Management of Positional Plagiocephaly in Children

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Initial Management at Presentation

- **Repositioning:** The primary treatment recommendation of the AAP is to use positioning to avoid continued compressive forces being applied to the area of flattening. The most recent CNS evidence-based guidelines recommend repositioning as an effective strategy although it is important to note that some randomized studies showed it was inferior compared to physical therapy and helmet therapy (24). Repositioning is the first line of treatment in infants less than 4 months.
- **Physical Therapy:** Class I and II evidence in the recently published CNS guidelines suggests physical therapy as a recommended strategy over repositioning education alone in infants 7 weeks of age particularly for more severe cases (5).
- **Prone positioning, or "tummy time," with goal of 30 minutes per day:** This insures that no compressive force is being applied during the time on the tummy and has the added benefit of focusing the family on the causative factor for the plagiocephaly.
- **Treat torticollis if present:** If torticollis is present, it will lead to a preferential head position that results in the child lying on the flat spot. Early treatment is best to eliminate this contributing factor for the plagiocephaly.

Adjunctive Therapies

- **Cranial orthosis, or "molding helmet":** These helmets are fabricated to ensure that no pressure is being placed on the area of flattening and that use of the helmet will direct subsequent growth to reverse the parallelogram. Recent CNS guidelines recommend helmet therapy for infants with persistent moderate to severe plagiocephaly after a course of conservative treatment (repositioning and/or physical therapy) (55). There is a significant negative association between age at initiation of therapy and improvement of parameters (16).
- **Surgery rarely used for refractory cases:** There is rarely a role for surgery for positional plagiocephaly. It can usually be treated successfully with positioning therapy, physical therapy, or molding helmets. Surgery has been used in rare cases of positional plagiocephaly with severe deformities that are resistant to nonsurgical measures (33, 36).

Follow-up

- **For repositioning therapy:** A child in a repositioning program is seen approximately every month to assess the progress being made and the family's satisfaction with treatment.
- **For helmet therapy:** A child placed in a cranial orthosis needs to have the scalp checked every 1–2 weeks for tolerance as well as routine maintenance for the helmet. Such checks are frequently done by the orthotist, but examination should be confirmed by the neurosurgeon periodically.