What is craniosynostosis?

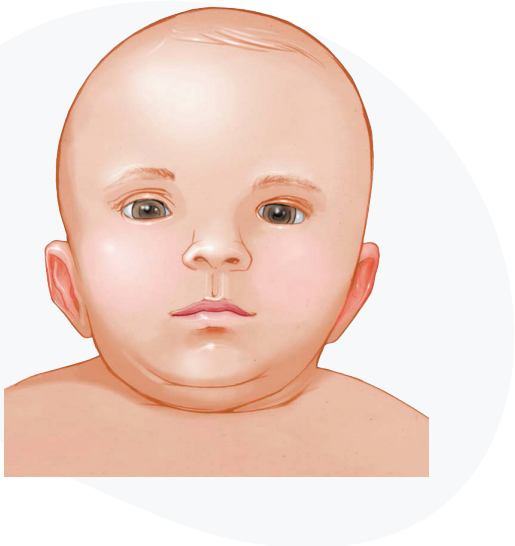
To understand craniosynostosis, one must first be aware of the anatomy of the normal infant skull. The infant skull has areas called sutures where normal skull growth occurs, allowing for normal brain growth and development as well as safe passage through the birth canal.

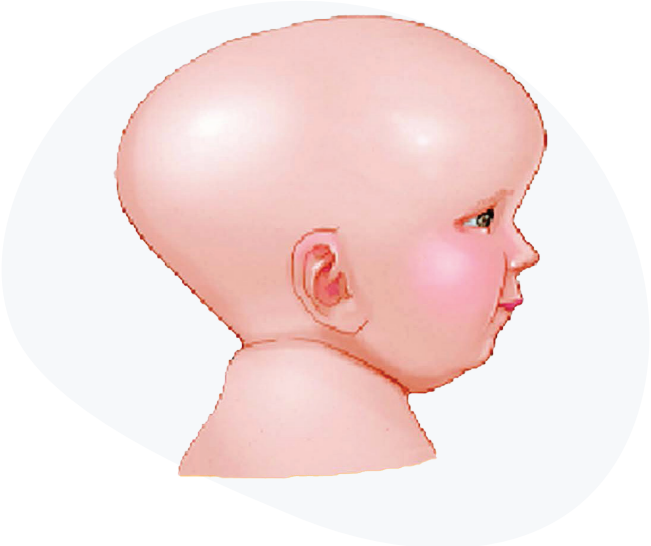
Craniosynostosis is a condition in which these sutures close too early. If the sutures close too soon, this may not only restrict brain growth and development, but may raise some cosmetic concerns as well. One or more sutures may be affected. Those patients with multiple sutures involved are more likely to be affected by a syndromic disorder. A syndromic disorder is a genetic condition in which the individual may have other abnormalities in other areas of the body that will need to be addressed by other specialty physicians.

What are the symptoms?

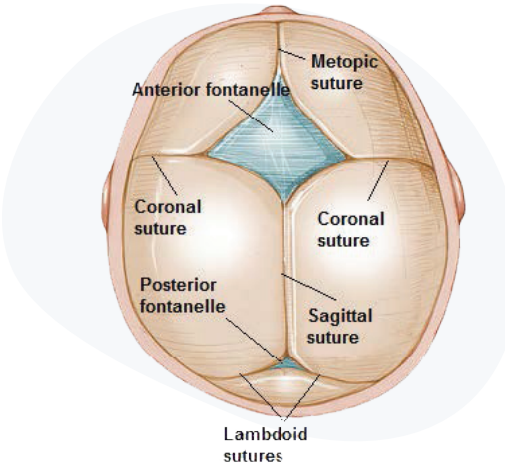
The most common presenting symptom which usually prompts the child to be seen by a doctor is a head shape abnormality. Additional signs which may be present include:

- A ridge, or keel felt on the skull along the suture line
- Symptoms of increased intracranial pressure may develop due to restricted brain growth. Those symptoms include:
  - headaches, vomiting, fussiness or increased sleeping
  - decreased appetite—bulging soft spot





The appearance of the head shape will differ based on which suture has closed prematurely. The most common type of craniosynostosis is scaphocephaly.



Sagittal synostosis (scaphocephaly):

- Elongated head shape
- Frontal bossing (bulging of the forehead)
- Occipital bullet (bulging of the back of the head)

Unicoronal synostosis (one coronal suture affected):

- Flattening of the forehead on affected side
- Prominence of the forehead on opposite side
- Tip of the nose deviates away from affected side

Metopic synostosis (trigonocephaly):

- Triangular head shape
- Hypotelorism (eyes are situated close together)

Lambdoid synostosis–RARE

- Trapezoidal head shape
- Ear on the affected side will be lower than the other
- Hump on the back of the head on affected side

Diagnosis

If the primary clinician is concerned for craniosynostosis, they may refer the child to a craniofacial specialist team, which includes a pediatric neurosurgeon and a craniofacial plastic surgeon.

In addition to a physical exam, a 3D CT scan of the skull is helpful in viewing the sutures themselves to evaluate if they are open or closed. Sometimes the craniosynostosis is so obvious that there is no need for the CT scan, but if there is any question about the suture, then the CT is diagnostic.

We are here

We have an experienced pediatric craniofacial team available to serve you.

All illustrations: Colby Polonsky, MSMI, CMI