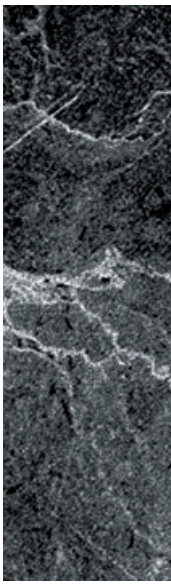

Ask the Experts

SELF-ETCH ADHESIVES FOR SEALANTS?

Guest Expert
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QUESTION: Can self-etch adhesives be used to place pit-and-fissure sealants?

ANSWER: Traditionally, pit-and-fissure sealants have been applied to enamel that has been etched with phosphoric acid. However, this question is a timely one, given the increased use of self-etch adhesive systems in restorative dentistry.

Clinical studies of resin-based sealants have demonstrated the advantages of using certain adhesives after etching enamel with phosphoric acid. The "one-bottle" total-etch adhesives appear to be particularly effective for improving the retention, marginal integrity, and overall success of enamel sealants. These systems follow acid-etching with an application of a combined primer/bonding agent solution.

But the question at hand is whether *self-etch* adhesive systems can be used for sealant application. The acidity of self-etch systems, whether the two-step self-etching primer type or the "all-in-one" self-etch adhesive type, is much less than that of phosphoric acid. Consequently, these materials do not etch enamel as effectively as phosphoric acid, especially if the enamel has not been prepared or instrumented in any way.

However, the acidity of various self-etch adhesive materials varies greatly from one to the next. The acidity can be classified as strong, mild, or intermediary. An example of a strongly acidic self-etch material is Adper Prompt L-Pop (3M ESPE, St. Paul, MN, USA), which is a modification ofthe original Prompt L-Pop product.

A 2-year clinical trial of the original Prompt L-Pop reported a sealant success rate, in both occlusal pits and fissures and buccal and lingual grooves, equivalent to that of the traditional etch/rinse/dry/seal method. Moreover, use of this self-etch adhesive reduced sealant application time by approximately one-third.

So what is the bottom line? The traditional method of sealant application—using phosphoric acid as an etchant—is clinically proven and remains the method of choice. However, a strongly acidic self-etch material such as Adper Prompt L-Pop is a reasonable alternative for situations in which a short application time is essential. Examples of such situations would be if isolation is particularly difficult or patient

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DOI 10.1111/j.1708-8240.2007.00068.x

cooperation is poor. It is important to realize that only a strong self-etch material is appropriate for pit-and-fissure sealant application. Milder self-etch materials will not etch enamel well enough to ensure long-term sealant survival.

SUGGESTED READING

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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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