

Deformidades craneales en el lactante

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Deformidades craneales

Craneosinostosis	Deformidades craneales posturales
Cierre precoz de las suturas	No sinostosis
Poco frecuentes	Frecuentes (desde 1992)
Presentes en el RN (6 semanas)	Intervalo libre (2-3 meses)
Empeoran	Mejoran
Tratamiento neuroquirúrgico	No tratamiento neuroquirúrgico
Aisladas Múltiples Sindrómicas	Plagiocefalia posterior postural más frecuente

Acerca de la plagiocefalia postural posterior

PLAGIOCEFALIA (PPP)

- Evolución natural de la PPP
- ¿Tiene influencia en el desarrollo psicomotor?
- ¿Hay evidencia de que las OC sean útiles?

ARCHIMEDES

Arch Dis Child 2008 Vol 93 N° 9

AMERICAN ACADEMY OF PEDIATRICS
Task Force on Infant Sleep Position and Sudden Infant Death Syndrome

Changing Concepts of Sudden Infant Death Syndrome: Implications for Infant Sleeping Environment and Sleep Position

ABSTRACT. The American Academy of Pediatrics has recommended since 1992 that infants be placed to sleep on their backs to reduce the risk of sudden infant death syndrome (SIDS). Since that time, the frequency of prone sleeping has decreased from >70% to <20% of US infants, and the SIDS rate has decreased by >40%. However, SIDS remains the highest cause of infant death beyond the neonatal period, and there are still several potentially modifiable risk factors. Although some of these factors have been known for many years (eg, maternal smoking), the importance of other hazards, such as soft bedding and covered cribs, has been demonstrated only recently. The present statement is intended to review the evidence about prone sleeping and other risk factors and to make recommendations about strategies that may be effective for further reducing the risk of SIDS. This statement is intended to consolidate and supplement previous statements made by this Task Force.

ABBREVIATION: SIDS, sudden infant death syndrome.

Sudden infant death syndrome (SIDS) is a cause of unknown cause. Deep breathers in the incidence of SIDS are responsible for more infant deaths than any other cause of death beyond the neonatal period.¹ SIDS is defined as:
"The sudden death of an infant under age 1 year, which remains unexplained after a complete autopsy, examination of the decedent's clinical history."²
The occurrence of SIDS is rare during the first 6 months of life, increases to a peak between 6 and 12 months of age, and then declines. The following have been consistently identified across independent risk factors for SIDS: prone sleep position, sleeping on a soft surface, maternal smoking during pregnancy, overheating, late or no prenatal care, young maternal age, prematurity and/or low birth weight, and male sex.³⁻¹¹ Blacks and American Indians have consistently higher rates, 2 to 3 times the national average. The risk factors with the greatest potential for modification include prone sleep position, sleeping on a soft surface, maternal smoking, and overheating. National campaigns aimed at reducing prone sleeping have resulted in a dramatic decrease in the incidence of SIDS in the United States (Fig 1) and numerous other countries.¹²⁻¹⁷ A Back to Sleep campaign was initiated in the United States in 1994, as a joint effort of the US Public Health Service, the American Academy of Pediatrics, the SIDS Alliance, and the Association of SIDS and Infant Mortality Programs (AASIM-CRIB). Despite the success of the current campaign, several modifiable risk factors remain that require increased attention. The purposes of this statement are to reemphasize the importance of infant positioning for sleep as an effective modifiable risk factor for SIDS, to focus increased attention on other modifiable environmental factors, to describe complications that may have arisen from modifying risk factors, and to make recommendations about other strategies that may be effective for further reducing the risk of SIDS.

MODIFIABLE RISK FACTORS

The original 1992 sleeping position recommendations from the American Academy of Pediatrics identified any nonprone position (ie, side or supine) as being optimum for reducing SIDS risk.³ Subsequent studies from England¹⁸ and New Zealand¹⁹ have shown that side sleeping has a slightly higher risk than the supine position, although the side-sleeping position still seems to be considerably safer than prone. The higher risk for SIDS among infants placed on their sides may relate to the relative instability of this position. Although infants placed on their sides usually roll to their backs, the risk of rolling to the prone position from the side is significantly greater than rolling to the prone position if on the back.^{18,19,20} Strategies to decrease prone sleeping in the United States from the American Academy of Pediatrics 1992;89:1120-1126

