



## Effect of the application mode of universal adhesive systems on the adhesive interface after cementation of fiber posts

<https://doi.org/10.56238/homeIIsevenhealth-108>

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**Keywords:** Adhesives, Fiber post, Resin cements.

### ABSTRACT

**INTRODUCTION:** The simplification of the cementation strategies of glass fiber posts aims to minimize possible errors in the adhesion mechanism of the cementation system to the root dentin and to optimize the operative time. Universal adhesives contribute significantly to this purpose, as they can be used in the "condition and wash" or self-etch strategy. **OBJECTIVE:** This study evaluated two modes of application of universal adhesive systems, with manual applicators or rotary brush, in the cementation of glass fiber posts and the effects on bond strength and mode of failure of dentinal thirds after 6 months. **METHODOLOGY:** Forty bovine teeth were endodontically treated and prepared for post cementation. The specimens were randomly distributed into 4 groups (n=10) according to the mode of application of the universal adhesive (microbrush or rotary brush), in the condition and wash strategy, and with the cementation systems, using: MB-SU-RU: Scotchbond Universal adhesive applied with microbrush and Relyx Ultimate as resin cement; RB-SU-RU: Scotchbond Universal adhesive applied with rotary brush and Relyx Ultimate as cement; MB-AM-AC: Amber Universal adhesive applied with microbrush and Allcem Core as resin cement; and RB-AM-AC: Amber Universal adhesive applied with rotary brush and Allcem Core as cement. After cementation, the push-out test was performed in the different dentin thirds and the failure mode was analyzed. 2-Way ANOVA and Tukey post-test were used ( $\alpha=5\%$ ). **RESULTS:** Regardless of the third evaluated and the mode of application, the SU-RU system showed higher bond strength than the AM-AC system ( $p<0.05$ ). The RB-AM-AC protocol, in the apical third, presented the lowest bond strength ( $p<0.05$ ). The SU-RU system showed a higher incidence of cohesive failures, regardless of the third and mode of application. **CONCLUSION:** It is concluded that the application of the adhesive with a rotary brush had a positive effect on the cementation protocol with Scotchbond Universal and Relyx Ultimate.

**Financial support:** CAPES.