

Plagiocephaly

An Unintended Consequence of 'Back to Sleep'

BY ARCHANA PYATI

When Matthew Crome was 2 months old, his parents noticed his tendency to lie on his right side no matter the circumstance—naps, bedtime, playtime. His mother Katie, 26, tried rotating him as he slept only to find him reverted back to his favorite position. She tried placing him on his stomach for so-called “tummy time,” but he hated it.

By the time he was 5 months, the right side of Matthew’s skull looked flat. His pediatrician diagnosed him with plagiocephaly, a deformational flattening of a baby’s skull on one side, causing it to look asymmetrical. Katie Crome and her husband Matt, 27, brought their son to orthotics maker Hanger Clinic in Rockville to be outfitted with a cranial remolding band, or a helmet. Each band is specially designed for babies with cranial asymmetry, according to Lisa Hewitt, a cranial remolding specialist at Hanger.



That it’s cosmetic doesn’t mean it shouldn’t be taken seriously: plagiocephaly can impact a child’s facial features.

CRANIAL ASYMMETRY IS CALCULATED

by the difference in the diagonal measurements of a baby’s skull. It needs to be between 10 and 12 millimeters before being considered problematic, according to Gary F. Rogers, M.D., chief of pediatric plastic and reconstructive surgery at Children’s National Medical Center in Washington, D.C.

At the time of his fitting, Matthew was 5 ½ months; his cranial asymmetry was 20 millimeters and considered a severe case, according to Hewitt. Asymmetry affects not simply skull shape, but facial features. Matthew’s right eye was a bit more forward and open and his forehead protruded on one side.

The progress Matthew made with helmet therapy is staggering. After a month and a half of therapy, the asymmetry had decreased to 13 millimeters; an additional three months reduced it to 3 millimeters. After wearing the helmet for 23 hours a day

for close to five months, the 11-month-old retired the cornflower-blue, marble-swirl headgear for good in January.

“Me and my husband were completely happy with the shape of his head,” said Katie Crome, who lives with her family in Walkersville. “All of our family and friends were amazed at the improvement. Nobody can tell he even had a problem with his skull.”

Researchers attribute the rise in plagiocephaly and other forms of infant cranial asymmetry as an unintended consequence of the “Back to Sleep” campaign launched in the early 1990s to combat sudden infant death syndrome (SIDS). Although the cause of SIDS remains a mystery, stomach sleeping was determined to be a major risk factor.

“Because we recommended ‘Back to Sleep,’ we’ve seen a tremendous decrease of SIDS, but a tremendous increase in plagiocephaly,” said Toni Thompson-Chittams, D.O., a pediatrician and owner of TLC Pediatrics in Bowie. The good news is that after the campaign was launched, death by SIDS declined by 40 percent, according to a 2009 study in *The Journal of Craniofacial Surgery*.

Yet, putting some babies on their backs for prolonged periods of time brought out a preference for one side or another, causing one side to flatten and, in some cases, the opposite side to protrude to accommodate the brain’s growth. The 2009 study noted the prevalence of deformational cranial asymmetry was between 18 and 19 percent among infants 6 to 18 months.

PLAGIOCEPHALY IS A COSMETIC

issue and has no impact on brain development, said Rogers, co-author of the 2009 study and numerous others. While surgery is never a recommended solution, the fact that the condition is cosmetic doesn’t mean it shouldn’t be taken seriously; as in Matthew’s case, plagiocephaly can

impact a child’s facial features, causing an asymmetrical or slanted look of the eyes and ears.

The cause of plagiocephaly is what Rogers refers to as “packaging issues”—how an infant is positioned in utero. Babies who are born breech, in a multiple birth (twins or triplets), prematurely, or whose mother had a prolonged delivery or insufficient amniotic fluid for cushioning seem to be at greater risk. Additionally, Rogers’ studies have found that boys are at greater risk than girls.

A separate condition that has a strong link to plagiocephaly is torticollis, sometimes called “wry neck,” which is a tightening of an infant’s neck muscles in the womb because of inadequate space or awkward positioning in the uterus. While torticollis doesn’t always lead to plagiocephaly, it occurs



Left: Matthew Crome's head before he began wearing a helmet, top, and after five months of therapy, bottom. Right: Matthew and his mom Katie visit Hanger Clinic in Rockville, where he was treated for plagiocephaly.

in 15 to 25 percent of cases, said Rogers, who believes it is severely underdiagnosed because pediatricians don't always know what to look for. Physical therapy may be part of the solution for a child who is diagnosed with torticollis, said Thompson-Chittams.

In Matthew's case, torticollis wasn't identified by his pediatrician as a factor; nor did Katie Crome have a problematic pregnancy, noting only that Matthew was a "big baby" when he was born. The pediatrician guessed he may have been positioned on his right side in the womb, explaining why he preferred that position after birth.

IF PARENTS CHOOSE HELMET THERAPY

to correct plagiocephaly, their child's head is scanned and a custom helmet is designed and manufactured specifically to accommodate brain growth on the flattened side. The inside of the helmet is lined with lightweight foam that can be shaved back once brain and skull growth begin to even out.

Helmet therapy works best when a child is between 4 and 6 months because that's the time when the brain is experiencing the most growth, said Leah Bowsher, a cranial

remolding specialist at Hanger. One of the drawbacks to helmet therapy is that it can be expensive and not all insurance companies foot the bill because it's considered a cosmetic problem.

In the Crome's case, they had to pay for the helmet out-of-pocket. The costs of the helmet and follow-up visits at the Hanger Clinic are usually under \$3,000, according to Hewitt. Costs vary depending on the orthotics company a family chooses. Hanger's local competitors include Cranial Technologies in Annandale, Va., and STAR Cranial Center of Excellence in Columbia.

For his part, Matthew has now discovered the joys of touching his head and feeling wind blow through his hair. Katie Crome admitted she missed the physical contact with her baby since the helmet was cumbersome, if not uncomfortable.

Now, the barrier is gone between Matthew and the steady flow of affection from his parents and grandparents. "I feel bad for him; I'm kissing his head all the time!" she said. "I'm rubbing his head. My parents are so thrilled—they get to kiss his head. He can lay on your chest. I definitely missed it."

PHOTOS OF MATTHEW CROME'S HEAD COURTESY OF KATIE CROME; PHOTO OF KATIE AND MATTHEW BY ARCHANA PYATI



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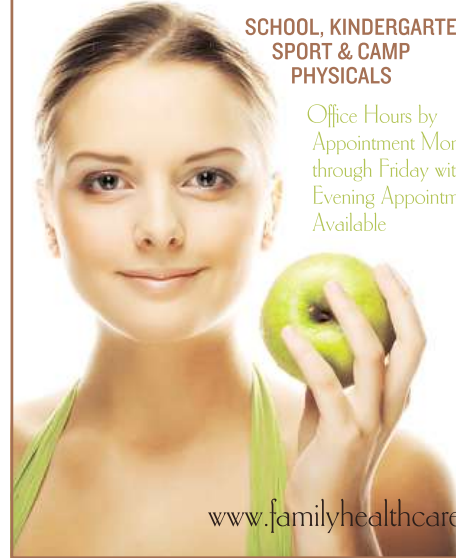
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