

**Positional
Plagiocephaly,
Part 1:**

A Practical Guide
to Evaluation

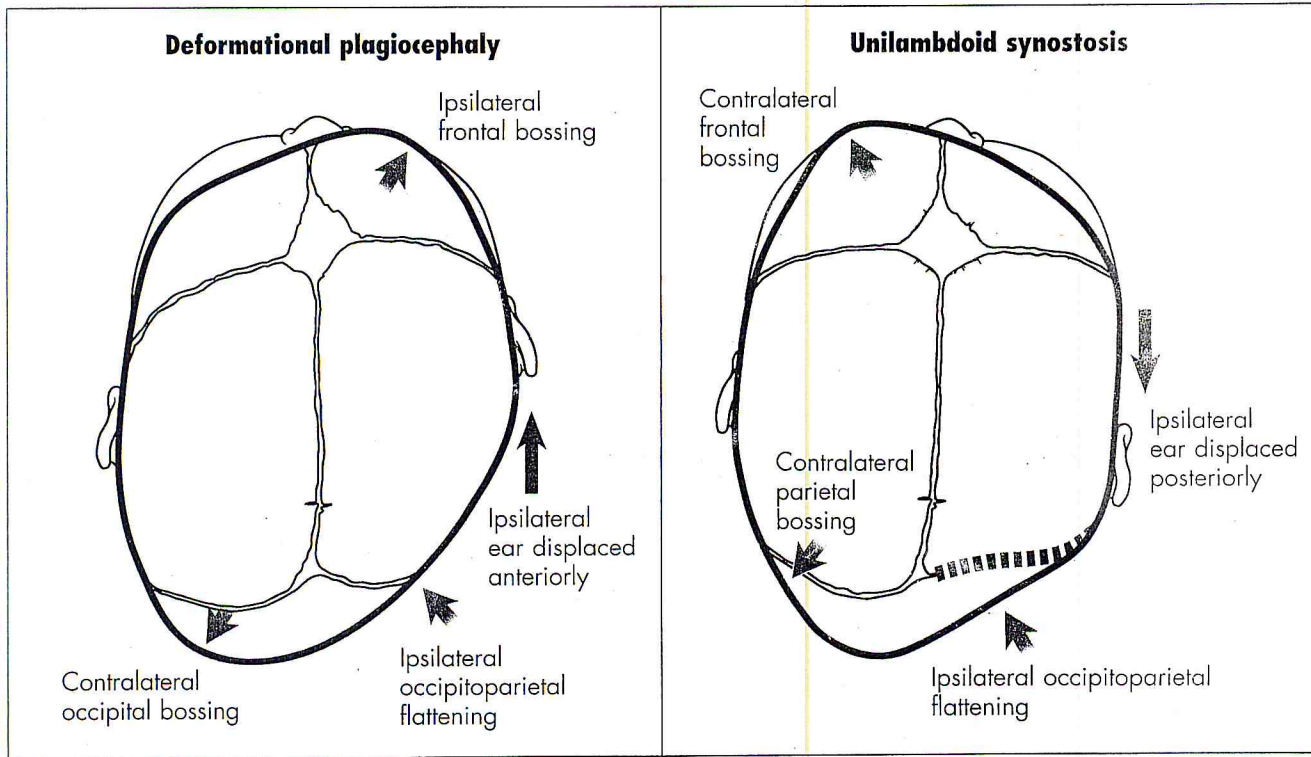


Figure 5 – Deformational plagiocephaly (left) can be easily confused with unilambdoid synostosis (right). The distinguishing features of each condition are shown here. (Illustration by Renee L. Cannon.)

Family history. Because most of the more recognized craniofacial syndromes are transmitted in an autosomal dominant fashion, it is important to inquire about any relatives with craniofacial syndromes or isolated cranial anomalies. While the majority of cases of syndromic craniosynostosis involve multiple sutures, unilateral coronal craniosynostosis may be the most common hereditary form of single suture fusion and is inherited in the autosomal dominant pattern. Various genetic syndromes that present with unilateral or bilateral synostosis are related to one of the genes for fibroblast growth factor receptor. Although the pathogenesis of isolated single-suture craniosynostosis remains elusive, genetic and environmental components are possible.

Medical history. The clinician should identify any prenatal factors that may contribute to skull deformity (eg, the method of delivery). In-

fants born vaginally may present with greater initial deformity than those born via caesarean delivery because of the smaller space of the birth canal. Skull asymmetry caused by molding during parturition decreases over time. In infants with postnatal premature fusion, the skull may appear symmetrical at birth but demonstrates deformity over weeks to months. The parents should be asked to quantify the amount of time the infant spends in a supine or prone position each day and the total time spent in car seats, bouncers, swings, and other devices that may allow for pressure against one area of the skull.

Physical examination. Perform a complete head-to-toe examination, focusing on the face and skull and examining the infant from anterior, posterior, and vertex views.

Anterior view. The infant may be placed in the parent's lap, facing forward, while you evaluate the anterior

craniofacial skeleton for symmetry. Assess head tilt as well as the appearance of the forehead, orbits, midface, and mandible. With typical unilateral deformational plagiocephaly, the ipsilateral forehead is displaced anteriorly, with the illusion of asymmetrical enlargement; the ipsilateral palpebral fissure is often vertically elongated; and the ipsilateral cheek is displaced anteriorly. All of these features create an illusion of asymmetrical enlargement.

From this angle, note any areas of bossing (or retrusion) in the forehead. Bossing may appear as an area of highlight (or lowlight) because it more easily reflects light. Also take note of the lateral supraorbital bar, because pinching on 1 or more sides may indicate suture fusion. Similarly, note any asymmetry of the orbit. A ridge may be palpable in the midline (metopic synostosis) or laterally (coronal synostosis).