

# European Craniofacial Medical Center

## Consultation Guide with Your Pediatrician and Clinical Evidence

This guide provides the necessary tools for a conversation with your pediatrician. Based on evidence, early detection is the key to avoiding developmental sequelae.

### 7 KEY QUESTIONS FOR YOUR PAEDIATRICIAN

**1 Is there muscular torticollis or a restriction in the range of rotation?**

Without treating the muscular cause, constant pressure will prevent natural correction.

**2 What is the exact classification: Mild, Moderate, or Severe?**

It is vital to quantify the asymmetry to determine if orthopedic treatment is necessary.

**3 What type of deformity do you observe: Plagiocephaly, Brachycephaly, Scaphocephaly, or mixed deformity?**

Identifying the exact type of deformity is crucial for defining the correct therapeutic approach.

**4 Are there signs of facial asymmetry (forehead, cheeks, or ears)?**

Facial involvement indicates a severe deformity that can cause dental malocclusion, a risk of otitis due to the tortuosity of the external auditory canal, and homolateral astigmatism.

**5 Is there evidence that moderate/severe cases correct themselves?**

Scientific literature shows that significant deformities do not resolve without intervention after 4 months. There are scientific articles demonstrating the effectiveness of DOC Band®. If another helmet is recommended, ask if there is scientific literature demonstrating its effectiveness...

**6 Are we within the window of maximum bone plasticity?**

The success of the treatment directly depends on the speed of cranial growth at this stage, with the ideal being to start treatment between 4 and 8 months when growth is fastest.

**7 Can we perform an objective measurement with a Bertillon cephalometer?**

Without exact millimeters, it is not possible to scientifically monitor progress or worsening.

## Medical Problems Associated with Untreated Cranial Deformities

The true **"cost"** of ignoring plagiocephaly is not financial or purely cosmetic. Leaving a moderate or severe asymmetry untreated during the **critical window of bone plasticity in infants** carries real risks. There are numerous indexed international scientific studies demonstrating a **direct correlation** between uncorrected bone deformities and potential problems in **neurological, motor, visual, and auditory development**.

### 1. Alterations in Neurodevelopment and Neurological Functions

#### Association of Positional Plagiocephaly and Developmental Delay within a Primary Care Network

*Journal of Developmental & Behavioral Pediatrics (2021)* | [View publication on PubMed](#)

A retrospective study based on electronic medical records of **77,108 children in primary care** showed that infants diagnosed with plagiocephaly before 12 months have **1.5 times higher odds** (adjusted OR: 1.50; 95% CI: 1.32–1.70) of presenting **developmental delays** compared to those without this condition. Additionally, the diagnosis of plagiocephaly **preceded that of delay in 92.6% of cases** where both conditions coexisted, suggesting it could act as an **early indicator of functional neurological risk**.

#### Cognitive Outcomes and Positional Plagiocephaly

*Pediatrics (2019)* | [View article on PubMed Central](#)

A comparative study at school age showed that children with positional plagiocephaly and/or brachycephaly (PPB) **moderate to severe during infancy scored lower on cognitive and academic tests** compared to controls. Differences were significant only in moderate to severe cases, while in mild cases the associations were negligible.

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

*Plastic Reconstructive Surgery (2001)* | [View article on PubMed](#)

Study evaluating cognitive and psychomotor delays in children with single-suture craniosynostosis or plagiocephaly without synostosis using the Bayley-II Scales. 63 children were analyzed before intervention, **finding significant delays in psychomotor development** (PDI), especially in craniosynostosis. Post-treatment follow-up is recommended to assess improvements.

### Long-Term Developmental Outcomes in Patients with Deformational Plagiocephaly

*Pediatrics (2000)* | [View publication in AAP Pediatrics](#)

Pioneering follow-up research revealed that **a very significant percentage of school-aged children with a history of deformational plagiocephaly later required special education services, occupational therapy, or physiotherapy**. Findings suggest it serves as an early marker of functional delays.

### Neurodevelopmental Delays in Children with Deformational Plagiocephaly

*Plastic and Reconstructive Surgery (2006)* | [View publication on PubMed](#)

A prospective clinical study of 110 infants demonstrated that, before any intervention, **patients with deformational plagiocephaly show significant delays in both mental and psychomotor development** (assessed with the Bayley scales) compared to the standardized population.

## 2. Speech, Communication, and Language Problems

### Poor Language Acquisition in Children with Single-Suture Craniosynostosis and Deformational Posterior Plagiocephaly

*Child's Nervous System (2012)* | [View publication on PubMed](#)

Study on language acquisition in children with single-suture craniosynostosis and deformational posterior plagiocephaly, which showed an increased risk of **speech and language disorders (21% with severe alterations, 3 times more than the general population)**. Children with posterior plagiocephaly (operated or not) also showed delays.

### 3. Congenital Muscular Torticollis and Biomechanical Restriction

#### Craniofacial Deformity in Patients with Uncorrected Congenital Muscular Torticollis

*Plastic and Reconstructive Surgery (2004) | [View publication on PubMed](#)*

Study with 3D computed tomography in 14 patients: cranial and skull base deformity appears from infancy (especially in the posterior cranial fossa), while **facial asymmetry (jaw, maxilla, orbit) develops from age 5, worsening with age**. Early muscle release is recommended to prevent craniofacial deformities.

