



## The Reliability of Palatal Rugae as Forensic Markers in Orthodontically Treated Patients

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### Abstract:

**Objective:** To evaluate the effect of fixed orthodontic treatment on the palatal rugae morphology.

**Materials & Methods:** A total of 48 pre- and post- orthodontic treatment casts were selected from private orthodontic clinics in Abu-Dhabi and Sharjah. Visual examination was done by the main examiner following the classification of Nayak, et.al for the rugae shapes. The data was then analysed using SPSS to evaluate the stability of the rugae pattern post treatment and also to determine the most common palatal rugae shape.

**Results:** This study demonstrates that the change in the rugae morphology was

not statistically significant ( $\alpha$  value  $> 0.9$ ), however, changes were detected in 5.6% of the rugae. An additional finding in our study showed that the wavy pattern was the most predominant shape.

**Conclusion:** In our study we concluded that the rugae shape is not a reliable means of human identification. Future studies with larger sample size and with better rugae evaluation techniques are still required to support our findings.