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[PDF (141K)] [References]

## Effect of Resin Coat Technique on Bond Strength of Indirect Restorations after Thermal and Load Cycling

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Abstract: Objective: To evaluate the ability of the resin-coat technique used in cavity preparation to protect dentin before impression taking and final cementation and its effect on the tensile bond strength of indirect restorations after thermal and load cycling. Methods: Occlusal enamel was removed from 25 third molars to expose flat dentin. Teeth were divided into 5 groups (n=5): G1, receiving no dentin sealing (control group); G2, dentin was hybridized with all-in-one self-etch adhesive (Clearfil S3); G3, receiving combination of a one-step self-etch adhesive and low viscosity resin (Clearfil Protect Liner); G4, dentin was hybridized with "two-step" self-etch adhesive (Clearfil SE Bond); and G5, combination of a "two-step" adhesive system and low viscosity resin was applied. After dentin sealing, indirect restorations were performed with Sinfony system and cementation with dual-cure resin cement (Panavia F). Restored teeth were submitted to thermal (1,500 cycles) and mechanical cycling (200,000 cycles). After this they were sectioned into sticks ( $1 \times 1$  mm, approximately) and then subjected to microtensile bond strength testing. Results: all data were submitted to ANOVA and Tukey test (p<0.05). Mean values (MPa) obtained were G1, 9.5; G2, 9.2; G3, 14.8; G4, 12.2; and G5, 17.4. Statistical analysis showed differences between groups, with G5 performance being higher than that of the other groups. Conclusion: when no resin coating-technique was used to protect dentin, lower bond strength values were obtained than those in the other groups. The combination of a "twostep" self-etch adhesive system and low viscosity resin promoted the best bond strength

values.

Key words: Resin coat technique, Self-etch adhesive, Resin cement

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