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Abstract

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[Braga](#). Forces in stainless steel, TiMolium[?] and TMA[?] intrusion arches, with different bending magnitudes. *Braz. oral res.* [online]. 2007, vol.21,









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The present study compared forces in stainless steel, TiMolium[?] and TMA[?] V-bend intrusion arches with different magnitudes of flexion. The sample consisted of rectangular-section wires, caliber .017" x .025", with ten arches of each alloy. All V-bends were made 48 mm from the midline, using the same phantom upper jaw, maintaining the same distance between the tubes fixed to the molars and the midline. Loads necessary to deflect the arches by 5, 10, 15 and 20 mm were measured by means of an Instron dynamometer with a 1 kgf load cell. Calculations for sample size confirmed the suitability of using 10 arches of each alloy. Variance tests (ANOVA) of one factor and three levels, complemented by the Tukey test for multiple comparisons, identified that TMA[?] intrusion arches required a smaller quantity of load in relation to conventional steel and TiMolium[?] at all levels of flexion. Furthermore, TiMolium[?] presented intermediary characteristics between steel and TMA[?] and in all alloys increase in distance entailed a significant increase in force between all registered values, and that the increase in load necessary to deflect the arches at the intervals tended to decrease from first to last interval, these differences being more significant in steel, less in TiMolium[?] and practically non-existent in TMA[?]

Keywords : Orthodontic wires; Dental alloys; Biomechanics; Tooth movement.

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