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Characteristics of a fluoride-releasing elastomeric chain

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ABSTRACT

The physical properties and fluoride releasing capabilities of a recently introduced fluoride-containing elastomeric chain (Fluor-I-Chain) have been evaluated and compared to those of a standard gray elastomeric chain.

When stored in solution, there was a progressive loss of the force delivered by both types of chains. In particular, they both required increased displacement to achieve force levels of 150g and 300g but the fluoride chain required significantly more displacement to achieve the same force level. When maintained at a constant distraction of 100%, Fluor-I-Chain was unable to deliver a force within the optimal range for tooth movement after one week. In contrast, the force delivery level of the standard gray chain remained adequate over the entire three-week test period. Fluoride was released by the fluoride-containing chain over a three-week period at a level that could inhibit demineralization and promote remineralization.

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