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## Childhood and pubertal growth changes of the human symphysis

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### ABSTRACT

Longitudinal growth changes of the human symphysis were evaluated for 75 children (37 males and 38 females) between 6 and 15 years old. Childhood growth was described by mean yearly rates of change between 6 and 10 years for females and between 7 and 11 years for males; pubertal changes pertain to growth between 10 and 14 for females and between 11 and 15 for males. Cephalometric tracings of the mandible were superimposed using stable reference structures. Vertical growth changes, particularly for landmarks located in the upper 20% of the symphysis, were most pronounced. Annual rates of vertical growth ranged between 0.9 mm/yr for the lingual incisor contact point to -0.2 mm/yr for gnathion. Males showed significantly greater rates of vertical growth than females, especially for the upper half of the symphysis. Vertical growth rates were also greater during puberty than during childhood. The horizontal growth changes indicated lingual movement of most symphyseal landmarks. Annual rates of growth were greatest for landmarks located in the upper half of the symphysis. B-point showed the greatest lingual drift. During puberty, the mandibular incisors in females moved lingually as the upper anterior half of the symphysis remodeled; in males, the incisors maintained their horizontal position as the labial sulcus developed.

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