

Medical Coverage Policy | Cranial Orthoses (Adjustable) for Positional Plagiocephaly and Craniosynostoses



EFFECTIVE DATE: 02|03|2015

POLICY LAST UPDATED: 11|07|2017

OVERVIEW

Cranial orthoses are usually in the shape of an adjustable helmet or band that progressively molds the shape of the infant cranium by applying corrective forces to prominences while leaving room for growth in the adjacent flattened areas. A cranial orthotic device may be requested for the treatment of positional plagiocephaly or post-surgical synostosis in pediatric patients.

PRIOR AUTHORIZATION

Prior authorization review is not required.

POLICY STATEMENT

Blue CHip for Medicare and Commercial

Use of an adjustable cranial orthosis may be considered medically necessary for cranial reshaping due to Synostosis or Plagiocephaly. All other indications are not medically necessary, as there is no peer reviewed scientific data to support its use.

MEDICAL CRITERIA

Not applicable.

BACKGROUND

An asymmetrically shaped head may be synostotic or nonsynostotic. Synostosis, defined as premature closure of the sutures of the cranium, may result in functional deficits secondary to increasing intracranial pressure in an abnormally or asymmetrically shaped cranium. The type and degree of craniofacial deformity depends on the type of synostosis. The most common is scaphocephaly, which describes a narrowed and elongated head resulting from synostosis of the sagittal suture, while premature fusion of the metopic suture results in a triangular shape of the forehead known as trigonocephaly.

Unilateral synostosis of the coronal suture results in an asymmetric distortion of the forehead termed plagiocephaly, and fusion of both coronal sutures results in brachycephaly. Combinations of these may also occur. Synostotic deformities associated with functional deficits are addressed by surgical remodeling of the cranial vault. The remodeling (reshaping) is accomplished by opening and expanding the abnormally fused bone.

Plagiocephaly without synostosis, also called positional or deformational plagiocephaly, can be secondary to various environmental factors including, but not limited to, premature birth, restrictive intrauterine environment, birth trauma, torticollis, cervical anomalies, and sleeping position. Positional plagiocephaly typically consists of right or left occipital flattening with advancement of the ipsilateral ear and ipsilateral frontal bone protrusion, resulting in visible facial asymmetry. Occipital flattening may be self-perpetuating, in that once it occurs, it may be increasingly difficult for the infant to turn and sleep on the other side. Bottle-feeding, a low proportion of “tummy time” while awake, multiple gestations, and slow achievement of motor milestones may contribute to positional plagiocephaly.

The incidence of plagiocephaly has increased rapidly in recent years; this is believed to be a result of the “Back to Sleep” campaign recommended by the American Academy of Pediatrics (AAP), in which a supine sleeping position is recommended to reduce the risk of sudden infant death syndrome (SIDS). It is hoped that increasing awareness of identified risk factors and early implementation of good practices will reduce the

development of deformational plagiocephaly. It is estimated that about two-thirds of cases may correct spontaneously after regular changes in sleeping position or following physiotherapy aimed at correcting neck muscle imbalance. A cranial orthotic device is usually requested after a trial of repositioning fails to correct the asymmetry, or if the child is too mobile for repositioning.

For other conditions not mentioned in this policy, use of adjustable cranial remolding orthosis is not medically necessary as there are not any studies that have demonstrated its use is effective.

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Evidence of Coverage, Subscriber Agreement for applicable durable medical equipment benefits/coverage.

CODING

Blue CHiP for Medicare and Commercial

The following HCPCS code is medically necessary when filed with a covered diagnosis:

S1040 Cranial remolding orthosis, rigid, with soft interface material, custom fabricated, includes fitting and adjustment(s).

