

Craniosynostosis

An abnormal head shape in infants can be caused by two main problems: **positional molding** or **craniosynostosis**.

Normal Head Growth

- The fibrous tissues between an infant's skull bones are called "sutures".
- As a baby's brain grows, sutures allow the skull to expand.
- At about 2 years old, the head stops growing.
- When head growth stops, the sutures close and bone grows at the suture site.

What causes positional molding (also called "positional plagiocephaly")

Infants may have an abnormal head shape from sleeping in the same position for a long time. This problem is now more common since babies are always placed on their backs to sleep.

This problem often corrects itself with a change in sleeping position such as turning the infant's head to the other side or **supervised** tummy time.

Your child will **not** need surgery to correct this problem. These children have normal brain development.

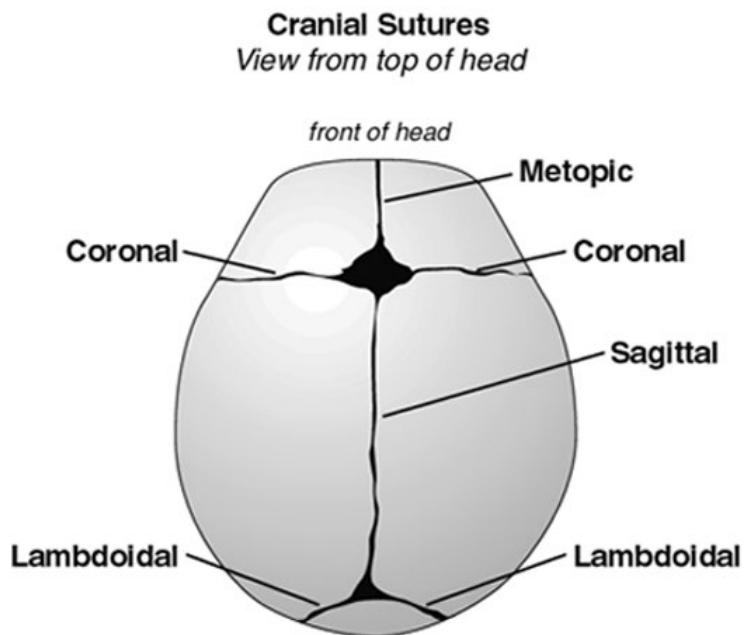
What causes craniosynostosis?

This happens when one or more of the sutures close too early and bone forms over the suture. The brain is still growing but cannot make the new bone change its shape. The brain growth then pushes out the bones on the open sutures. When this happens, brain growth leads to an abnormal shape of the head.

Types of Craniosynostosis

The shape of the skull will depend on the type of suture that closes too early. There are six main sutures that may close early and cause this problem.

- If the **metopic suture** closes early, the forehead becomes pointed like a triangle.
- If one of the **two coronal sutures** closes early, the forehead is flat on one side.
- If one of the **two lambdoidal sutures** closes early, the back of the head is flat on one side.
- If the **sagittal suture** closes early, the head is long and thin.



Surgery

Your surgeons will explain the treatment for your child. The brain surgeon and plastic surgeon work together to fix this problem. There are two options for surgery, open repair and endoscopic surgery.

Open repair: Any infant can have an open repair. We will shave the least bit of hair needed. Then, we make a zigzag cut from ear to ear over the top of the head. We peel the scalp back so we can see the skull. We use plates, wires and stitches to change the skull to a normal shape, then stitch the scalp closed. The head will not reach its final shape for months. Surgery takes 4-6 hours.

Endoscopic: Only young infants can have this surgery. We will use a small camera, called an “endoscope,” to look at the skull through two small cuts on the scalp. We then shape the skull in much the same way as with an open repair. After surgery, the baby will wear a helmet for many weeks. The helmet will need frequent adjustments by our orthotists.

Before Surgery

- Your child will need a physical exam, health review, and lab tests.
- Your child should stop aspirin and ibuprofen for two weeks before surgery. It is okay to use acetaminophen (Tylenol®), if needed.
- Wash your child with Sage clothes as instructed.
- We will call you the day before surgery to tell you when your child should stop eating and drinking.
- Your child should not wear make-up, jewelry, or nail polish.

After Surgery

Your child will go to the Pediatric Intensive Care unit (PICU) for at least one night. At first, your child will receive a stronger pain medicine. After a few days, he may only need something like Tylenol® or Motrin® for pain.

Your child will have a thick gauze bandage on his head. We will change this bandage in 1-3 days. We may remove it before going home. Also, your child’s face will be swollen, the eyes may swell shut, and the face may be bruised.

Your child can go home when he/she is eating and drinking without feeling sick. This often occurs in 5 days. Your child should have a follow-up visit 7-10 days after surgery. Keep the incision clean and dry until that visit.

