

Cranial Orthotics
DME-025

Iowa Medicaid Program:	Prior Authorization	Effective Date:	12/1/2023
Revision Number:	2	Last Rev Date:	1/19/2024
Reviewed By:	Medicaid Medical Director	Next Rev Date:	1/17/2025
Approved By:	Medicaid Clinical Advisory Committee	Approved Date:	1/20/2023

Descriptive Narrative

The newborn infant's skull is composed of bony plates separated by sutures. This arrangement accommodates transient skull distortion during birth and permits future growth of the brain, the volume of which quadruples during the first two years of life. Plagiocephaly refers to an asymmetrically shaped head. There are two types:

Synostotic Plagiocephaly results from premature fusion of one or more cranial sutures and affects 1 in every 2000 to 2500 births worldwide. Premature fusion restricts the growth of the skull perpendicular to the affected suture. Surgical repair of craniosynostosis is performed to prevent intracranial hypertension and improve socialization by normalizing the appearance of the face and head.

In **Non-Synostotic Plagiocephaly**, the sutures of the skull remain open. This type of plagiocephaly can also be referred to as positional or **deformational plagiocephaly** when it is due to environmental factors including premature birth, restrictive intrauterine environment, birth trauma, torticollis, and sleeping position. The frequency of deformational plagiocephaly has increased in part because of supine sleep positioning used to prevent sudden infant death syndrome.

Criteria

Prior authorization is required.

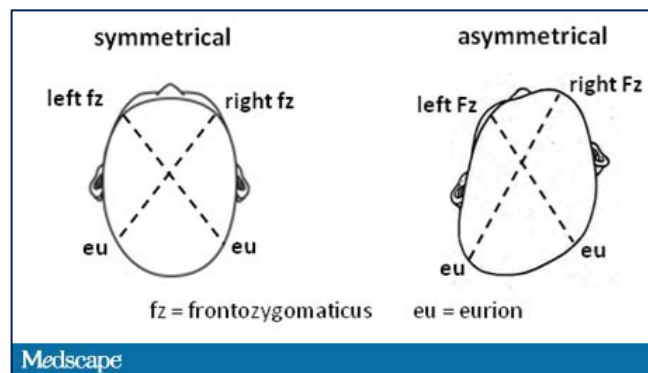
Cranial orthosis is considered medically necessary for the treatment of craniosynostosis when **ONE** of the following is met:

1. Postoperative management of infants following endoscopic repair of craniosynostosis;
OR
2. As an adjunct to surgical treatment of synostotic skull deformity.

Cranial orthotic devices are considered medically necessary when **ALL** the following are met:

1. Continued deformity after 2-month trial of **ONE** of the following conservative therapies (if appropriate for age):
 - a. Parental or caregiver repositioning for infants without cervical motion restriction; **OR**
 - b. Documentation of physical therapy or home exercise program for infants with associated cervical motion restriction; **AND**
2. Infant is between 3 – 18 months of age; **AND**
3. Anthropometric measurement confirms moderate to severe deformity as indicated by at least **ONE** of the following:
 - a. Cranial vault asymmetry index >3.5%; **OR**
 - b. Cephalic index of $\geq 90\%$; **OR**
 - c. Other anthropometric measurements consistent with moderate to severe deformity.

Definitions



Asymmetry of cranial base: Asymmetry of the cranial base measured from the sub nasal point (midline under the nose) to the tragus (the cartilaginous projection in front of the external auditory canal).

Asymmetry of cranial vault: The difference of the diagonal measurement from the frontozygomatic point (identified by palpation of the suture line above the upper outer corner of the orbit) to the euryon, defined as the most lateral point on the head located in the parietal region. The two diagonals are measured 30 degrees clockwise and counterclockwise from the mid-sagittal line.

Asymmetry of orbitotragial depth: An asymmetry of the orbitotragial depth that is measured from the exocanthion (outer corner of the eye fissure where the eyelids meet) to the tragus (the cartilaginous projection in front of the external auditory canal).

Brachycephaly: A condition characterized by a head shape that is symmetric and disproportionately wide, $(\text{width} \div \text{length} \times 100\%) \geq 81\%$. This may be caused by abnormal

growth rates of the skull bone plates or may be due to an infant being placed in the same position for prolonged periods of time. The latter is referred to as “positional brachycephaly.”

