

Medical Necessity Guideline: Cranial Molding Orthoses (CMO)	Creation Date: 10/31/2025	Review Date: 10/31/2025	Effective Date: 1/27/2026
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PURPOSE:

To define authorization requirements for Cranial Molding Orthoses (CMO) for children diagnosed with craniosynostosis or positional skull deformities (plagiocephaly, brachycephaly, or dolichocephaly), in accordance with Texas Medicaid and Children’s Health Insurance Program (CHIP) policy and Texas House Bill 426 (89th Legislature, 2025).

DEFINITIONS:

Cosmetic

The definition of cosmetic, as it applies to cranial molding orthosis, includes surgery or other services used primarily to improve appearance, rather than to restore or correct significant deformity resulting from disease, trauma, congenital or developmental anomalies, or a previous therapeutic process.

Cranial Molding Orthoses

Cranial molding orthoses, also known as cranial remolding helmets or cranial orthoses, are custom-fabricated medical devices designed to correct abnormal head shapes in infants by redirecting cranial growth.

Craniosynostosis

Craniosynostosis is a congenital craniofacial disorder characterized by the premature fusion of one of more cranial sutures, resulting in abnormal skull shape and potentially restricting brain growth.

Plagiocephaly

Plagiocephaly refers to an asymmetrical distortion of the infant skull, most commonly resulting from external forces (deformational or positional plagiocephaly) rather than premature suture fusion.

Brachycephaly

Brachycephaly is characterized by a symmetric, abnormally wide and short head shape, typically due to bilateral occipital flattening.

Dolichocephaly

Dolichocephaly is characterized by an increased anteroposterior dimension relative to the biparietal dimension, typically due to positional molding (such as occurs in NICU infants) rather than craniosynostosis.

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GUIDELINE:

This Guideline is intended to establish the process of determining medical necessity when a cranial molding orthosis is requested for a member suspected of having craniosynostosis or positional skull deformities (e.g., plagiocephaly, brachycephaly, or dolichocephaly) in accordance with Texas Medicaid and Children’s Health Insurance Program (CHIP) policy and Texas House Bill 426 (89th Legislature, 2025). This guideline is based on evidence, professional guidelines, clinical effectiveness data, and best practices to inform decision-making on utilization management coverage criteria. It is intended as a supplement to medically necessary expert opinion.

PRIOR AUTHORIZATION AND DOCUMENTATION REQUIREMENTS:

- CMO Therapy is considered medically necessary for children 3 months through 18 months of age who have a documented diagnosis of **Craniosynostosis** (single or multi-sutural, post-surgical as appropriate)
- CMO therapy may be considered medically necessary for children who meet **ALL** of the following criteria:
 - Positional skull deformity: **Deformational Plagiocephaly, Brachycephaly, or Dolichocephaly**, as defined by clinical examination and objective anthropometric measurement. ^[1, 3]
 - Child is **≥3 months and ≤ 18 months** at initiation of CMO therapy. ^[1-2, 20-21]
 - Documented failure to respond following **at least 2 months** of conservative therapy, including:
 - Repositioning strategies
 - Physical therapy (especially for associated torticollis)
 - Parental education and stretching exercises
 - “Minimum Daily Therapy” - Expert guidelines recommend **at least 15-30 minutes of supervised awake tummy time daily by 7 weeks of age**, combined with regular repositioning and, if indicated, physical therapy sessions typically held weekly. ^[22-23]
 - “Failure to respond” is defined as **no clinically significant improvement** in cranial shape, as measured by objective criteria. ^[1-2, 20]
 - Documented PRE-therapy (2-month, conservative) objective anthropometric measurements
 - Documented POST-therapy (2-month, conservative) objective anthropometric measurements

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- **Severity Thresholds (Objective Anthropometric Criteria):**
 - **Deformational Plagiocephaly:**
 - Asymmetry confirmed by a right/left discrepancy of **>6 mm** in a craniofacial anthropometric measurement. ^[21]
 - AND/OR**
 - **Deformational Brachycephaly:**
 - Brachycephalic or dolichocephalic disproportion in the comparison of head length to head width confirmed by a Cephalic index **≥2 SD above or below** the mean. ^[21]
- Documentation Requirements
 - Detailed clinical notes supporting diagnosis, age, and failed conservative therapy
 - Anthropometric measurements (as described above under ‘Severity Thresholds’) PRE- and POST-Therapy
 - Description of conservative therapy modalities and duration
 - Specialist referral notes (if applicable)
- Exclusions
 - Children <3 months or >18 months at initiation
 - Mild deformities not meeting objective thresholds
 - Lack of documented conservative therapy trial
 - Lack of documented objective anthropometric measurement
 - Deformities due to other causes (e.g., microcephaly, hydrocephalus) unless associated with the above diagnoses
- Benefit Limit
 - The benefit limitation is one device per lifetime. ^[24]
 - Additional devices beyond the one device per lifetime benefit may be considered with documentation of all the following:
 - The initial device was obtained to treat synostotic plagiocephaly
 - Treatment with the device has been effective
 - The new device is needed due to growth

