

Maxillary-mandibular interdependence during growth: a field theory

JG Ghafari, M Bou Hanna, AT Macari, RV Haddad

¹American University of Beirut Medical Center; ²Lebanese University School of Dentistry; ³New York University

Sutures regulate maxillary growth, and the condyles most of mandibular growth. Though opposing theories explain the mechanisms of growth, the prevailing one assigns an adaptive role to sutures and condyles secondary to functional demands. **Aim:** To present evidence and advance the hypothesis that while independent mechanisms are established for the growth of each jaw, final modeling is also associated with maxillary-mandibular field effects. **Material:** Historical and original data are presented regarding: 1- the effect of sutural and condylar alterations on the maxilla and mandible, respectively; 2- the concept of skeletal units in mandibular development; 3- the effect of nasopharyngeal obstruction and headgear therapy on both growing jaws; 4- the effect of mandibular anterior position and associated crossbite on the maxillocranial skeleton. **Results:** data demonstrate or suggest precedence of maxillary growth over mandibular development by nearly 2 years, as well as developmental and therapeutic effects on one jaw on the position or size of the other jaw. **Conclusion:** The field theory, demonstrated in dental development (e.g., inter-jaw precedence for premolars), may find validity in the precedence of maxillary-mandibular growth timing, and in the indirect influence of one affected jaw over the opposing jaw. Research should further explore this hypothesis.