

Medical Policy:

Cranial Remodeling Band

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Background:

The cranial orthosis, either a helmet or a band, can progressively mold the shape of the cranium. This document addresses the use of the adjustable band or helmet as a post-operative treatment of craniosynostosis or as non-operative treatment for non-synostotic **plagiocephaly** (asymmetrically shaped head) and **brachycephaly** (abnormally shaped head; shortened in antero-posterior dimension without asymmetry) in infants

Plagiocephaly (an asymmetrical head shape, i.e. a flat spot on the side or back of head) is most often the result of an infant spending extended periods of time on their back, typically during sleep. Plagiocephaly can also occur as a feature of other disorders (e.g., craniofacial disorders, torticollis, cervical anomalies) and is categorized as either positional or synostotic (premature union of cranial sutures). Although 1 in 300 infants exhibit variable degrees of plagiocephaly, true sutural synostosis, which interferes with cranium development and may cause increased intracranial pressure, occurs in only 0.4 to 1 per 1000 live births. This does not apply to members with diagnosis of **brachiocephaly** (flat, wide skull).

Positional plagiocephaly is treated conservatively and many cases do not require any treatment as the condition may resolve spontaneously when the infant begins to sit up. When the deformity is moderate or severe *and a trial of repositioning the infant has failed*, a pediatric neurologist, neurosurgeon or other appropriate specialist in craniofacial deformities may prescribe a cranial remodeling band to remodel the misshapen head.

Examples of brands of cranial remodeling bands and helmets include the DOC BAND®, Gillette Children's Craniocap, and the STARband™ Cranial Headband.

Average treatment time with the cranial remodeling band or helmet is four and a half months.

Policy:

VCHCP considers the use of a cranial remodeling band as durable medical equipment medically necessary for moderate to severe positional head deformities associated with premature birth, restrictive intrauterine positioning, cervical abnormalities, birth trauma, torticollis (shortening of the sternocleidomastoid muscle) and sleeping positions in children when banding is initiated at 4 to 12 months of age and the following conditions are met:

1. A 2-month trial of conservative therapy consisting of repositioning the child's head such that the child lies opposite to the preferred position, has failed to improve the deformity and is judged to be unlikely to do so, *and*

2. *One of the following must be met:*
- a. Anthropometric data (measurements used to evaluate abnormal head shape by measuring the distance in mm from one pre-designated point on the face or skull to another, comparing the right and left sides) verifies that a moderate to severe plagiocephaly is documented by a physician experienced in such measurement. (Note: These measurements are generally obtained by the orthotist fitting the band or helmet.) The most significant measurements used in this initial evaluation are skull base asymmetry, cranial vault asymmetry, orbitotragial depth, and cephalic index.
 - b. A difference of asymmetry greater than 6 mm between anthropometric measurements in *any* of the anthropometric data in the first column of the following table warrants coverage of **a four month** trial of orthotic banding to correct the craniofacial deformity:

Plagiocephaly (See Diagram Below):

| Anthropometric Data | Measurement | Measures |
|---------------------------------------|--|--|
| 1. Cranial base (sn-t on same side) | from right and left subnasal point (sn) to tragus (t) | measures maxillary depth or right and left morphological face height |
| 2. Cranial vault (fz R-euL, fz L-euR) | from frontozygomatic point (fz) on one side of face to euryon (eu) | measures cranial vault asymmetry |
| 3. Orbitotragial depth (ex-t, R, L) | from exocanthion point (ex) to tragus (t) | measures orbito-tragion depth (exocanthion) |

- c. Brachcephaly:
- d. For **brachycephaly** evaluation, a cephalic index 2 standard deviations below mean (head narrow for its length) or 2 standard deviations above mean (head wide for its length) warrants coverage of a trial of orthotic banding to correct the craniofacial deformity in a child after 4 months of age and before 12 months of age.

