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## Abstract

### HOW CLEAN DOES DENTINE NEED TO BE?

Effect of Dentine-cleaning Techniques on the Shear Bond Strength of Self-adhesive Resin Luting Cement to Dentine. Santos MJMC, Bapoo H, Rizkalla AS, Santos GC Jr. *Oper Dent* 2011; **36**: 512–520.

The authors of this paper consider the development of self-adhesive resin cements to overcome the inherent difficulties of the earlier multi-step techniques, involving etching, priming and bonding. Although no pre-treatment is recommended with these cements, they postulate that removal of the smear

layer will enhance bond strength. In this *in-vitro* experiment, prior to bonding a resin disc with self-adhesive cement (Rely-X Unicem, 3M ESPE), five groups of teeth were pre-treated with one of the following cleansing regimes: G1 manual manipulation of a hand-excavator as a control; G2 0.12% chlorhexidine gluconate; G3 40% polyacrylic acid; G4 a mixture of flour pumice and water; G5 sandblasting with 50µm aluminium oxide particles at a pressure of 87 psi.

The results showed that there was no significant difference between the shear bond strengths of the samples in groups G1, G2 or G4. Those samples

in group G3 showed a slight increase in shear bond strength, due to the polyacrylic acid not only removing the smear layer, but also the shallow demineralization of the dentine surface. However, sandblasting the teeth in group G5 produced a statistically significant increase in the shear bond strength.

The authors conclude that this research has direct relevance to clinical practice, recommending that dentine should be appropriately sandblasted prior to bonding an indirect restoration when a self-adhesive cement is used.

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