Cranial orthotic devices are used in infants for the treatment of positional plagiocephaly, deformation of the head that results from external pressure applied to the soft infant skull. The deformity can begin in utero but most commonly is associated with infants sleeping or lying on their backs, especially if the head is turned in the same direction for long periods of time. If detected during the first few months of life, frequent repositioning of the baby’s head combined with prone positioning during waking hours can correct the condition in the majority of children. In some babies, congenital muscular torticollis, or weakness of the neck muscles, can be a predisposing factor for development of positional plagiocephaly. For these children, physical therapy and massage to lengthen the neck muscles may be
required in addition to repositioning. If the cranial asymmetry is not detected early or if repositioning therapy is unsuccessful, then cranial orthotic devices, such as adjustable head bands or plastic helmets, can be used to gradually mold the infant’s skull back into place over a period of weeks or several months.

Positional plagiocephaly must be differentiated from craniosynostosis, a condition in which one or more of the sutures of an infant’s skull close prematurely, resulting in a misshapen head that grows progressively more deformed as the child grows. True craniosynostosis occurs much less frequently than positional plagiocephaly and is currently estimated to affect less than 3 infants per 100,000 births. Craniosynostosis usually requires surgical treatment to reshape the bone in the affected area, while surgical treatment is only rarely indicated for positional plagiocephaly. In the past, many infants with cranial asymmetry were incorrectly diagnosed with craniosynostosis, and only recently have neurosurgeons and craniofacial surgeons begun to recognize that most of these individuals do not require surgery, especially if the condition is diagnosed during the first year of life.1

Most infants improve if the appropriate maneuvers are conducted during a 2-3 month time period. These include:

- Positioning the infant so the rounded side of the head is placed dependent against the mattress during sleep
- Positioning the child in the crib to look away from the flattened side to see parents and others in the room
- Placing the infant in the prone position during wakeful periods
- Neck exercises at each diaper change to prevent or treat torticollis

**Anthropometric Evaluation**

Anthropometric data, or the 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, see diagram below) must verify that a moderate to severe plagiocephaly is documented by an experienced physician. The most significant measurements are skull base asymmetry, cranial vault asymmetry, orbitotragial depth and cephalic index.

A difference of asymmetry greater than 6 mm between anthropometric measurements (see diagram above) in any of the anthropometric data in the first column of the following table warrants coverage of a trial of orthotic banding to correct the craniofacial deformity:

<table>
<thead>
<tr>
<th>Anthropometric Data</th>
<th>Measurement</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cranial base (sn-t on same side)</td>
<td>from right and left subnasal point (sn) to tragus (t)</td>
<td>measures maxillary depth or right and left morphological face height</td>
</tr>
<tr>
<td>Cranial vault (fz R-euL, fz L-euR)</td>
<td>from frontozygomaticus point (fz) on one side of face to euryon (eu)</td>
<td>measures cranial vault asymmetry</td>
</tr>
<tr>
<td>Orbitotragial depth (ex-t, R, L)</td>
<td>from exocanthion point (ex) to tragus (t)</td>
<td>measures orbito-tragion depth (exocanthion)</td>
</tr>
</tbody>
</table>

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.
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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

Head length (g-op) from glabella point (g) to opisthocranion (op) measures maximal head depth or length

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

<table>
<thead>
<tr>
<th>Sex</th>
<th>Age</th>
<th>-2SD</th>
<th>-1SD</th>
<th>Mean</th>
<th>+1SD</th>
<th>+2SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>16 days to 6 months</td>
<td>63.7</td>
<td>68.7</td>
<td>73.7</td>
<td>78.7</td>
<td>83.7</td>
</tr>
<tr>
<td></td>
<td>6 - 12 months</td>
<td>64.8</td>
<td>71.4</td>
<td>78.0</td>
<td>84.6</td>
<td>91.2</td>
</tr>
<tr>
<td>Female</td>
<td>16 days to 6 months</td>
<td>63.9</td>
<td>68.6</td>
<td>73.3</td>
<td>78.0</td>
<td>82.7</td>
</tr>
<tr>
<td></td>
<td>6-12 months</td>
<td>69.5</td>
<td>74.0</td>
<td>78.5</td>
<td>83.0</td>
<td>87.5</td>
</tr>
</tbody>
</table>

The American Academy of Pediatrics (AAP) issued an update in 2011 to a 2003 clinical report regarding management for the prevention of positional skull deformities in infants.² Highlights from the report include the following recommendations:

- Offering counseling to new parents during the first four weeks of age which include instruction on laying the infant down to sleep in the supine position, alternating positions (i.e., left and right occiputs).
- When awake and being observed, the infant should spend time in the prone position (“tummy time”) for at least 30 to 60 minutes/day.
- Monitor head shape closely until there is confidence that improvement will continue, usually when the infant is old enough to sit, crawl, and spend less time on his or her back and until any associated torticollis is completely corrected.
- Prolonged placement indoors in car safety seats and swings should be discouraged.

