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The Angle Orthodontist: Vol. 65, No. 1, pp. 43–48.

Stability of the palatal rugae as landmarks for analysis of dental casts

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ABSTRACT

The aims of this study were to determine if the palatal rugae are stable during normal growth, and whether treatment with either headgear or functional appliances affects the position of the rugae. Initial and 15-month recall dental casts of 94 patients enrolled in a study of early Class II treatment were evaluated. The children had been randomly assigned to one of three groups: control (n=34), headgear (n=30), and functional appliance (n=30). Landmarks on the palatal raphe and palatal rugae were recorded using the Reflex Metrograph. A median palatal plane was constructed using the digitized raphe points as reference. Offsets from this plane to the ruga points and transverse and anteroposterior linear distances between ruga points were obtained for all casts. Transverse offsets and linear distances between medial points of the first rugae and the anteroposterior distances between the medial points of the second and third rugae did not show statistically significant changes in all groups. Significant changes were observed for the lateral points of the rugae, particularly in the headgear group. The medial rugae appear to be suitable anatomic points for the construction of stable reference planes for longitudinal cast analysis.

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KEY WORDS: Palatal rugae, Stability, Dental cast analysis.