

Positional changes of the upper canine and posterior teeth, hard palate, and sinus floor from primary to permanent dentition.

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Abstract

This cross-sectional study investigated normal positional changes of the upper permanent canine and posterior teeth, hard palate, and sinus floor in normal Taiwanese children from the deciduous to early permanent dentition. In total, 261 panoramic radiographs were used. During the observation period, almost all structures changed their positions toward the distal and occlusal direction. The vertical positional changes of crowns of all teeth were greater than those of the root apices through all developmental stages. There were small positional changes in the mesial surfaces of the crowns of the upper buccal teeth until their roots had formed. There were continuous positional changes in the crowns and root apices of the permanent molars during tooth development and eruption. There were no significant changes in tooth inclination for any of the buccal teeth, whereas there were conspicuous changes in tooth inclination for the permanent molars. The floor of the maxillary sinus remarkably changed its position in an occlusal direction during the active eruption period of the first molar and buccal teeth.