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[Image PDF (867K)] [References]

Effects of Smear Layer and Surface Moisture on Dentin Bond Strength of a Waterless All-in-one Adhesive

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Abstract:
The purpose of this study was to evaluate the microtensile bond strength (MTBS) of a waterless all-in-one adhesive system, Absolute, to dentin. Eighteen human molars were either ground with 600-grit SiC paper or cut with a diamond bur. The following dentin bonding procedures were then performed: dentin surface was kept moist; dentin surface was dried; or dentin surface was dried but equivalent amount of water was added to the adhesive (1:1 by volume). After adhesive curing, a resin composite was incrementally built up. After the specimens were kept in water for one day, MTBSs were measured at a cross-head speed of 1 mm/min. Two-way ANOVA (p=0.05) indicated that the MTBS of the adhesive system was not influenced by surface texture, but enhanced by the presence of water on tooth surface. It was concluded that water is essential to obtaining good dentin bonding for this adhesive system.

Key words:
All-in-one adhesive, Microtensile bond strengths, Dentin bonding

[Image PDF (867K)] [References]

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