Additional highlights from the 2003 report include:

- If a deformational plagiocephaly is diagnosed, the AAP recommends mechanical adjustments, including positioning so that the rounded side of the head is placed against the mattress and a change in the layout of the room to cause a child to look away from the flattened side of the head to see parents or others in room.
- For torticollis, neck motion exercises are recommended. If these therapies prove unsuccessful, the AAP recommends visiting a neurosurgeon to ensure a proper diagnosis and direct subsequent management, including molding helmets and surgery. The AAP reports that the best response for helmets occurs in children aged 4 to 12 months due to the malleability of the infant skull. Surgery is only indicated when the deformities are severe and resistant to nonsurgical interventions.³

POSITION STATEMENT

Applicable To:
☑ Medicaid
☑ Medicare

Cranial remodeling with orthotic devices (helmets or bands) for members with moderate to severe positional (nonsynostotic) plagiocephaly is considered medically necessary when ALL of the following criteria are met:

1. Member has been diagnosed with a condition that occurs with plagiocephaly such as:
   - Premature birth; OR

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- Restrictive intrauterine positioning; OR
- Cervical abnormalities; OR
- Birth trauma; OR
- Torticollis (shortening of the sternocleidomastoid muscle); OR
- Sleeping positions

AND,

2. Remodeling is initiated at 4-12 months of age; AND

3. A 2-month trial of conservative therapy (repositioning of the head such that the child lies opposite to the preferred position) has failed to improve the deformity and is judged unlikely to do so; AND

4. There is photographic evidence supporting moderate to severe positional plagiocephaly; AND

5. There is documentation of EITHER of the following criteria*:
   - Cephalic index ± at least two standard deviations from the mean for the appropriate gender/age; OR
   - Asymmetry of 6 mm or more in ONE of the following measures:
     o Cranial vault; OR
     o Skull base; OR
     o Orbitotragial depth

* See Background section for more information on these anthropometric measurements.

Cranial remodeling with orthotic devices (helmets or bands) for members with (754.0 or 756.0) synostotic plagiocephaly (craniosynostosis) is considered medically necessary following surgical correction.

CPT® Codes – No applicable codes.

Covered HCPCS Codes This list may not be all inclusive.
A8000 Helmet, protective, soft, prefabricated includes all components and accessories
A8001 Helmet, protective, hard, prefabricated, includes all components and accessories
A8002* Helmet, protective, soft, custom fabricated, includes all components and accessories
A8003* Helmet, protective, hard, custom fabricated, includes all components and accessories
A8004 Soft interface for helmet, replacement only
L0112* Cranial cervical orthotic, congenital torticollis type, with or without soft interface material, adjustable range of motion joint, custom fabricated
L0113* Cranial cervical orthotic, torticollis type, with or without join, with or without soft interface material, pre-fabricated, includes fitting and adjustment.
S1040* Cranial remolding orthotic, pediatric, rigid with soft interface material, custom fabricated, includes fitting and adjustments

*Note: Covered when medically necessary and used to report custom fabricated cranial orthotic devices for cranial remolding.

Covered ICD-10-CM Diagnosis Codes (This list may not be all inclusive)
Q67.3 Plagiocephaly
Q75.0 Craniosynostosis
Q75.9 Congenital malformation of skull and face bones, unspecified

Secondary Diagnosis Codes Associated with Plagiocephaly
M43.6 Torticollis
M95.2 Other acquired deformity of head
M95.3 Acquired deformity of neck
M99.80 Other biomechanical lesions of head region
**REFERENCES**


**MEDICAL POLICY COMMITTEE HISTORY AND REVISIONS**

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<td>3/1/2018</td>
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</tr>
<tr>
<td>4/6/2017</td>
<td>Approved by MPC. Coding changes only.</td>
</tr>
<tr>
<td>12/1/2011</td>
<td>New template design approved by MPC.</td>
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<tr>
<td>8/12/2011</td>
<td>Approved by MPC. No changes.</td>
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