ICD 10

Q67.3 or Q75.0

RELATED POLICIES

None

PUBLISHED

Provider Update, December 2017

Provider Update January 2017

Provider Update April 2015

REFERENCES:

1. Persing JA. MOC-PS(SM) CME article: management considerations in the treatment of craniosynostosis. *Plast Reconstr Surg.* Apr 2008;121(4 Suppl):1-11. PMID 18379381
2. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Cranial Orthosis for Plagiocephaly without Synostosis. *TEC Assessments.* 1999;Volume 14:Tab 21.
3. Kaufman BA, Muszynski CA, Matthews A, et al. The circle of sagittal synostosis surgery. *Semin Pediatr Neurol.* Dec 2004;11(4):243-248. PMID 15828707
4. Stevens PM, Hollier LH, Stal S. Post-operative use of remoulding orthoses following cranial vault remodelling: a case series. *Prosthet Orthot Int.* Dec 2007;31(4):327-341. PMID 18050005
5. Jimenez DF, Barone CM, Cartwright CC, et al. Early management of craniosynostosis using endoscopic-assisted strip craniectomies and cranial orthotic molding therapy. *Pediatrics.* Jul 2002;110(1 Pt 1):97-104. PMID 12093953
6. Jimenez DF, Barone CM. Early treatment of anterior calvarial craniosynostosis using endoscopic-assisted minimally invasive techniques. *Childs Nerv Syst.* Dec 2007;23(12):1411-1419. PMID 17899128
7. Jimenez DF, Barone CM. Endoscopic technique for sagittal synostosis. *Childs Nerv Syst.* Sep 2012;28(9):1333-1339. PMID 22872245
8. Jimenez DF, Barone CM. Multiple-suture nonsyndromic craniosynostosis: early and effective management using endoscopic techniques. *J Neurosurg Pediatr.* Mar 2010;5(3):223-231. PMID 20192637
9. Gociman B, Marengo J, Ying J, et al. Minimally invasive strip craniectomy for sagittal synostosis. *J Craniofac Surg.* May 2012;23(3):825-828. PMID 22565892
10. Honeycutt JH. Endoscopic-assisted craniosynostosis surgery. *Semin Plast Surg.* Aug 2014;28(3):144-149. PMID 25210508
11. Shah MN, Kane AA, Petersen JD, et al. Endoscopically assisted versus open repair of sagittal craniosynostosis: the St. Louis Children's Hospital experience. *J Neurosurg Pediatr.* Aug 2011;8(2):165-170. PMID 21806358