Pediatrics 2000;105:650-656

**Back to Sleep
SMSL ↓ 40%**

**American Academy of Pediatrics
Task Force on Positioning and Sudden Infancy Death
Syndrome. Positioning and SIDS.
Pediatrics 1992;89:1120-1126**

Plagiocefalia posicional posterior (PP)



Braquicefalia



Escafocefalia



Prevalencia de la plagiocefalia postural

PEDIATRICS[®]

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The Incidence of Positional Plagiocephaly: A Cohort Study
Aliyah Mawji, Arden Robinson Vollman, Jennifer Hatfield, Deborah A. McNeil and
Reginald Sauvé
Pediatrics 2013; 132:298; originally published online July 8, 2013;
DOI: 10.1542/peds.2012-3438

The online
440 RN
Incidencia a los 2-3 meses 46.8%
63.2% dcha
78.5% moderada

Factores de riesgo de PP

PEDIATRICS
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Risk Factors for Deformational Plagiocephaly at Birth and at 7 Weeks of Age: A Prospective Cohort Study
Leo A. van Vlimmeren, Yolanda van der Graaf, Margda M. Boere-Boonshamp, Monique P. L'Hoir, Paul J.M. Helders and Ronald H.H. Engelbert
Pediatrics 2007;119:e408-e418
DOI: 10.1542/peds.2006-2012

Risks Factors for Deformational Plagiocephaly at Birth and at 7 Weeks Of Age: A Prospective Cohort Study
LA van Klimeren 2007

380 RN a término sanos

AL NACIMIENTO
Varón
Primer hijo
Braquicefalia

NO PRONOSTICO A LAS 7 SEMANAS

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Plagiocefalias posturales

PRESENTES AL NACIMIENTO

EMBARAZOS MULTIPLES

PRIMIPARAS
PARTO PROLONGADO
FORCEPS-VENTOSA

TORTICOLIS

CEFALOHEMATOMA

NIÑOS
DCHAS

(presentación occipital anterior izda parto)

PREMATURIDAD

Incidence of Cranial Asymmetry in Healthy Newborns
Peitsch et al
Pediatrics 2002; 110: 72-78

MEJORAN EN 6 PRIMERAS SEMANAS

PP más frecuente

**INTERVALO LIBRE
2-3 MESES**

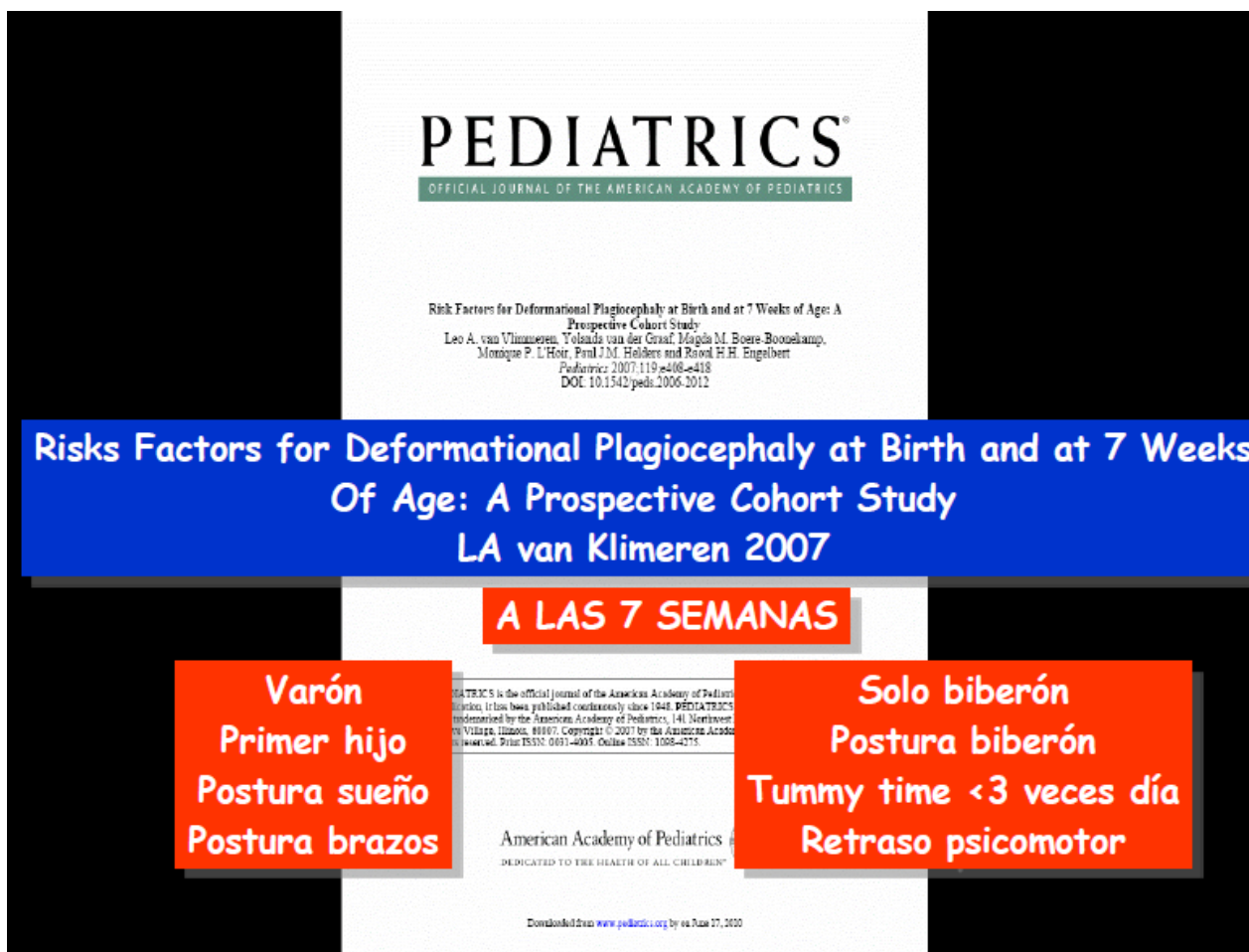
**POSTNATALES
PLAGIOCEFALIA POSTERIOR POSICIONAL**



