COMMENTARY

COMPARISON OF EFFICACY OF AN IN-OFFICE WHITENING SYSTEM USED WITH AND WITHOUT A WHITENING PRIMING AGENT

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The use of a light to "activate" bleaching materials for in-office procedures has been controversial and is supported by little scientific evidence. In contrast, there might be some benefit to chemical acceleration of tooth whitening via the use of particular metal ions or enzymes. The present study evaluated a third method for the potential enhancement of in-office bleaching, the use of a so-called "whitening primer."

The study followed a fairly standard experimental design and used both a shade guide and dental spectrophotometer to evaluate bleaching results. The primary outcome of the study was that the whitening primer had no effect on bleaching efficacy.

What else might the reader take from this study? First, the bleaching agent used, Opalescence Xtra Boost, was effective—without using a light. Color changes at 15 days were nearly 4 ΔE units, which is in the range of visual perceptibility for most observers.

Surprisingly, color changes were somewhat greater at 1 day than at 30 minutes after bleaching. In contrast, color changes at 15 days were very similar to those at 30 minutes. These were not purely subjective findings because they were verified by the spectrophotometer.

The study also provides some information on tooth sensitivity associated with in-office bleaching. A fairly large proportion of the patients experienced tooth sensitivity, but it was mild in most cases and transient in all.

Most clinical trials of tooth whitening have used the value-oriented Vita Classical shade guide for evaluating shade changes. However, the Vita Classical was not intended for that purpose and is poorly suited for it. For example, color differences between adjacent shade tabs can be very large or very small. This study used the Bleachedguide 3D-Master, which is specifically designed for visual evaluation of tooth whitening.

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