

Editorial

Dentin: to etch, or not to etch

One of the unanswered questions relating to the acid-etching technique is whether it is safe to etch dentin, or whether etching dentin will cause irreversible pulpal damage. In this issue, three separate papers (one a letter) that discuss the issue of etching dentin are presented.

Early in the clinical use of the acid-etching technique, as a result of some of the investigations discussed by Kanca in his provocative Special Report on pages 83-86, it was felt that etching of dentin was harmful. It became taken for granted, at least in the United States, that any contact of the phosphoric acid with the dentin could be harmful at a minimum causing tooth sensitivity. In fact, etching of the dentin was one of the primary suspects in the development of post-restoration tooth sensitivity following the acid-etching technique and composite resin application.

In Japan, however, Fusayama (who is a coauthor of the third submission to discuss the etching of dentin in this issue) was presenting his work related to dental caries removal techniques and subsequent restoration. Many of his papers were published in *Quintessence International* for introduction to the world community. Our Japanese colleagues seem to be at the other end of the spectrum regarding the etching of dentin. In their acid-etching techniques, using composite resin systems, dentin is routinely etched, apparently without ill effect.

Meanwhile, in Sweden, Brannström reported that it is not the acid that is harmful to the pulp but the post-restoration bacterial invasion that results from inadequately sealed restoration margins. The work of Brannström and Fusayama has gone largely unnoticed in the United States, and lecturers continue to remonstrate against inadvertent, let alone purposeful, etching of dentin.

Bertolotti (see "Letters to the Editor") and Kanca (first article), have come under considerable criticism

for recommending in their lectures to practitioners that dentin be etched with phosphoric acid routinely as part of the restorative process when composite resins are used. Criticism has come from some in the research community who feel that there is insufficient evidence at the present time to justify etching of the dentin.

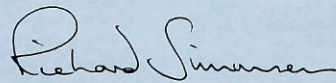
So who is right? Kanca's comments will no doubt provoke some varying opinions. Reactions from readers for the "Letters to the Editor" section are invited.

It may well be argued that etching of dentin should not be promoted until scientific proof of efficacy and safety is in hand. But, as Kanca points out, who is to say that we do not already have this evidence? Some of the early contradictory scientific "proof," which argues against phosphoric acid contact with the dentin, may well be incorrectly interpreted.

With the advent of the latest generation of dental bonding agents, it is clear that dental products' manufacturers have reached their conclusions regarding etching of dentin, despite an apparent lack of consensus in the profession. Acids, such as EDTA, nitric acid, or maleic acid, have been added to the priming agents for direct application to the dental smear layer in several of the most recently developed dental bonding agents.

So, is the evidence there? What about long-term effects on the vitality of the pulp? Read the three submissions in this issue. Dig up some of the earlier work cited and read some more.

Then judge for yourself.



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