NON-COVERED SERVICES:

The CMO is not for cosmetic purposes (see “cosmetic” definition as stated above).

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BACKGROUND:

Cranial molding orthoses are devices that apply gentle, passive pressure to prominent areas of an infant's skull while allowing growth in flattened regions. They are intended to improve cranial symmetry and proportion. Indications for this type of orthosis include moderate to severe deformational plagiocephaly or brachycephaly, and as adjunct therapy following surgery for craniosynostosis in select cases.^[1-3, 5, 6-7] The American Academy of Pediatrics and the American Cleft Palate-Craniofacial Association recognize cranial molding orthoses as an effective intervention for infants who have failed conservative management or present with significant cranial asymmetry.^[1, 3]

Craniosynostosis, on the other hand, may take the form of being isolated (non-syndromic) or associated with a variety of genetic syndromes (syndromic). Clinical manifestations depend on the specific suture(s) involved: sagittal synostosis leads to scaphocephaly (elongated head), metopic synostosis to trigonocephaly (triangular forehead), and coronal or lambdoid synostosis to various forms of plagiocephaly or brachycephaly. Early diagnosis is critical to prevent complications such as increased intracranial pressure, neurocognitive impairment, and visual or auditory deficits. Surgical correction is the mainstay of treatment, with adjunct orthotic therapy considered in select cases.^[1, 8-10]

Deformational plagiocephaly typically presents as unilateral occipital flattening, often accompanied by anterior displacement of the ipsilateral ear and facial asymmetry. The condition is most prevalent in infants aged 4-12 weeks and is associated with supine sleep positioning, torticollis, and limited spontaneous movement. Differentiation from synostotic plagiocephaly (due to craniosynostosis) is essential, as the latter requires surgical management. Most cases of deformational plagiocephaly are managed conservatively, but moderate to severe cases may also benefit from cranial molding orthoses.^[1, 3-4, 6-8, 11]

The most common etiology of brachycephaly is persistent external pressure on the posterior skull, often associated with supine sleep positioning. Deformational brachycephaly is distinguished from synostotic forms (e.g., bilateral coronal or lambdoid craniosynostosis) by the absence of suture fusion and associated midface hypoplasia. Management is usually conservative, but cranial molding orthoses are indicated for moderate to severe cases or those unresponsive to repositioning and physical therapy.^[1, 3-4, 6-7]

The most common etiology of dolichocephaly is persistent lateral positioning on the immature skull, particularly in preterm infants hospitalized in the NICU (so-called "NICUcephaly"). Deformational dolichocephaly is distinguished from scaphocephaly due to sagittal craniosynostosis by the absence of a midline sagittal ridge, independent movement of parietal bones on examination, and lack of suture fusion on imaging.^[1] The condition is characterized by

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an elongated head shape without biparietal narrowing, typically defined by a cephalic index $\leq 82\%$.^[15] Management is usually conservative with repositioning strategies and developmental monitoring, as dolichocephaly in preterm infants typically improves over time as the infant gains developmental milestones and spends less time in fixed positions.^[1, 25] Cranial molding orthoses are generally not indicated for isolated dolichocephaly, as this positional deformity resolves spontaneously in most cases, though infants should be monitored for possible motor delays given the association between dolichocephaly at 32-34 weeks postmenstrual age and increased need for physical therapy services.^[25]

Quantifying cranial asymmetry is important because it enables objective assessment of severity, guides treatment decisions, monitors progression or response to therapy, and facilitates standardized communication among clinicians. These objective measurements are critical for distinguishing between normal variation and clinically significant deformity, which can impact management strategies such as the need for orthotic helmet therapy or referral to a craniofacial team. The following are the critical measurements Driscoll Health Plan will use in determining cranial asymmetry and guiding medical necessity in the use of cranial molding orthoses in infants:

- A. Cranial Vault Asymmetry Index (CVAI)** is a percentage quantifying cranial asymmetry, primarily used for plagiocephaly assessment. To measure, use calipers to determine the two oblique cranial diagonals at 30 degrees from the midline (from the frontozygomaticus point to the opposite occipital point). The formula is:
$$\text{CVAI} = ((\text{Long Diagonal} - \text{Short Diagonal}) / \text{Long Diagonal}) \times 100$$
^[1, 12]
- B. Transcranial Diagonal Difference** is the absolute difference (in millimeters or centimeters) between the two oblique cranial diagonals measured as above.^[1, 13-14]
- C. Cephalic Index (CI)** is the ratio of cranial width (biparietal diameter) to cranial length (anteroposterior diameter), multiplied by 100. The formula is:
$$\text{CI} = (\text{Cranial Width} / \text{Cranial Length}) \times 100$$
^[1, 13, 15-16]
- D. Brachycephalic Disproportion** refers to a head shape with a cephalic index above the established upper limit (e.g., $\text{CI} \geq 85-90\%$), indicating a head that is abnormally wide relative to its length.^[1, 15-16]
- E. Dolichocephalic Disproportion** refers to a head shape with a cephalic index below the established lower limit (e.g., $\text{CI} \leq 76-78\%$), indicating a head that is abnormally long relative to its width.^[1, 17-18]

NOTE: All measurements listed above should be performed with the infant in a neutral supine position using calipers or validated 3D imaging, ensuring consistent anatomical landmarks as described above.^[1, 13, 19]

PROVIDER CLAIMS CODES:

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CPT Code	Description
S1040	Cranial remolding orthosis, pediatric, rigid, with soft interface material, custom fabricated, includes fitting and adjustment(s)

ICD 10 Code	Description
Q67.2	Dolichocephaly <ul style="list-style-type: none"> • Excludes sagittal craniosynostosis Q75.01
Q67.3	Plagiocephaly <ul style="list-style-type: none"> • Excludes: <ul style="list-style-type: none"> ○ coronal craniosynostosis Q75.02 ○ lambdoid craniosynostosis Q75.04
Q75.0	Craniosynostosis <ul style="list-style-type: none"> • Complex craniosynostosis • Craniosynostosis syndrome • Craniosynostosis, complex • Craniosynostosis, simple • Simple craniosynostosis
Q75.00	Craniosynostosis unspecified <ul style="list-style-type: none"> • Craniosynostosis NOS
Q75.058	Other multi-suture craniosynostosis <ul style="list-style-type: none"> • Other multi-suture craniosynostosis excluding: <ul style="list-style-type: none"> ○ coronal (suture on top of skull) craniosynostosis, bilateral Q75.022 ○ lambdoid (suture on back of skull) craniosynostosis, bilateral Q75.04
Q75.009	Craniosynostosis unspecified <ul style="list-style-type: none"> • Imperfect fusion of the skull
Q75.01	Sagittal craniosynostosis <ul style="list-style-type: none"> • Non-deformational dolichocephaly • Non-deformational scaphocephaly/sagittal craniosynostosis (sagittal suture along top of skull) • Excludes plagiocephaly Q67.3
Q75.02	Coronal craniosynostosis <ul style="list-style-type: none"> • Non-deformational anterior plagiocephaly • Excludes dolichocephaly Q67.2
Q75.03	Metopic craniosynostosis <ul style="list-style-type: none"> • Trigonocephaly (metopic suture in the middle of the forehead)

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Q75.04	Lambdoid craniosynostosis <ul style="list-style-type: none"> • Non-deformational posterior plagiocephaly • Excludes dolichocephaly Q67.2
Q75.001	Craniosynostosis unspecified, unilateral
Q75.002	Craniosynostosis unspecified, bilateral
Q75.021	Coronal craniosynostosis unilateral <ul style="list-style-type: none"> • Non-deformational anterior plagiocephaly
Q75.022	Coronal craniosynostosis bilateral <ul style="list-style-type: none"> • Non-deformational brachycephaly
Q75.029	Coronal craniosynostosis unspecified
Q75.041	Lambdoid craniosynostosis, unilateral
Q75.042	Lambdoid craniosynostosis, bilateral
Q75.049	Lambdoid craniosynostosis, unspecified
Q75.05	Multi-suture craniosynostosis
Q75.08	Other single-suture craniosynostosis

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<i>Document Owner</i>	<i>Organization</i>	<i>Department</i>
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