

Self-adhesive resin cement versus zinc phosphate luting material: A prospective clinical trial begun 2003.

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OBJECTIVES: The literature demonstrates that conventional luting of metal-based restorations using zinc phosphate cements is clinically successful over 20 years. This study compared the clinical outcomes of metal-based fixed partial dentures luted conventionally with zinc phosphate and self-adhesive resin cement. **METHODS:** Forty-nine patients (mean age 54+/-13 years) received 49 metal-based fixed partial dentures randomly luted using zinc phosphate (Richter & Hoffmann, Berlin, Germany) or self-adhesive resin cement (RelyX Unicem Aplicap, 3M ESPE, Germany) at the University Medical Center Regensburg. The core build-up material was highly viscous glass ionomer; the finishing line was in dentin. The study included 42 posterior, 5 anterior crowns and two onlays. Forty-seven restorations were made of precious alloys, 2 of non-precious alloys. The restorations were clinically examined every year. The clinical performance was checked for plaque (0-5; PI, Quigley-Hein), bleeding (0-4; PBI; Mühlemann) and attachment scores. The examination included pulp vitality and percussion tests. **STATISTICS:** Means of scores, standard deviation, cumulative survival and complication rates were calculated using life tables. **RESULTS:** The mean observation time was 3.16+/-0.6 years (min: 2.0; max: 4.5 years). During that time no restoration was lost, no recementation became necessary. One endodontic treatment was performed in the self-adhesive composite group after 2.9 years. At study end bleeding (1.44 RelyX Unicem vs. 1.25 zinc phosphate) and plaque (1.64 RelyX Unicem vs. 1.0 zinc phosphate) scores showed no statistically significant difference. **SIGNIFICANCE:** The self-adhesive resin cement performed clinically as well and can be used as easily as zinc phosphate cement to retain metal-based restorations over a 38-month observation period.

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