

# Evaluation of color changes of white spot lesions treated with three different treatment approaches: an in-vitro study

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**Objective:** To qualitatively and quantitatively assess the color changes effect and the color stability of the resin infiltrant on white spot lesions (WSLs), in comparison with nano-hydroxyapatite (nano-HA) toothpaste and microabrasion.

**Methods:** WSLs were artificially created on sixty human premolars enamel surfaces and randomly assigned to equal four groups (n = 15 each): nano-HA toothpaste, microabrasion (Opalusture), resin infiltrant (Icon) treatment, or artificial saliva (control group). The color change ( $\Delta E$ ) of each specimen was measured by dental spectrophotometer (Vita Easyshade) at different time points: baseline, after WSLs' creation, after application of treatments, one month, three and six months after treatments application.

**Results:** The  $\Delta E$  value did not differ significantly for the four groups at baseline measurement before treatment ( $p > 0.05$ ). Icon resin infiltrant improved the color of WSLs significantly immediately after its application, giving the lowest  $\Delta E$  value ( $3.00 \pm 0.59$ ), when compared to other treatments ( $p < 0.001$ ). There were no significant changes in  $\Delta E$  ( $p > 0.05$ ) for all groups during the follow up intervals (one month, three and six months after treatments application).

**Conclusion:** Resin infiltrant can improve the color of WSLs and restore the natural appearance of enamel better than nano-HA toothpaste and microabrasion.

**Keywords:** White spot lesions. Resin infiltration. Nano-hydroxyapatite. Microabrasion.

\* Access [www.scielo.br/dpjo](http://www.scielo.br/dpjo) to read the full article.

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