

Application protocols of simplified dental adhesives

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Objectives: The aim of this study was to evaluate the shear bond strength (SBS) between a composite and dentin, promoted by two dental adhesive systems (Easy Bond (3M ESPE), and Scotchbond 1XT (3M ESPE)) with different application protocols. **Materials and Methods:** Fifty-three caries-free human molars were selected. Proximal enamel was removed to obtain two dentin discs per tooth, which were randomly assigned to the experimental groups (n=15) presented in Table 1. The composite resin used was Filtek Z250 (3M ESPE). Specimens were mounted in the Watanabe device and shear bond test was conducted in an universal testing machine with a crosshead speed of 0,5 mm/min. Data were analysed with ANOVA and Student-Newman-Keuls tests. **Results:** The highest SBS mean value was achieved with E3 group ($41,23 \pm 2,71$ MPa) and the lowest with EP ($25,15 \pm 2,68$ MPa). For both adhesive systems tested, the SBS values increased with the number of layers, till the third. E4 yielded similar results to E3, and E5 decreased SBS values. There were no statistical differences within the S3, S4 and S5. **Conclusion:** Considering the SBS results, we can recommend three adhesive layers when using Easy Bond and Scotchbond 1XT adhesives. The pre-etching treatment of dentin, before Easy-Bond, is not recommended. **Clinical relevance:** This study may help the clinician achieving better results with simplified adhesive systems that usually perform worse than multi-step systems.

Keywords: Two-step total-etch adhesive, One-step self-etch adhesive, Application protocols, Shear bond strength