**BACK to SLEEP
(AAP 1992) SMSL
TORTICOLIS CONGENITO**

**MAS FRECUENTE
NIÑOS
DCHAS
(posición de confort 80% Volpe)**

Factores de riesgo de PP



Plagiocefalia y retraso psicomotor

PLAGIOCEFALIA-RETRASO

Long-Term Developmental Outcomes in Patients With Deformational Plagiocephaly

Robert L Miller, MD[†], and Sterling K. Clarren, MD^{*§}||

PEDIATRICS Vol. 105 No. 5

¿Qué es primero la plagiocefalia o el retraso?

Neurodevelopmental delays in children with deformational plagiocephaly.

Kordestani RK, Patel S, Bard DE, Gurwichtch R, Panchal J. *Plast Reconstr Surg.* 2006; 117: 207-218.

Neurodevelopment in Children with Single-Suture Craniosynostosis and Plagiocephaly without Synostosis

Jayesh Panchal, M.B.B.S., F.R.C.S., M.B.A., Hamid Amirshaybani, M.D., Robin Gurwichtch, Ph.D., Vicki Cook, M.Ed., Paul Francel, M.D., Ph.D., Barbara Neas, Ph.D., and Norman Levine, M.D.

Oklahoma City, Okla

PLASTIC AND RECONSTRUCTIVE SURGERY, November 2001

¿Mejora el retraso con el tto?

Plagiocefalia y retraso psicomotor

Collett BR, Gray KE, Starr JR, Heike CL, Cunningham ML,
Development at age 36 months in children with deformational plagiocephaly.
Pediatrics. 2013; 131 (1): 109
Speltz ML.

No causa efecto
PP “marcador de riesgo”

Más literatura

- Alteraciones oculares-visuales (estrabismo, defectos campimétricos, defectos de refracción.
- Deformidades craenofaciales-mandibulares.
- Alteraciones PEAT.
- SAOS.

Concomitancia de plagiocefalia y problemas citados, pero no demuestran causa-efecto.

Mismos autores (Littlefield, Pomatto) con intereses.
Cranial Technologies Inc., Phoenix, Arizona.

