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# Age-related differences in mandibular ramus growth: a histologic study

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**ABSTRACT**

Histologic reconstructions of remodeling variations of the mandibular ramus are demonstrated. This is significant because morphogenic relationships between the ramus and corpus establish mandibular arch position. Ground and polished microscopic sections were obtained from the ramus of 30 well–preserved human mandibles, dental age 1 to 13 years. The distribution of the various types of endosteal and periosteal bone tissues and resorptive versus depository surfaces was recorded. Fourteen of the 30 specimens and the majority of the mandibles at all ages examined exhibited the classic pattern of deposition and resorption (Type A or classic pattern) described by Enlow.[1] Nine mandibles followed a second variation (Type B or vertical variation) involving a gonial angle alignment change. Seven followed a pattern of deposition and resorption similar to what Björk might have called a forward rotating pattern (Type C or rotation variation). The differences in these patterns are large enough to suggest that a common description of one pattern of remodeling for all mandibles is incomplete. Unfortunately, the process of mandibular growth and remodeling does not appear to correlate well with dental age and the basis for changes in patterns may be more complex than first imagined. If temporal differences exist, they are not related directly to dental development. In theory, the differences in pattern are great enough to influence the outcome of mandibular orthopedic treatment.

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**KEY WORDS:** Mandibular growth, Age, Bone histology.