

## Effect of resin coating on the ultimate strength of glass ionomers

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**Objectives:** To evaluate the effect of resin coating on the ultimate tensile strength (UTS) of four glass ionomer cements subjected to erosive pH cycling.

**Methods:** Standardized hourglass-shaped specimens were obtained using addition silicone molds (n= 60 per group): (1) Fuji II LC (GC America); (2) Ketac Nano (3M ESPE); (3) Fuji IX Extra (GC America); and (4) Ketac Molar (3M ESPE). After first phase setting-time, the specimens were removed from the molds, polished and half of the samples were completely coated using G-Coat Plus (GC America) or Ketac Glaze (3M ESPE). Coated and uncoated samples were either stored in artificial saliva for 24 hours or subjected to erosive pH cycling (3x day immersion in a cola drink for 5 min for 7 days). After elapsed time, the samples were tested in tensile at a crosshead speed of 1mm/min. The data were analyzed by ANOVA and Fisher's PLSD test ( $\alpha=0.05$ ).

**Results:** The prolonged erosive pH cycling did not affect the UTS values; however the use of a coating material resulted in significantly higher UTS values for Fuji II LC and Fuji IX Extra when compared to their respective uncoated groups. **Conclusion:** Surface protection using resin coating enhanced the UTS values of Fuji II LC and Fuji IX Extra. The effect of resin coating is material-dependant.

**Results:** Surface protection using resin coating enhanced the UTS values of all materials except Ketac Molar Aplicap. The effect of resin coating is material-dependent.