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## **Effects of adenoidectomy and changed mode of breathing on incisor and molar dentoalveolar heights and anterior face heights.**

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**BACKGROUND:** Mouth breathing may affect facial form and the positions of the teeth. **OBJECTIVES:** To determine whether the increased dentoalveolar and facial heights found in mouth breathing children with enlarged adenoids are maintained following adenoidectomy and changed mode of breathing from mouth to nose. **METHODS:** The subjects were Swedish children, either mouth breathers with nasal obstruction caused by large adenoids, or nose breathers. The children in the mouth breathing group were adenoidectomized at seven years of age and changed from mouth breathing to nose breathing. The unoperated subjects were age and sex matched to the operated subjects, and both groups were followed up again at 12 years of age. The incisor and molar dentoalveolar heights and anterior face heights, measured on lateral cephalometric radiographs, were compared prior to adenoidectomy and at 12 years of age. **RESULTS:** Significant intra-group increases were found for all dentoalveolar heights and 5 out of 6 facial heights. Only the ratio of upper anterior to lower anterior face height in the controls was not different statistically. Upper posterior dentoalveolar height was significantly larger ( $p < 0.05$ ) in the adenoidectomized group compared with the controls at follow up, but not before adenoidectomy. Lower face height was significantly longer ( $p < 0.001$ ) in the adenoidectomized group compared with the control group initially, and at follow up ( $p < 0.01$ ). Initially, the ratio of upper face height to lower face height was significantly larger ( $p < 0.001$ ) in the control group than the adenoidectomized group, but the groups were similar at follow up. Small, but statistically significant, correlations were found between the changes in upper molar dental height and the mode of breathing ( $p < 0.05$ ) in the adenoidectomized group, and between the change in the ratio of upper to lower face heights and the mode of breathing ( $p < 0.01$ ). **CONCLUSION:** The changes in the dentoalveolar heights of the maxillary molars, and the ratio of the upper and lower anterior face heights seem to be associated with the change in mode of breathing from mouth to nose breathing after adenoidectomy.

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