Brachycephaly (See Diagram Below):

| | | |
|-------------------------|---|---|
| 4. Head width (eu - eu) | from euryon (eu) on one side of head to euryon (eu) on the other side | measures greatest transverse diameter or maximal head width |
| 5. Head length (g-op) | from glabella point (g) to opisthocranion (op) | measures maximal head depth or length |

- a.
b. Cephalic Index:

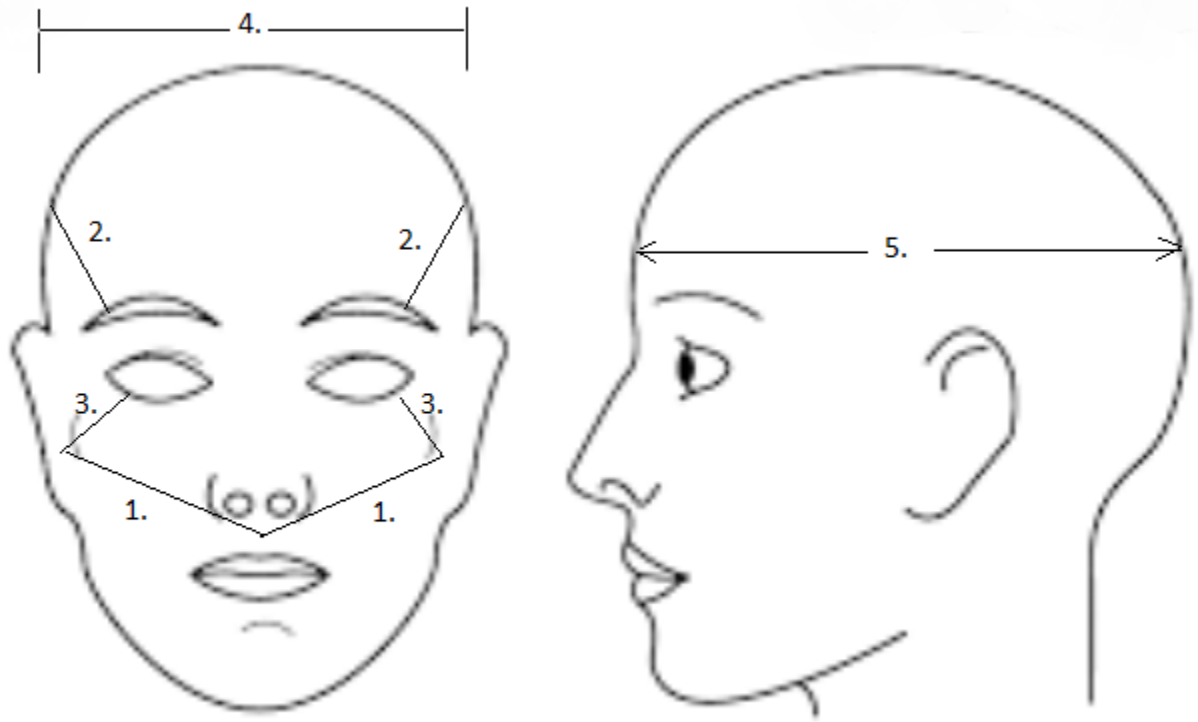
| | |
|------------------|--|
| Cephalic index = | $\frac{\text{Head width (eu - eu)} \times 100}{\text{Head length (g - op)}}$ |
| | |

- c.

| Sex | Age | -2SD | -1SD | Mean | +1SD | +2SD |
|--------|---------------------|------|------|------|------|------|
| Male | 16 days to 6 months | 63.7 | 68.7 | 73.7 | 78.7 | 83.7 |
| | 6 - 12 months | 64.8 | 71.4 | 78.0 | 84.6 | 91.2 |
| Female | 16 days to 6 months | 63.9 | 68.6 | 73.3 | 78.0 | 82.7 |
| | 6-12 months | 69.5 | 74.0 | 78.5 | 83.0 | 87.5 |

- d.

DIAGRAM:



A. **Attachments:** None

B. **History:**

Reviewer/Author: Cynthia Wilhelmy, MD; Date: 01/02/07

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|---------------|--------------------------|--|-----------------------|
| 2/9/17 | No | Catherine Sanders, MD; Robert Sterling, MD | Annual Review |
| 2/8/18 | No | Catherine Sanders, MD; Robert Sterling, MD | Annual Review |
| 2/14/19 | No | Catherine Sanders, MD; Robert Sterling, MD | Annual Review |
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| 2/11/21 | No | Howard Taekman, MD; Robert Sterling, MD | Annual Review |
| 2/17/22 | Yes | Howard Taekman, MD; Robert Sterling, MD | Formatting changes |

C. References:

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