

# Teeth bleaching with low concentrations of hydrogen peroxide (6%) and catalyzed by LED blue (450 ± 10 nm) and laser infrared (808 ± 10 nm) light for in-office treatment: Randomized clinical trial 1-year follow-up

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**Objectives:** The aim of this study was to evaluate color longevity after a year of in-office bleaching with gel (6% hydrogen peroxide HP, LED blue/laser infrared activation system) compared to a 35% control concentration in a split-mouth study model. **Materials and Methods:** Thirty-one patients were initially treated. The bleaching procedure with 6% or 35% gel HP was performed randomly in the upper half arcade of each patient. The color was measured at baseline and at 1 week, 1 month, and 1 year using the spectrophotometer Vita Easyshade, Vita Bleached, and Vita classical Shade guide organized by value. During the 1-year recall, the color was assessed before and after dental prophylaxis. **Results:** Only 27 patients were assessed in the 1-year recall. There was a significant difference in the  $\Delta E$  between the two groups at all times assessed ( $P < .011$ ). The  $\Delta L$ ,  $\Delta a$ , and  $\Delta b$  showed significant difference between both groups at all assessed times ( $P < .038$ ). There was no significant difference between the  $\Delta SGU$  at all times ( $P > .05$ ) except for the Vita bleachedguide postprophylaxis comparison ( $P < .05$ ). **Conclusion:** The two compounds remained effective at 1 year. When objectively evaluated, color difference between groups was found, not seen when subjectively determined. **CLINICAL SIGNIFICANCE:** A low concentration hydrogen peroxide bleaching agent can reach good clinical results at 1 year of follow-up. © 2017 Wiley Periodicals, Inc.

infrared laser

low concentration

teeth bleaching

hydrogen peroxide

tooth bleaching agent

chemistry

controlled study

dental procedure

female

follow up

human

laser

light

male

procedures

randomized controlled trial

time factor

tooth discoloration

treatment outcome

young adult

Esthetics, Dental

Female

Follow-Up Studies

Humans

Hydrogen Peroxide

Lasers

Light

Male

Time Factors

Tooth Bleaching

Tooth Bleaching Agents

Tooth Discoloration

Treatment Outcome

Young Adult