

Saturday, March 13



2867

## **Objective Color Change and Second-Person Noticeability with Two Whitening Systems**

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**Objective:** This research compared objectively measured L\*a\*b\* color change and subjective second person assessment of whitening following use of two popular direct-to-consumer tooth whitening systems. **Methods:** 40 healthy adults were randomized to Colgate® Simply White™ Night, a hydrogen peroxide paint-on liquid used overnight, or Crest® Whitestrips®, a hydrogen peroxide whitening strip used twice daily. Treatment was unsupervised over a 2-week period. Efficacy was measured objectively in L\*a\*b\* color space from digital images, while separately, intra-oral photographs were taken for second person evaluation. The photographic pairs (before and after) were independently evaluated by 6 blinded examiners to ascertain whether there was obvious whitening with treatment. Treatments were compared using ANCOVA and Fishers Exact Test. **Results:** Adjusting for baseline, the estimated means (SE) for  $\Delta b^*$  were  $-0.42$  (0.16) for the paint-on group compared to  $-2.36$  (0.16) for the strip group, with treatments differing statistically ( $p < 0.0001$ ). Upon subjective evaluation, a majority of evaluators identified whitening for 83% and 0% of the strip and paint-on groups, respectively, with groups differing statistically ( $p < 0.001$ ). Comparing objective and subjective response,  $\Delta b^*$  (yellowness) was the most prominent color parameter in second person noticeable whitening. **Conclusion: A randomized clinical trial of two direct-to-consumer hydrogen peroxide systems demonstrated significantly greater objective and subjective whitening for the daytime strips compared to an overnight paint-on liquid.**

Wednesday, March 10

0050

## **Effect of Two Hydrogen Peroxide Systems on Tetracycline Stained Teeth**

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**Objective:** Vital bleaching of tetracycline staining often necessitates extended treatment over a period of several months. The purpose of this study was to evaluate the effect of an experimental low gel whitening strip (9.5% H<sub>2</sub>O<sub>2</sub>) to marketed Crest® Whitestrips® (6.0% H<sub>2</sub>O<sub>2</sub>) over a three month period. **Methods:** 35 adults with moderate to severe tetracycline stain were randomized according to age and color and evaluated at baseline and monthly for color changes, using a proprietary digital color measuring system. The study population ranged from 21 - 64 years of age, and averaged moderate to severe levels of tetracycline stain. Subjects were instructed to use the strips twice daily for 3 months following manufacturer's instructions. **Results:** A t-test evaluation revealed that both groups experienced clinically significant ( $p < 0.0001$ ) Delta E changes from baseline to 3-months after continuous daily treatment. Mean Delta E change from baseline was 5.28 (2.23) for the 6% and 4.72 (1.32) for the 9.5% strips. Mild transient soft tissue irritation (2) and mild tooth sensitivity (18) represented the most common findings. Two subjects dropped from the study because of personal reasons. In terms of subject satisfaction, they are overwhelmingly positive about the procedure. **Conclusions: This comparative study demonstrated the safety and effectiveness of two trayless tooth whitening systems over an extended period (3 months) on tetracycline stained teeth.** (This research was supported by P&G)