

Cranial remolding: Study shows baby helmets yield high success rate

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Credit: Jacob Dwyer, Michigan Medicine

On average, about 450 infants are fit with a cranial remolding orthosis, also known as a helmet, each year at University of Michigan Health C.S. Mott Children's Hospital.

These helmets help to reshape an infant's irregular skull.

Research from the University of Michigan Orthotics and Prosthetics Center looked at the effectiveness of the Michigan Cranial Reshaping Helmet and what age it was best to prescribe them at.

Research published in the focused on the success rates of cranial helmets in 30 [infants](#) with positional plagiocephaly, a skull deformity in which the skull is asymmetric; it's flattened on one side in the back and on the other side in the front.

Each of the infants was prescribed a helmet to help shape their skull into a symmetrical shape as they grew.

"The [helmets](#) allowed the flattened areas of the [head](#) to grow until they matched the rounded areas," said Hannah Gensch, resident orthotist, as well as a researcher under , lead author on the study.

"We measured the largest diagonal diameter of the head from the forehead to the back of the skull to determine the size of the helmet. The helmet stops the growth of the largest part of the skull and allows room for the rest of the skull to grow that size, so the child ends up with a symmetric oval shape."

Study results showed the chances of achieving a symmetric head shape were significantly greater when the infant's deformity was moderate, as opposed to when it was severe, and the chances of achieving a symmetric head shape were somewhat greater when the helmet was provided at less than six months old, as opposed to older.

"Due to the malleability of infants' skulls, prescribing a helmet before six months of age increased the chances of achieving a symmetric head shape," said Gensch.

"If the infant had a severe deformity or was prescribed the helmet later

in infancy, the chance the infant would reach fully symmetric head shape was decreased. However, it was still common to see at least a 50% improvement in head shape."

Gensch states that there are no medical concerns if the skull does not reach a symmetric shape.

"Helmets are mostly for cosmetic purposes," said Gensch. "In the most severe cases, not treating an infant with an asymmetric [skull](#) with a helmet could lead to jaw issues or increased orthodontic needs in the future, but this is rare."

"If you notice an asymmetric head [shape](#) in your infant or think that a helmet might be beneficial, talk to your pediatrician to learn more."

The findings are [published](#) in the *JPO Journal of Prosthetics and Orthotics*.

More information: Chelsea J. Richards et al, Success Rates of Cranial Remolding Orthosis Treatment of Plagiocephaly Based on Initial Presentation, *JPO Journal of Prosthetics and Orthotics* (2023). [DOI: 10.1097/JPO.0000000000000481](#)

Provided by University of Michigan

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