12. Chan JW, Stewart CL, Stalder MW, et al. Endoscope-assisted versus open repair of craniosynostosis: a comparison of perioperative cost and risk. *J Craniofac Surg.* Jan 2013;24(1):170-174. PMID 23348279
13. van Wijk RM, van Vlimmeren LA, Groothuis-Oudshoorn CG, et al. Helmet therapy in infants with positional skull deformation: randomised controlled trial. *BMJ.* 2014;348:g2741. PMID 24784879
14. McGarry A, Dixon MT, Greig RJ, et al. Head shape measurement standards and cranial orthoses in the treatment of infants with deformational plagiocephaly. *Dev Med Child Neurol.* Aug 2008;50(8):568-576. PMID 18754893
15. Mulliken JB, Vander Woude DL, Hansen M, et al. Analysis of posterior plagiocephaly: deformational versus synostotic. *Plast Reconstr Surg.* Feb 1999;103(2):371-380. PMID 9950521
16. Loveday BP, de Chalain TB. Active counterpositioning or orthotic device to treat positional plagiocephaly? *J Craniofac Surg.* Jul 2001;12(4):308-313. PMID 11482615
17. Xia JJ, Kennedy KA, Teichgraber JF, et al. Nonsurgical treatment of deformational plagiocephaly: a systematic review. *Arch Pediatr Adolesc Med.* Aug 2008;162(8):719-727. PMID 18678803
18. Graham JM, Jr., Gomez M, Halberg A, et al. Management of deformational plagiocephaly: repositioning versus orthotic therapy. *J Pediatr.* Feb 2005;146(2):258-262. PMID 15689920
19. Kluba S, Kraut W, Calgeer B, et al. Treatment of positional plagiocephaly--helmet or no helmet? *J Craniomaxillofac Surg.* Jul 2014;42(5):683-688. PMID 24238984
20. Couture DE, Crantford JC, Somasundaram A, et al. Efficacy of passive helmet therapy for deformational plagiocephaly: report of 1050 cases. *Neurosurg Focus.* Oct 2013;35(4):E4. PMID 24079783
21. Fowler EA, Becker DB, Pilgram TK, et al. Neurologic findings in infants with deformational plagiocephaly. *J Child Neurol.* Jul 2008;23(7):742-747. PMID 18344457
22. Panchal J, Amirshaybani H, Gurwitch R, et al. Neurodevelopment in children with single-suture craniosynostosis and plagiocephaly without synostosis. *Plast Reconstr Surg.* Nov 2001;108(6):1492-1498; discussion 1499-1500. PMID 11711916
23. Miller RI, Clarren SK. Long-term developmental outcomes in patients with deformational plagiocephaly. *Pediatrics.* Feb 2000;105(2):E26. PMID 10654986
24. Shamji MF, Fric-Shamji EC, Merchant P, et al. Cosmetic and cognitive outcomes of positional plagiocephaly treatment. *Clin Invest Med.* 2012;35(5):E266. PMID 23043707
25. Tamber MS, Nikas D, Beier A, et al. The Role of Cranial Molding Orthosis (Helmet) Therapy. 2016; https://www.cns.org/guidelines/guidelines-management-patients-positional-plagiocephaly/Chapter_5. Accessed August 10, 2017.
26. Tamber MS, Nikas D, Beier A, et al. Guidelines: Congress of Neurological Surgeons systematic review and evidence-based guideline on the role of cranial molding orthosis (helmet) therapy for patients with positional plagiocephaly. *Neurosurgery.* Nov 2016;79(5):E632-E633. PMID 27759675
27. National Institute of Neurological Disorders and Stroke (NINDS). Craniosynostosis Information Page. n.d.; <https://www.ninds.nih.gov/Disorders/All-Disorders/Craniosynostosis-Information-Page>. Accessed August 2, 2017.
28. NHS Quality Improvement Scotland. The use of cranial orthosis treatment for infant deformational plagiocephaly. Evidence Note No. 16. 2007; http://www.healthcareimprovementscotland.org/programmes/medicines_and_technologies/archived_evidence_notes/evidence_note_16.aspx. Accessed August 2, 2017.
29. Persing J, James H, Swanson J, et al. Prevention and management of positional skull deformities in infants. American Academy of Pediatrics Committee on Practice and Ambulatory Medicine, Section on Plastic Surgery and Section on Neurological Surgery. *Pediatrics.* Jul 2003;112(1 Pt 1):199-202. PMID 12837890
30. Laughlin J, Luerssen TG, Dias MS, et al. Prevention and management of positional skull deformities in infants. *Pediatrics.* Dec 2011;128(6):1236-1241. PMID 22123884

CLICK THE ENVELOPE ICON BELOW TO SUBMIT COMMENTS

This medical policy is made available to you for informational purposes only. It is not a guarantee of payment or a substitute for your medical judgment in the treatment of your patients. Benefits and eligibility are determined by the member's subscriber agreement or member certificate and/or the employer agreement, and those documents will supersede the provisions of this medical policy. For information on member-specific benefits, call the provider call center. If you provide services to a member which are determined to not be medically necessary (or in some cases medically necessary services which are non-covered benefits), you may not charge the member for the services unless you have informed the member and they have agreed in writing in advance to continue with the treatment at their own expense. Please refer to your participation agreement(s) for the applicable provisions. This policy is current at the time of publication; however, medical practices, technology, and knowledge are constantly changing. BCBSRI reserves the right to review and revise this policy for any reason and at any time, with or without notice. Blue Cross & Blue Shield of Rhode Island is an independent licensee of the Blue Cross and Blue Shield Association.

