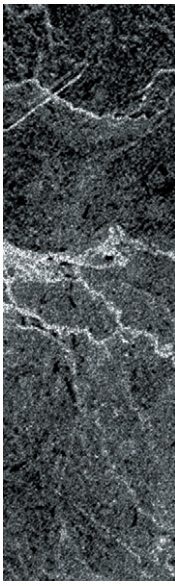

Ask the Experts

DENTIN/ENAMEL BONDING

Guest Expert
Bart Van Meerbeek, DDS, PhD*

Associate Editor
Edward J. Swift, Jr, DMD, MS

QUESTION: Several different types of dentin/enamel adhesives are available, and I am confused about which one(s) to use in my practice. Can you rate the various categories of resin-based adhesives for me?

ANSWER: At the moment, my preference is a three-step system, consisting of first selectively etching enamel for 15 seconds with 30–40% phosphoric acid to achieve the best bonding performance and durability at enamel margins. The second step is the application of a "mild" self-etch primer (preferably 10-MDP-based for the best bonding performance and durability on dentin) to both the etched enamel and non-etched dentin. The final step is a separate hydrophobic, solvent-free adhesive resin.

In order, my ranking of the other options for dentin/enamel bonding are as follows:

1. 2nd choice: three-step etch-&-rinse systems
2. 3rd choice: "mild" two-step self-etch systems
3. 4th choice: two-step etch-&-rinse systems
4. 5th choice: mild or ultra-mild all-in-one adhesives
5. Avoid: "strong" (very acidic) all-in-one adhesives

SUGGESTED READING

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Van Landuyt KL, Mine A, De Munck J, et al. Are one-step adhesives easier to use and better performing? Multifactorial assessment of contemporary one-step self-etching adhesives. J Adhes Dent 2009;11:175–90.

Van Meerbeek B, Peumans M, Poitevin A, et al. Relationship between bond-strength tests and clinical outcomes. Dent Mater 2010;26:100–21.

Editor's Note: If you have a question on any aspect of esthetic dentistry, please direct it to the Associate Editor, Dr. Edward J. Swift Jr. We will forward questions to appropriate experts and print the answers in this regular feature.

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