Cephalic index (CI): The measurement of head width divided by head length then multiplied by one hundred and expressed as a percentage. CI is used to assess abnormal head shapes without asymmetry. The maximum width is measured between the most lateral points of the head located in the parietal region (also known as the euryon). The head length is measured from the most prominent point in the median sagittal plane between the supraorbital ridges (also called the glabella) to the most prominent posterior point of the occiput (that is, the ophisthocranium). The cephalic index can then be compared to normative measures (0-3 months old: 75-95%, 4-6 months old: 74-94%, 7-12 months old: 73-93%, 13-18 months old: 72-92%).

Cranial vault asymmetry index (CVAI): The percentage difference between the oblique measurements taken from 30° from vertical, or the absolute value of the difference in cranial diagonals divided by the greater diagonal and multiplied by 100 (abnormal: >3.5%).

Cranioproportional index of plagiocephelometry:

The ratio between the width (sinistra-dextra) and the length (anterior-posterior) of the skull multiplied by 100. This measurement provides the degree of brachycephalic component of deformation (mild 90-94%, moderate 95-99%, severe ≥100%).

Coding

The following list(s) of codes are provided for reference purposes only and may not be all inclusive. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment, nor does the exclusion of a code imply that its association to the HCPCS/CPT code is inappropriate.

HCPCS	Description
S1040	Cranial remolding orthotic, pediatric, rigid, with soft interface material, custom fabricated, includes fitting and adjustment(s).

ICD-10	Description
Q67.3	Plagiocephaly.
Q75.0	Craniosynostosis.

Compliance

1. Should conflict exist between this policy and applicable statute, the applicable statute shall supersede.
2. Federal and State law, as well as contract language, including definitions and specific contract provisions or exclusions, take precedence over medical policy and must be considered first in determining eligibility for coverage.
3. Medical technology is constantly evolving, and Iowa Medicaid reserves the right to review and update medical policy on an annual and as-needed basis.

Medical necessity guidelines have been developed for determining coverage for member benefits and are published to provide a better understanding of the basis upon which coverage decisions are made. They include concise clinical coverage criteria based on current literature review, consultation with practicing physicians in the service area who are medical experts in the particular field, FDA and other government agency policies, and standards adopted by national accreditation organizations. Criteria are revised and updated annually, or more frequently if new evidence becomes available that suggests needed revisions.

References

EncoderPro.

Nield LS. Brunner MD. Kamat D. The infant with a misshapen head. *Clinical Pediatrics* 2007;46(4):292-298. DOI: 10.1177/0009922806292027.

Milliman Clinical Guidelines. 24th Edition. 2020.

Slater BJ. Lenton KA. Kwan MD. et al. Cranial sutures: a brief review. *Plast Reconstr Surg* 2008; 121:170e.

Buchanan EP. Overview of Craniosynostosis. UpToDate. Last updated May 4, 2021.

Laughlin J. Luerssen TG. Dias MS. Committee on Practice and Ambulatory Medicine, Section on Neurological Surgery. Prevention and management of positional skull deformities in infants. *Pediatrics* 2011; 128:1236.

“Back to Sleep” campaign initiated in 1992 by the American Academy of Pediatrics (AAP).

Craniosynostosis. National Institute of Neurological Disorders and Stroke. Last reviewed July 25, 2022. [Craniosynostosis | National Institute of Neurological Disorders and Stroke \(nih.gov\)](https://www.ninds.nih.gov/health-information/disorders/craniosynostosis)

Baird LC. Klimo P Jr. Flannery AM. et al. Congress of Neurological Surgeons Systematic Review and Evidence-Based Guideline for the Management of Patients with Positional Plagiocephaly: The Role of Physical Therapy. *Neurosurgery* 2016; 79:E630.

Medical Equipment and Supply Dealer Manual. Iowa Department of Human Services. Revised July 30, 2021. p. 37.

Plagiocephaly – Medscape.

Development of utilization management criteria may also involve research into other state Medicaid programs, other payer policies, consultation with experts and review by the Medicaid Clinical Advisory Committee (CAC). These sources may not be referenced individually unless they are specifically published and are otherwise applicable to the criteria at issue.

Criteria Change History

Change Date	Changed By	Description of Change	Version
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1/19/2024	CAC	Annual review.	2
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Signature

William (Bill) Jagiello, DO



Change Date	Changed By	Description of Change	Version
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1/20/2023	CAC	Criteria implementation.	1
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Signature

William (Bill) Jagiello, DO