Pediatra de Atención Primaria

AMERICAN ACADEMY OF PEDIATRICS

CLINICAL REPORT

Guidance for the Clinician in Tending Pediatric Care

John Persing, MD; Hector James, MD; Jack Swanson, MD; John Kethenkel, MD; Committee on Practice and Ambulatory Medicine; Section on Plastic Surgery; and Section on Neurological Surgery

Prevention and Management of Positional Skull Deformities in Infants

ABSTRACT. Cranial asymmetry may be present at birth or may develop during the first few months of life. Over the past several years, pediatricians have seen an increase in the number of children with cranial asymmetry, particularly unilateral flattening of the occiput. This increase likely is attributable to parents following the

birth. Most of these deformities improve spontaneously during the first few months of life if the infant does not rest his or her head on the flattened area of the skull. If the infant continues to rest his or her head on the flattened side of the occiput, an initially occipital plagiocephalic deformity may be perpetuated

by gravitational forces.² Occipital shape also may be caused by particularly lambdoid craniosyn-

dromy develops postnatally, an irregularly shaped skull shape may become flattened as a result of static supine position-

**Mayoría casos plagiocefalia
Diagnóstico y tto
PEDIATRA DE PRIMARIA**

**PREVENCIÓN TUMMY-TIME
PARALELOGRAMO
TORTICOLIS
MOMENTO APARICIÓN
NO RX
CAMBIOS POSTURALES
NEUROQ-ORTESIS**

ABBREVIATIONS: AAP, American Academy of Pediatrics; SIDS, sudden infant death syndrome.

Flattening of the occiput may be caused by mechanical factors acting on the head in utero or during early infancy. This common condition has been referred to by many names, such as benign positional molding, posterior plagiocephaly, occipital plagiocephaly, plagiocephaly without synostosis, and deformational plagiocephaly. Ancient civilizations intentionally deformed skulls by selective positioning and external plating. The term plagiocephaly is a Greek derivative meaning "oblique head."

Most skull deformities present at birth are the result of in utero or intrapartum molding. Associated conditions involve obstetric constraint, especially in cases of multiple birth infants, and birth injury associated with forceps or vacuum-assisted delivery.^{1,2} Infants born prematurely also have a greater incidence of skull deformity attributable to molding after

estimated to be as low as 48% of typical by 1 year, depending on the used to make the diagnosis of isolated lambdoid rare, estimated to be 0.043%.⁴

Beginning in 1992, there was an increase in the diagnosis of plagiocephaly with 1 million a 5-fold increase from increasing incidence of is likely related to the recommendation of the American Academy of Pediatrics that infants be placed on their to a lesser extent, sides has been linked with sudden infant death syndrome (SIDS). Since the AAP "Back to Sleep" campaign was launched in 1992, prone sleeping has decreased markedly and national SIDS rates have decreased more than 40%.⁵ Despite the increase in deformational plagiocephaly, it is clear that the supine sleep position recommendation should be followed for the vast majority of infants.

It is important to note the natural history of deformational plagiocephaly, which likely has existed for

The guidance in this report does not indicate an exclusion of cases of craniosynostosis or a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.
PEDIATRICS (ISSN 0031-9155). Copyright © 2003 by the American Academy of Pediatrics.

Pediatrics 2003;112:199-202

Actitud en la consulta ante las deformidades craneales

- Anamnesis (perinatal, desarrollo psicomotor).
- Momento de aparición, ¿presente RN? DD PPP y craneosinostosis lambdoidea.
- Importante que el craneo parezca desde arriba un paralelogramo.
- Exploración neurológica completa, PC. Verificar o descartar torticollis (RHB). Ecografía transfontanelar.
- Desarrollo psicomotor: normal o retraso (AT/RHB).

Actitud en la consulta ante las deformidades craneales

- Plagiocefalia: problema estético. Medidas posturales + fisioterapia (tortícolis). > 6 meses, si no mejora, Neurocirugía.
- Si se sospecha craneosinostosis, remitimos a Neurocirugía. No pedimos Rx de cráneo.

Enigmas y confusiones en el diagnóstico y tratamiento de la plagiocefalia posicional. Protocolo asistencial

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Servicios de ¹Neurocirugía Pediátrica, ²Cirugía Maxilofacial y ³Neurocirugía Hospital Infantil 12 de Octubre, Madrid, España.

Esparza et al
H 12 de Octubre. Madrid.

Introducción

La plagiocefalia posicional es actualmente la causa más frecuente de asistencia en una consulta de neurocirugía pediátrica, tanto en España como en todos los países occidentales. A ello se suma la considerable confusión existente en la literatura especializada en relación a aspectos como la terminología, conceptos fisiopatológicos, diagnósticos diferencial con la craneoestenosis y por supuesto en el tratamiento más adecuado que hay que seguir.

