

Comparative Evaluation of the Spectrophotometric Effect of External Bleaching on Natural Teeth and Composite Restoration (Omnichroma Resin)

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Article Type	ABSTRACT
Research Paper	Background and Objective: In recent years, bleaching materials have been used in many clinics, which may have different effects on natural teeth and composite restorations (omnichroma). The aim of this study is to determine the spectrophotometric effect of external bleaching on natural tooth structure and composite restoration. Methods: In this study, cavities were first created on 26 extracted teeth, and then, omnichroma composite restorations were completed for all these teeth. The color of each tooth sample was evaluated with a colorimeter device. Measurements were obtained before the application of the bleaching agent for initial lightness (L0), after the bleaching agent's first application (L1), and after the second application of the bleaching agent (L2). Total color change difference (ΔE) values between the restorations and natural tooth during first ($\Delta E1$) and second ($\Delta E2$) treatment intervals were compared. Findings: This study found that, as lightness values between natural tooth and composite were compared, there are changes of lightness value; L1 (p=0.000) and L2 (p=0.006) showed that there is a significant difference in lightness value (L) between natural tooth and composite restoration during
Received: May 18 th 2023 Revised: Jun 17 th 2023 Accepted: Aug 6 th 2023	the first and second treatments. However, the comparisons of total color change (ΔE) found no substantial differences between the composite restoration and natural tooth structure during the first and second treatment intervals $\Delta E1$ (p=0.479) and $\Delta E2$ (p=0.821). Conclusion: According to the results of this study, the value of ΔE decreased significantly from L0 to L2 bleaching treatments. As the tooth becomes brighter, it is clear that there is less of a color difference between the omnichroma restoration and the tooth structure.
Aug 0 2023	Keywords. Ommennoma, Hydrogen I eroxiae, Bleaching, Shaae, Natural Toom Surjace, Composite.

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