

WITH PLAGIOCEPHALY, TIME MATTERS

ARE POSITIONAL PLAGIOCEPHALY AND BRACHYCEPHALY PURELY COSMETIC CONCERNS?

For some time it was widely accepted that mild and moderate cases of plagiocephaly and brachycephaly were purely cosmetic in nature. In recent years studies have indicated that developmental delays, cognitive impairment and academic limitations have been found through longitudinal studies of children who experienced head flattening during infancy.

A 2019 study published in the Journal of the American Academy of Pediatrics evaluated 187 school-aged children with a history of positional plagiocephaly or brachycephaly.¹ When compared with a similar number of control participants, researchers found that children with moderate or severe deformational plagiocephaly scored lower than controls on cognitive and academic measures. These associations were minimal among children with mild flattening.

The researchers cautioned not to interpret these findings as causal, rather as a risk factor that should be used in assessments of children with moderate or severe plagiocephaly as they age.

TREATMENT OPTIONS FOR DEFORMATIONAL PLAGIOCEPHALY



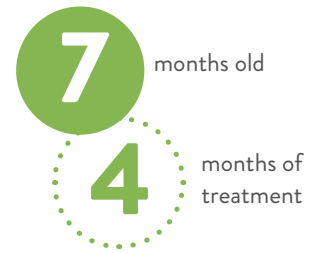
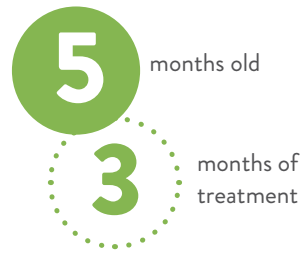
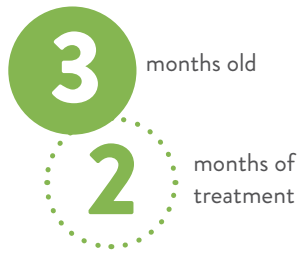
When treating deformational plagiocephaly there are two standard options for most clinicians. In the case of very minor flattening, the first line of defense is a repositioning approach. Pediatricians can educate parents on how to reposition their infant throughout the day in an effort to allow the skull to reshape naturally. This includes things like tummy time, babywearing, repositioning pillows, and varying the position baby is in.



In the case of more pronounced flattening, cranial remolding therapy is often used. Cranial remolding works by applying static, gentle pressure to the infant's skull, which allows it to reshape with minimal discomfort. Cranial remolding orthoses are custom made to reshape the skull of the infant in as little as 3 to 6 months. The orthosis must be worn 23 hours a day for the prescribed time of treatment.

CRANIAL REMOLDING TREATMENT TIMING & LENGTH

AGE AT BEGINNING OF TREATMENT vs. AVERAGE TIME FOR THE ORTHOSIS TO BE EFFECTIVE



Years of research have led to the conclusive finding that the most successful outcomes occur with earlier treatment. Studies have shown that treatment times tend to statistically increase as the age of the infant and severity of the flattening increase.² Infants who began treatment later or had more severe flattening at the onset of treatment have higher rates of post-treatment asymmetry measurements.

This means that younger infants and less severe plagiocephaly have shorter treatment durations and less long term deformation after cranial remolding treatment. When treatment starts at the optimum age of 3 to 6 months, it usually can be completed within 12 weeks.

It is worth noting that correction is still possible in babies up to age 18 months. However, the treatment duration will likely be significantly longer, as the skull reaches 80 percent of its adult size by the age of 2.

THE SKULL REACHES
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In conclusion, deformational plagiocephaly continues to rise each year. With growing data showing potential implications in development, cognitive ability, and academic success, information about the short and long term treatment is critical. Implementing treatment protocols before flattening becomes severe may be an important step in minimizing the long term impact.

Clinical consideration should be taken to treat infants presenting with plagiocephaly and brachycephaly at younger ages and before the cranial deformity progresses.

SOURCES:

1. Collett, B., Wallace, E., Kartin, D., Cunningham, M., & Speltz, M. (2019, February 01). Cognitive Outcomes and Positional Plagiocephaly. Retrieved July 27, 2020, from <https://pediatrics.aappublications.org/content/143/2/e20182373>
2. Graham, T., Adams-Huet, B., Gilbert, N., Witthoff, K., Gregory, T., & Walsh, M. (2019, July 8). Effects of Initial Age and Severity on Cranial Remolding Orthotic Treatment for Infants with Deformational Plagiocephaly. Retrieved July 27, 2020, from <https://www.mdpi.com/2077-0383/8/8/1097/htm>