Objetivos

Intentar clarificar estos conceptos y además presentar un protocolo de asistencia que nos ha solicitado recientemente la Administración Sanitaria de la Comunidad de Madrid.

Protocolo

Pretende lograr la coordinación entre pediatras y neuroradiólogos, así como conseguir una información precisa de los principales datos de esta patología para los familiares, pediatras y neurocirujanos.

Material y métodos

Se establecen una serie de datos de consenso. Los niños son clasificados en 3 grados de deformación (leve, moderada y grave) según los índices medidas en fotografías digitales.

Además el proceso del diagnóstico y tratamiento tiene dos fases: fase pediátrica (hasta los 5 meses de edad) y fase neuroquirúrgica (desde los 5 meses de edad). Los niños serán enviados a neurocirugía después de haber sido tratados con tratamiento posicional y rehabilitación y solamente a partir de los 5 meses de edad.

Las razones de todo ello son explicadas en el protocolo que define también las funciones y responsabilidades de cada especialista.

Conclusiones

El tratamiento que se propone es escalonado, comenzando por las medidas posicionales y de rehabilitación, seguidas de ortesis craneal y en último lugar del tratamiento quirúrgico.

Palabras clave:

Plagiocefalia. Craneoestenosis. Tortícolis. Headband

DOUBTS AND CONFUSIONS IN THE DIAGNOSIS AND TREATMENT OF POSITIONAL PLAGIOCEPHALY. MANAGEMENT PROTOCOL

Introduction

Positional plagiocephaly is currently the most frequent cause of consultation at pediatric neurosurgical departments in Spain and other western countries. There is considerable confusion in the literature on the terminology and physiopathology of this deformity, as well as its differential diagnosis with true synostosis and treatment recommendations.

Objectives

To clarify these concepts and present a protocol for the management of positional plagiocephaly, which was recently requested by the Health Administration of the Community of Madrid.

Protocol

The protocol aims to achieve coordination among pediatricians and neurosurgeons, as well as to provide precise information on this deformity for parents, pediatricians and neurosurgeons.

Material and methods

Previous consensus was reached on a series of data. Infants were classified into three categories of deformity

Correspondencia: Dr. J. Esparza Rodríguez,
Servicio de Neurocirugía Pediátrica, Hospital Infantil 12 de Octubre.

Anales de Pediatría 2007; 67: 243-252

Recibido para publicación el 10 de mayo de 2007.


BMJ

BMJ 2014;348:g2741 doi: 10.1136/bmj.g2741 (Published 1 May 2014)

84 casos
Desaconsejan casco
Igual efectividad
Efectos secundarios

RESEARCH

Helmet therapy in infants with positional skull deformation: randomised controlled trial

 OPEN ACCESS

Renske M van Wijk *PhD candidate*¹, Leo A van Vlimmeren *senior researcher in paediatric physiotherapy*^{2,3}, Catharina G M Groothuis-Oudshoorn *biostatistician*¹, Catharina P B Van der Ploeg *epidemiologist*⁴, Maarten J IJzerman *professor*¹, Magda M Boere-Boonekamp *associate professor of youth health care*¹

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Helmets for positional skull deformities: A good idea, or not?

Probably not. Helmets appear to be no more effective than waiting for natural skull growth to correct the shape of an infant's head.

The Journal of Family Practice 2015; Vol 64, N° 1

Do not recommend helmet therapy for positional skull deformity in infants and parents to place their infants on their back to Sleep' campaign, which encouraged infant death

