise in skull growth.

Imaging is not always needed for a simple ridge with an otherwise typical head shape. When the diagnosis remains uncertain, specialists may use ultrasound in a young infant or a low-dose CT scan. CT produces detailed pictures of the skull but uses radiation, so it is generally reserved for situations where it will help confirm the cause or plan treatment.

Treatment and self-care

A normal metopic ridge does not need treatment. There is no need to massage, press, or apply creams to it. Taking an occasional photograph from the same angle may help you describe changes, but frequent checking can make small normal differences seem more concerning.

A moulding helmet does not reopen a fused skull suture. Helmets used for positional flattening have a different purpose and should not be started without specialist advice.

If metopic craniosynostosis is confirmed, treatment depends on the child's age, head shape,

symptoms, and specialist assessment. Some children are monitored, while others are offered surgery to create space and reshape the forehead. Surgical approaches differ. A craniofacial team can explain why a particular option is or is not appropriate.

Keep routine child health appointments so head growth and development can be followed over time.

What to expect

A ridge caused by normal suture closure may remain easy to feel, but it often becomes less noticeable as the forehead grows and facial proportions change.

If craniosynostosis is present, the outlook depends on its severity and whether other conditions are involved. Specialist follow-up may include checks of skull growth, vision, development, and signs of increased pressure inside the skull.

Common questions

Does every metopic ridge mean craniosynostosis?

No. Many babies develop a ridge when the metopic suture closes normally. Craniosynostosis is more likely when the ridge occurs with a triangular forehead, narrowing at the temples, or other changes in skull shape.

Can tummy time make the ridge go away?

Tummy time supports movement and may help prevent positional flattening at the back of the head. It does not change a metopic suture or remove a bony ridge.

Can a metopic ridge hurt?

A simple bony ridge is usually painless. Pain, redness, warmth, or new swelling should be assessed because these symptoms suggest another problem.

What if I notice a ridge in an older child or adult?

A stable, painless midline ridge may be longstanding skull anatomy. Arrange an appointment if it is new, changing, tender, associated with headaches, or feels more like a separate lump than a fixed line of bone.

Sources

- American Academy of Pediatrics: "Identifying the Misshapen Head-Craniosynostosis and Related Disorders," Pediatrics , 2020
- Boston Children's Hospital: Metopic Synostosis
- Children's Hospital of Philadelphia: Metopic Synostosis
- NHS: Craniosynostosis
- Birgfeld CB and colleagues: "Making the Diagnosis-Metopic Ridge Versus Metopic Craniosynostosis," Journal of Craniofacial Surgery , 2013