

24th Global Dentists and Pediatric Dentistry Annual Meeting

June 11-12, 2018 | London, UK

The mechanical behavior variation of nickel - titanium orthodontic wires in different fluoride mouthwash

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In this study, an orthodontic archwire of Ni-Ti alloy made by Germany in touch with four different types of mouthwash contains fluoride was investigated in mechanical behavior. This research focused on the mechanical behavior changes in different mouthwashes. The mouthwashes were chosen from most popular one in Iran including Oral-B, Gum, and Behsa mouthwash. The wires were studied after three months in touch with mouthwashes and the result was presented. The result shows that the lowest power to reshape the wire is for the wire in crest case. The maximum power assigns to wire in Behsa case. Also, the shortest treatment period is for wire in Behsa mouthwash case with 0.087 Nm strain energy and the maximum duration of therapy is related to the case Crest mouthwash with 0.039 Nm. Moreover, the wires in Oral-b (0.095 Nm) has the lowest and Gum mouthwash (0.140 Nm) has the highest energy intake. The energy absorbed by the wires in Behsa and Crest is in the middle. Finally, it is proposed that patient could use all mouthwash but based on their condition, one product will be useful.

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