

Brushing with a Potassium Nitrate Dentifrice to Reduce Bleaching Sensitivity

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Abstract

- **Objective:** This research systematically evaluated the use of a clinically proven desensitizing dentifrice prior to a bleaching regimen in a randomized, multi-center, parallel group, open label clinical study following Good Clinical Practice guidelines.
- **Methodology:** Fourteen dental offices in West Palm Beach, Florida participated in the study during April/May 2004. Fourteen days prior to bleaching, impressions and oral soft tissue assessments were performed, and patients were randomized to either a KNO₃ plus fluoride dentifrice (Sensodyne® Fresh Mint), or a standard fluoride dentifrice (Crest® Regular), brushing 2× per day. On Day 14, patients returned to the dental office for their custom tray and the dispensation of a bleaching kit (Day White® Excel 3; 9.5% hydrogen peroxide and KNO₃). This was used daily according to the manufacturer's instructions for 30 minutes, and normal oral hygiene continued to be performed using the assigned toothbrush and dentifrice, brushing 2× per day. At the end of each bleaching day, patients answered diary questions about the occurrence and intensity of sensitivity. At the conclusion of the 14-day bleaching period (Day 28), patients returned to their dental office for re-examination, returning all products and diaries. Within seven days of completing the study, patients answered a telephone patient satisfaction survey.
- **Results:** A total of 202 patients in fourteen (14) dental offices completed all aspects of the study and were used for the analysis. The professionally dispensed bleaching product provided an improvement of approximately 4.4 Vita shades, regardless of whether it was used with the KNO₃ plus fluoride (Sensodyne) or a standard fluoride (Crest) dentifrice. The patient perception of increased sensitivity caused by the bleaching treatment was low but measurable. In the first week of the bleaching, significantly more patients using the KNO₃ plus fluoride dentifrice were free from sensitivity (58%) than the standard fluoride dentifrice group (42%). During the 14-day bleaching treatment period, the KNO₃ dentifrice patients experienced significantly more "sensitivity free days" (average = 10.1) compared to the standard fluoride dentifrice group (average = 8.6).
- **Conclusion:** The use of the KNO₃ plus fluoride dentifrice (Sensodyne), two weeks prior to and throughout bleaching, may be a useful adjunct for the management of sensitivity caused by professionally dispensed bleaching products. With the bleaching-induced tooth sensitivity, those patients in the KNO₃ plus fluoride toothpaste group were significantly more satisfied with their whitening experience and willing to repeat the bleaching treatment.