



Efficacy
in vivo study

Light-Activated System for Bleaching Teeth

Ward M¹, Ziembra SL², Fleix H². Light-Activated System for Bleaching Teeth. Academy of Dental Materials Meeting, October 23-25, 2006, São Paulo, Brazil.

Objective

To examine the Zoom! Advanced Power light-assisted dental bleaching system, which combines a light source that emits strongly in the ultraviolet and blue-visible light wavelengths, with a 25% hydrogen peroxide gel.

Materials

- 25% hydrogen peroxide gel (Zoom! Advance Power whitening gel, Discus Dental, Inc.)
- Light source (Zoom! Advanced Power whitening lamp, Discus Dental, Inc.)

Methodology

Thirty-two healthy male and female patients aged 18 to 70 years were enrolled in at a single site. Prior to treatment, all patients had a tooth shade greater than or equal to A3 for all six non-restored maxillary anterior teeth. After isolation of gingival and other oral soft tissue, 25% hydrogen peroxide gel was applied to the teeth, and the teeth were exposed to the Zoom! Advanced Power whitening lamp (Discus Dental, Inc., Culver City, CA, USA). After 15 minutes, the gel was removed and replaced twice with fresh gel and exposed to the light for three 15-minute sessions, for a total of 45 minutes. Vita Shades were assessed immediately before and after the treatment by the same examiner. A t-test for paired samples, using $\alpha = 0.05$, was employed to compare shade changes (SPSS 11.0.1).

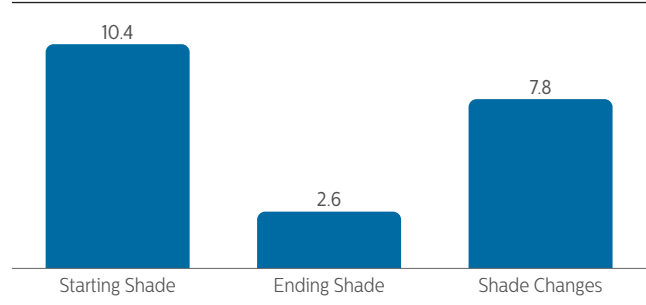
Results

Overall, the 32 patients had an average Vita shade of D3 prior to treatment and A1 after treatment, for an average reduction of 7.8 Vita shades. One week after treatment, patients lost an average of 0.4 shades, making the average shade B2. Thus, the average shade change after one week was 7.4 shades. Importantly, 50% of all study patients achieved an ending shade of B1 or lighter immediately after treatment. Those patients who started with an average shade of A3, and had an average ending shade lighter than B1, had an average reduction of 8.3 shades. Patients who did not achieve an ending shade of B1 or lighter had an average starting shade of B3, and in them we saw an ending shade of B2; an average reduction of 7.7 shades.

Conclusion

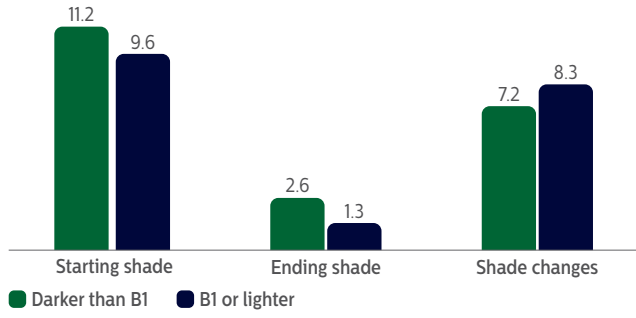
The Zoom! Advanced Power whitening system is effective at whitening teeth after three 15- minute sessions (45 minutes total treatment time). The gel and lamp combined to give study subjects an average improvement of approximately eight shade changes. This is typical of Zoom! treatments, but the number of patients achieving B1 or lighter shades is significantly better than with previous systems. Fifty percent of patients ended at B1 or lighter. The most important indicator of final shade was starting shade. Patients with a starting shade of B3 or darker have a significantly reduced chance of ending at B1 or lighter ($p = 0.04$). Patients whose starting shade was A3 or lighter have an improved chance of ending at B1 or lighter.

Power Shade Change
Vita Shade Changes



Power Shade Change

(For Patients Whose Final Shade was B1 or Lighter)



Power Shade Change

(For Patients Whose Final Shade was B3 or Darker)