### 4. Auditory Problems and Central Sound Processing

#### Event-Related Auditory Potentials (ERP) Reveal Brain Dysfunction in Infants with Plagiocephaly

*Journal of Craniofacial Surgery (2002) | [View publication on ResearchGate](#)*

Electrophysiological study demonstrating that **infants with plagiocephaly show reduced amplitudes in auditory ERPs (P150/N250)**, confirming for the first time early neuroauditory involvement and an increased risk of suffering from sound processing disorders.

### 5. Vision Problems, Astigmatism, and Orbital Asymmetry

#### Visual Field Defects in Deformational Posterior Plagiocephaly

*Journal of AAPOS (2005) | [View publication on PubMed](#)*

Study of 40 infants with posterior plagiocephaly: 35% showed constriction of visual hemifields ( $\geq 20^\circ$ ) and 17.5% asymmetry  $\geq 20^\circ$ . There was no correlation between the laterality of visual defects and cranial defects, but **plagiocephaly can affect the development of the visual field**.

## Why is the DOC Band® Helmet Unique?

DOC Band® is the only helmet with scientific studies demonstrating its effectiveness.

### SCIENTIFIC EVIDENCE

Weighing approximately **170 grams**, the DOC Band® is **32% lighter** than most helmets available on the market. Babies get used to it quickly, **without significant discomfort**. The helmet does not prevent sleeping, playing, or developing normally.

Certainly, all manufacturers claim their helmets are effective. However, **DOC Band® not only claims it but can also empirically demonstrate it through dedicated scientific literature.**



**Request scientific articles** that demonstrate the specific helmet's effectiveness, and ensure that **the articles specifically refer to this helmet and not to helmet therapy in general**. Carefully observe the images presented to you: **if you recognize photos from our website on competitors' sites**, be aware that the images presented on our website are **the exclusive property of DOC Band®**, and their use on competitors' sites is therefore **unauthorized**.

### Scientific Articles Demonstrating the Direct Effectiveness of the Treatment

#### Treatment of Craniofacial Asymmetry Using Dynamic Orthopedic Cranioplasty

*Journal of Craniofacial Surgery (1998)* | [View indexing on PubMed](#)

Since 1988, more than **750 infants with positional plagiocephaly** have been treated with customized DOC Band orthoses. The device applies **selective pressure to redirect growth**, achieving significant reductions in cranial, skull base, and facial asymmetries. The average treatment duration was **4.3 months** (average starting age: 6.9 months), and follow-up data confirmed near-complete correction in a variety of cranial shapes.

## Helmet Treatment in Infants with Deformational Brachycephaly

*Global Pediatric Health (2018) | [View publication in SAGE Journals](#)*

Cranial deformities in infancy form a spectrum ranging from plagiocephaly (asymmetrical) to brachycephaly (symmetrical but disproportionate). Despite the misconception that brachycephaly cannot be treated with cranial orthosis, a prospective study with **4,205 infants (2013–2017)** demonstrated that **81.4% improved their cephalic index (from 95.0 to 89.4)** after orthopedic treatment. **DOC Band® is the only dynamic molding band**: it applies **gentle hydrostatic pressure** in specific areas to actively and three-dimensionally direct growth.

## International Medical Consensus

### Congress of Neurological Surgeons: Systematic Review and Evidence-Based Guide on the Role of Cranial Molding Orthosis Therapy

*Neurosurgery (November 2016) | [View official link \(PubMed\)](#)*

It concludes that **cranial molding helmet therapy offers a more significant and rapid improvement in cranial shape in infants with positional plagiocephaly** compared to conservative therapy, especially in **severe cases** and when applied during the **optimal infancy period**. However, specific criteria for measuring and quantifying deformity, as well as the most appropriate time to start treatment, are still undefined. In general, infants with more severe deformities and those who use the helmet from early ages achieve more notable correction (even normalization) of head shape.

### Decision No. 2017.0086/DC/MRAPU from the College of the High Authority of Health (France)

*Haute Autorité de Santé (June 2017) | [View official document](#)*

Plagiocephaly can cause **mechanical (maxillofacial or cervicobrachial) and cognitive complications**.

## Letter from the LIEN Association on the Risks of Plagiocephaly (France)

*Haute Autorité de Santé (July 2017) | [View official publication](#)*

The skull deformities known as "**plagiocephalies**" are associated with **biomechanical, physiological, aesthetic, and psychological disorders** that can **condition a child's life forever**. According to specialists **Bernadette de Gasquet and Thierry Marck**, authors of the book "My Baby Won't Have a Flat Head: How to Prevent and Treat Plagiocephaly in Babies" (Albin Michel, 2015), it is possible to achieve a **significant improvement and even near-total disappearance** of these adverse effects with early treatment. However, **there seems to be a certain indifference, ignorance, or denial of this reality within a medical community** that limits itself to acknowledging the undeniable benefits of these practices.



### Doc Band®: The helmet for plagiocephaly with scientific studies demonstrating its evidence

Weighing approximately **170 grams**, the DOC Band® is **32% lighter** than most helmets available on the market.

Babies get used to it quickly, without significant discomfort. The helmet does not prevent sleeping, playing, or developing normally.

 [Free Online Diagnosis](#)

 [Book an Appointment](#)