

Preventing postoperative tooth sensitivity in Class I, II and V restorations

Why does the subject of postoperative tooth sensitivity in Class I, II and V restorations keep resurfacing? It probably is because these restorations are among the most common treatment procedures dentists accomplish, and many of the dentin-bonding concepts are overpromoted in terms of preventing postoperative tooth sensitivity.

Frequently, participants in my restorative dentistry courses ask questions about prevention of postoperative tooth sensitivity in Class I, II and V resin-based composite restorations. It is not clear why Class III and IV restorations are not sensitive. In explaining the potentially sensitivity-preventing procedures, I find that because of time limitations, I commonly emphasize one method or another, instead of listing the several ways in which the sensitivity can be prevented.¹⁻³

This article describes several ways to prevent postoperative tooth sensitivity in teeth restored with Class I, II and V resin-based composite restorations. The suggestions are based on empirical evidence provided by dentists in my courses, as well as my personal observations.

PERFECT USE OF TOTAL-ETCH SYSTEMS

Many dentists use the well-known total-etch concept on a routine basis. If the total-etch technique is mastered, tooth structure can be sealed adequately to preclude postoperative sensitivity.

How does a dentist use the total-etch technique perfectly? Tooth surfaces are etched for about 15 seconds; the acid is washed from the tooth and the tooth surface is dried only superficially, leaving slight moisture on the surface; the primer solution is applied in coats sufficient to allow impregnation of the

primer liquid into the dentinal canals; the bonding solution is applied, blown slightly and cured adequately with a curing light. The specific techniques used for different total-etch products vary from brand to brand.

Practitioners have observed several challenges with the total-etch concept. Among them:

- it is easy to dry tooth surfaces too much before applying the primer solutions;
- it is difficult to apply the primer solution in coats sufficient to provide impregnation of the liquid into the dentinal canals;
- if the bonding solutions are blown too thin, which can happen easily, the bonding resin will not cure properly because of the oxygen-inhibition.

Total etching is acceptable if it is carried out perfectly, but dentists constantly report to me that some of their patients experience postoperative tooth sensitivity when they, the den-