

Plagiocephaly FAQ

1. What is plagiocephaly?

The term plagiocephaly is derived from Greek for “slanted” (plagio) and “head” (kephale). A child with plagiocephaly has an abnormally shaped head, most commonly caused by sleeping on one part of the head too much. This type of plagiocephaly is called deformational plagiocephaly and can be treated.

2. How common is deformational plagiocephaly?

Although the diagnosis of “deformational plagiocephaly” may sound intimidating at first, the condition is actually quite common. Studies show up to 20 to 25 percent of infants who sleep on their back develop deformational plagiocephaly.

3. What causes deformational plagiocephaly?

Deformational plagiocephaly can be caused by prolonged pressure on one area of the head due to a baby preferentially lying on that spot. The bones of a baby’s head take longer than 1 year to completely harden. During this period, the brain is allowed to grow and expand. When the brain is done growing, the bones surrounding it harden. Until that time, the bones are at risk for becoming shaped abnormally. This may be worsened by prolonged labor, prolonged NICU stay or torticollis (also known as neck tightness).

4. Did I do something wrong?

No. Deformational plagiocephaly is very difficult to prevent and is not due to a lack of parental attentiveness. There is a link between the Back to Sleep campaign, to prevent Sudden Infant Death Syndrome, and deformational plagiocephaly; however, the consequences of not following the Back to Sleep guidelines are so severe that we recommend to continue following them even if your child has an abnormal head shape.

5. What are the neurological/developmental implications of deformational plagiocephaly?

Although scientific and clinical researchers are investigating the long-term neurological and developmental implications of deformational plagiocephaly, there are no known reproducible, long-term implications of deformational plagiocephaly at this current time.

6. Why do you have to see a plastic surgeon or neurosurgeon for plagiocephaly?

Pediatric patients are often sent to a plastic surgeon or neurosurgeon to rule out a diagnosis of craniosynostosis, which is a premature fusion of the skull bones that creates abnormal head shapes that are difficult to distinguish from deformational plagiocephaly. Unlike deformational plagiocephaly, craniosynostosis requires surgical intervention.

When a child has craniosynostosis:

- The sutures close too early.

- The pressure inside the skull, or intracranial pressure, can become elevated.

The skull and facial bones may become visibly deformed or asymmetrical.
The brain and skull may develop abnormally.
The child may eventually have visual problems.

7. What is the likelihood of my child having craniosynostosis?

Craniosynostosis occurs much less common than plagiocephaly and affects about one in every 2,500 children.

8. What are the treatment options for deformational plagiocephaly?

We recommend relieving pressure or redirecting pressure away from the flat spot. This can be done in a number of ways depending on the baby's age or degree of asymmetry.

Sleeping and resting position changes:

Your child's clinician can recommend several steps for keeping your baby from increasing pressure on an already flattened area of his head, and making sure he is not spending too much time in one position. Examples may include giving your baby adequate "tummy time" or alternating his head position while he is sleeping on his back.

The Plagio Cradle:

For some infants under 3 months old, we use a molding cup known as the Plagio Cradle to address the flattening process. The Plagio Cradle was developed at Children's, and is proven effective not only in addressing existing flattening, but also in preventing flattening in babies who are at particular risk for deformational plagiocephaly.

The Plagio Cradle is placed under a baby's head whenever the baby is lying on his or her back. It supports his or her neck and creates a hollowed space that gradually reshapes the baby's head, allowing it to grow correctly over time. As the child ages, the NOPCO Brace Shop at Children's can make adjustments to the original molding.

Corrective helmeting:

For infants over 4 months old with a moderate degree of flattening, Children's typically recommends the use of a corrective helmet—this process is called cranial orthosis. The helmet is a lightweight plastic shell with a foam liner and does not constrict the head from growing, but rather guides the growth.

If your child needs a helmet, Children's will put you in touch with a company that will create the helmet. We can also give you a list of convenient locations where you can have the helmet made and bring it back for periodic readjustments.

9. How does a corrective helmet work? How long is treatment with a corrective helmet?

Corrective helmets have been in use since 1979 and have an established track record of safely and successfully treating deformational plagiocephaly. A helmet does not squeeze or compress the baby's head; rather, it serves as a passive restraint to growth in areas

that are overgrown while allowing uninhibited growth in areas that are flat. Studies have confirmed that this process does not inhibit brain and head growth, but merely redirects the growth to correct the shape of the head.

Because the baby's head is constantly growing, babies should wear the helmet 23 hours a day to get the maximal effect. Helmets are most effective in younger infants (4 to 8 months old), who are at the age of fastest cranial growth.

The average treatment period with a helmet is usually 3 to 6 months, depending on the age of the infant and the severity of the condition. Careful and frequent monitoring is required. Helmets should be prescribed by a licensed physician with significant craniofacial experience.

10. Does my child need to be seen by a plastic surgeon after the first visit?

Most likely no. The primary reason to be seen by a plastic surgeon is to rule out craniosynostosis. If your child needs helmet therapy you will continue to be seen by the NOPCO orthotist for subsequent visits. The NOPCO team works very closely with the Plastic Surgeons and will refer your child back to him if there are any concerns.

11. Will insurance cover the cost of a helmet?

It depends on the insurance company and your diagnosis. For some patients, insurance may cover the cost of an orthotic helmet with co-payment. For others, the cost of a helmet is an out-of-pocket cost. Your clinical team can help you find the best solution for your family.

Additional questions:

1. _____

2. _____

3. _____

A short video on plagiocephaly may be found on our website here:

<http://www.childrenshospital.org/az/Site1453/mainpageS1453P0.html>