The Role of Distraction Osteogenesis in the Management of Craniofacial Disorders

S R Cohen,* MD, F D Burstein,** MD, J K Williams,** MD

Abstract

Since its introduction in the medical literature in 1992 by McCarthy, distraction osteogenesis of the craniofacial skeleton has become a standard surgical therapy. The present report attempts to trace the development of craniofacial distraction from the perspective of one of the early proponents of the technique. Although the earliest application of distraction was in children with severe unilateral or bilateral mandibular deficiency, its use for functional abnormalities such as apnoea were especially appealing. Distraction osteogenesis for the midface began with external appliances that were attached to the teeth. Newer, buried devices have eliminated the need for external devices in all LeFort III and monobloc cases. For LeFort I and mandibular cases, the ideal internal device has not been manufactured.

Key words: Aperts, Crouzons, Distraction osteogenesis, LeFort I, LeFort III, Mandibular hypoplasia, Monobloc, Pfeiffer syndromes

* Chief
  Craniofacial Surgical Services
  Children’s Hospital of San Diego, San Diego, California

** Co-Director
  Craniofacial Surgery, Center for Craniofacial Disorders
  Scottish Rite Children’s Medical Center, Atlanta, Georgia

Address for Reprints: Dr Steven R Cohen, 8010 Frost St., Suite 412, San Diego, CA 92123, USA.