45% a los 3 meses
1-2% en la adolescencia
Cascos no ayudan y a veces dañan

PSD: pla-
micarb-



Plagiocephaly and brachycephaly

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More
will us

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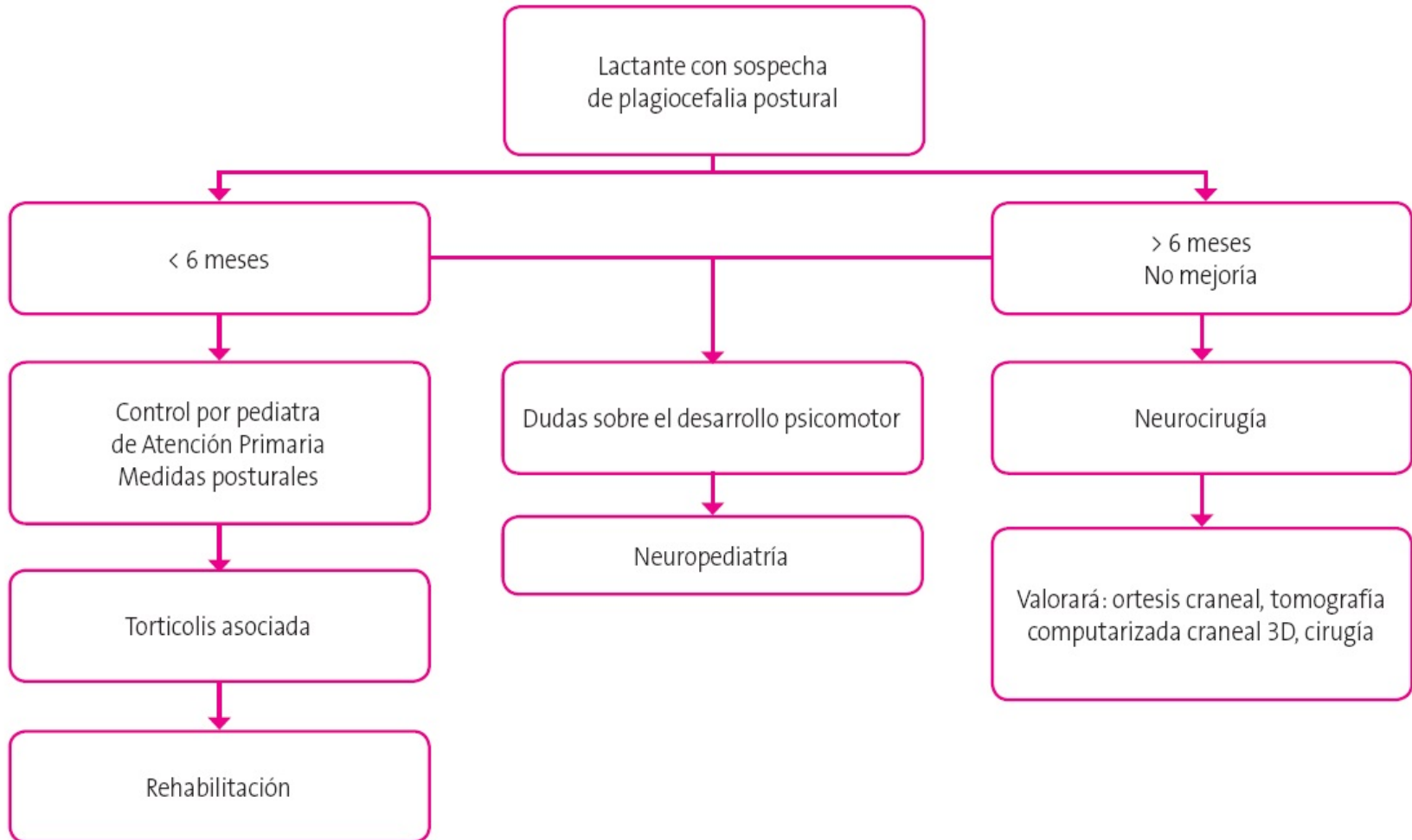
for a child to be referred back to a specialist when they reach school age because of teasing.

Mayoría casos mejoran durante tiempo
Con el pelo y el control cefálico mejora el aspecto estético

Evidencia cambios posturales (CP) \pm fisioterapia y ortesis craneales

- Series de casos: el tratamiento con ambas es eficaz. No superioridad de ninguno.
- Acuerdo en recomendar a lactantes pequeños CP \pm fisioterapia, eficaz en la mayoría de casos si el inicio es precoz.
- Reservar OC en diagnóstico tardío o cuando CP no sean eficaces (entre 6 y 12 meses).
- Precio OC elevado (en ocasiones se recetan 2 OC).
- Casco 23 horas diarias durante 3-4 meses.
- Efectos secundarios con OC: irritación de la piel, aumento del sudor, mal olor y mayor dificultad para la crianza.

Algoritmo de actuación en la consulta de Pediatría



Para recordar

- Más frecuente PP.
- Problema “estético”.
- Puede ser “marcador de riesgo” de retraso psicomotor.
- Prevención.
- Tratamiento postural \pm fisioterapia si tortícolis.
- Evolución positiva mayoría de los casos.