

# Craniofacial growth

**Craniofacial** growth represents a complex enlargement and differentiation of hard and soft tissues, characterized by cephalocaudal and allometric patterns. The cranial base matures earlier than the face and is used cephalometrically as a relatively stable reference area. The maxilla, although intimately associated with the cranium, exhibits some independent growth, particularly in the vertical dimension. The mandible, hanging in a sling of muscles and articulating only at the temporomandibular fossae and with the opposing dentition, is purportedly able to adapt its shape and position in space to some extent as a function of condylar growth <sup>1)</sup>.

The development of the craniofacial skeleton occurs as a result of a sequence of normal developmental events: brain growth and development, optic pathway development, speech and swallowing development, airway and pharyngeal development, muscle development, and tooth development and eruption <sup>2)</sup>.

There were no identified differences in **craniofacial growth** in **pediatric patients** undergoing **Endoscopic endonasal approach** for **skull base tumor resection** as compared to the control group. Endoscopic endonasal approach does not appear to significantly interfere with midface/skull base development and is a good surgical option for pediatric patients <sup>3)</sup>.

<sup>1)</sup>

Ranly DM. Craniofacial growth. Dent Clin North Am. 2000 Jul;44(3):457-70, v. PMID: 10925768.

<sup>2)</sup>

Manlove AE, Romeo G, Venugopalan SR. Craniofacial Growth: Current Theories and Influence on Management. Oral Maxillofac Surg Clin North Am. 2020 May;32(2):167-175. doi: 10.1016/j.coms.2020.01.007. Epub 2020 Mar 6. PMID: 32151371.

<sup>3)</sup>

Oviedo P, Zamora S, Vinocur D, Levy ML, Nation J. Influence of Pediatric Endoscopic Endonasal Skull Base Resections on Midface and Skull Base Development. Pediatr Neurosurg. 2021 May 19:1-12. doi: 10.1159/000516236. Epub ahead of print. PMID: 34010830.

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