

Postnatal growth and development of jaws and dental arches.

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The frontal process and mesenchymal condensation in maxillary process of first pharyngeal arch form the maxilla. Growth of maxilla occurs via bone apposition at the circum-maxillary suture system. It also forms by passive displacement from its articulation with cranial base and also surface remodelling. Growth at the suture site occurs maximally after 7 years of age, when neural growth is complete and growth at synchondroses of cranial base is less. As the maxilla moves downwards and forward in response to growth of surrounding soft tissue, the space that opens up at the superior and posterior area is obliterated by bone at either side of suture. Bone resorption occurs at anterior maxilla, nasal floor bone deposition occurs at palate, alveolar process (vertically in response to tooth eruption), midline suture (in response to lateral growth and widening of palate). Growth of maxilla is completed at 15-17 years of age.

Growth of mandible also derived from the first pharyngeal arch. It also originates as a mesenchymal condensation just lateral to Meckel's cartilage. Bone formation proceeds intramembranously, spreading posteriorly along the Meckel's cartilage, without directly replacing it by newly formed bone. Condylar cartilage also forms but at a separate site from the mandibular body, eventually fusing at 4 months.

As the mandible translates downward and forward, largely in response to muscular forces. The cartilaginous contact of the condylar cartilage with cranial base is maintained, increasing ramus height.

Mandibular length is increased by periosteal apposition. Bone apposition sites remodelling