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## Changes in overbite and face height from 5 to 45 years of age in normal subjects

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### ABSTRACT

The purpose of this study was to evaluate changes in overbite over a 40-year span, and to relate these changes to those occurring in vertical skeletal facial relationships. Lateral cephalograms of 20 males and 15 females from the Iowa Facial Growth Study were evaluated at ages 5, 10, 15, 25, and 45 years. Correlation coefficients were computed to determine the relationship between overbite and various skeletal parameters. Analysis of variance and Duncan's multiple-range test were used to compare various periods of growth. Statistical significance was predetermined at the 0.05 level of confidence. No significant correlations were found between the absolute values of overbite and the vertical skeletal parameters in either males or females. Incremental changes in overbite during four growth periods were compared with changes in various vertical parameters and only a few significant correlations were found. In males, the change in overbite was significantly correlated with changes in N-Ans'/N-Me and MP:SN during the 10-to-15-year growth period. In females, the change in overbite was significantly correlated with changes in N-Ans'/N-Me% during the 5-to-10-year period and also with change in Ar'-Go/S-Go% during the 15-to-25-year period. In general, changes in overbite with age are difficult to predict from the initial overbite in the deciduous or mixed dentitions. On the other hand, evaluation of individual curves shows that males who initially had the least amount of overbite maintained that trend during the later stages of development. Although overbite changes were significantly associated with changes in some vertical skeletal parameters, the associations were not of clinical significance for predictive purposes, and overbite changes are probably dependent on concurrent changes in the growth of the alveolar processes.

**KEY WORDS:** Overbite, Vertical skeletal, Cephalometric, Longitudinal, Normal.

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