When to Call

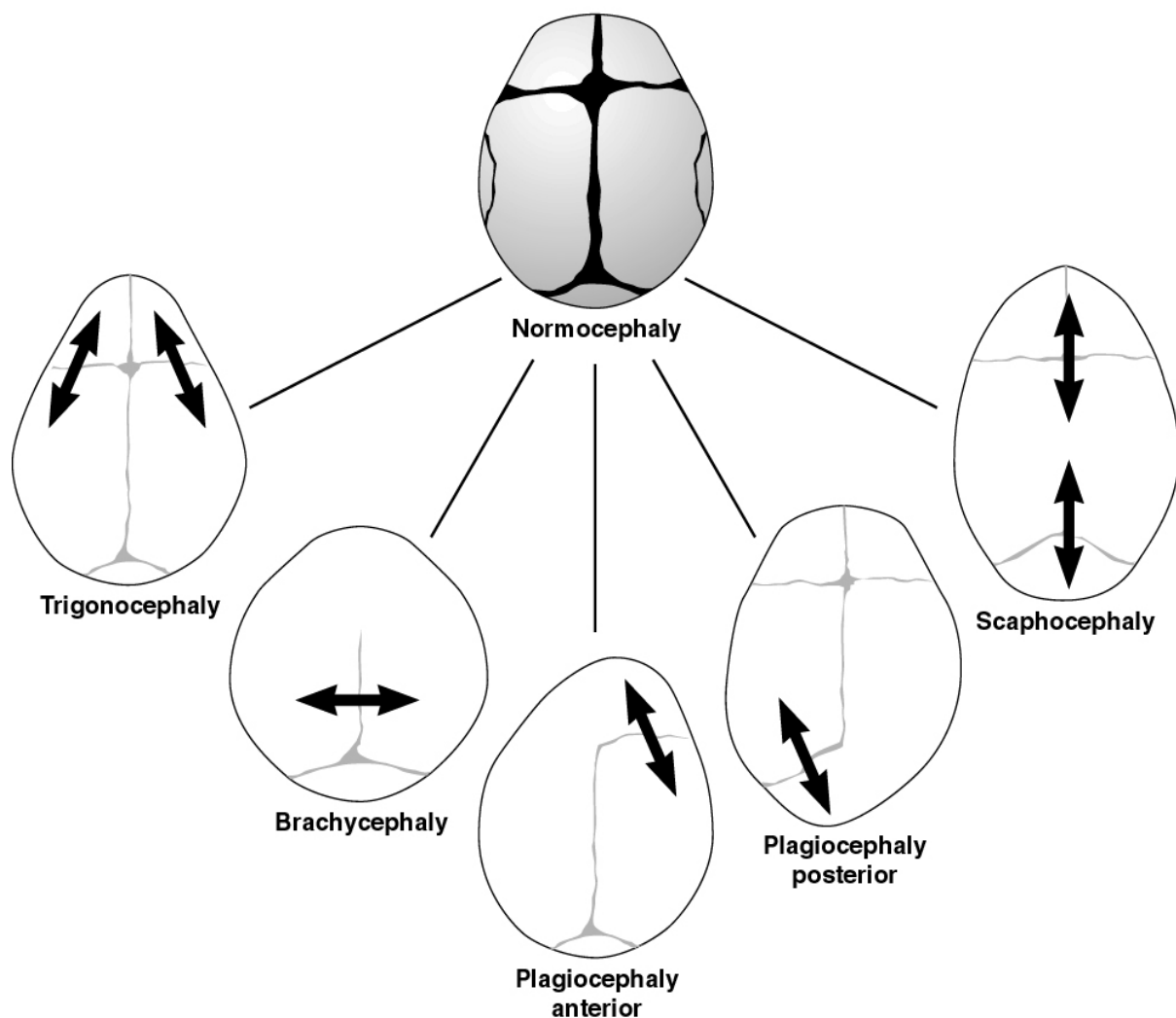
- Fever greater than 101.5° F
- Drainage from the incision
- Redness or swelling at the incision site
- Questions or concerns

Who to Call

Pediatric Neurosurgery Clinic
(608) 263-6420 or 1-800-323-8942

After hours, weekends and holidays, call the paging operator at **(608) 262-0486**. Ask for the neurosurgeon on call. Give your name and phone number with the area code. The doctor will call you back.

Head Shape with Craniosynostosis



| Types of Craniosynostosis | |
|-----------------------------|--------------------------------|
| Medical Term for Head Shape | Fused Suture(s) |
| Trigoncephaly | Metopic and/or Coronal Sutures |
| Brachycephaly | Both Coronal Sutures |
| Anterior Plagiocephaly | One Coronal Suture |
| Posterior Plagiocephaly | One Lambdoidal Suture |
| Scaphocephaly | Sagittal Suture |

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 3/2020 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#5436