

## عنوان مقاله:

Assessment of Color Changes in Vita 3D-Master Shade Guide after Sterilization and Disinfection

## محل انتشار:

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## خلاصه مقاله:

**Purpose:**Dental shade guides are commonly used for color determination and should be disinfected and sterilized. The purpose of this study was to evaluate the color change of Vita 3D Master shade tabs after disinfection and sterilization. **Material and methods:**Overall, 98 samples (shade tabs) were randomly selected from 14 new, unused Vita 3D sets, including the following shades: 2M1, 3L1.5, 3M1, 3M2, 3M3, 3R1.5 and 4M1. In each set, values of 2, 3 and 4, chroma of 1, 2 and 3 and hue were selected for the comparison of different shades. All tabs were measured using the Vita Easyshade device at baseline. The first group was disinfected with Deconex and the second group was sterilized by autoclaving in a simulated annual application. All the tabs were measured again using the same device. This process was repeated to simulate 2 and 3 years of usage. Statistical analysis was conducted by repeated measures analysis of variance (ANOVA) and independent t-test and paired sample t-test. **Results:**In the disinfected group, we observed significant differences in value and chroma in all periods ( $p<0.001$ ). However, hue showed no significant difference after the first year of simulated treatment ( $p=0.527$ ), though it was significantly different in the second and third simulations ( $p<0.001$ ). In the sterilized group, all variables showed a significant difference for each year ( $p<0.05$ ). Considering total color difference ( $\Delta E$ ), there was a significant difference between the two groups in the first, second and third simulated years;  $\Delta E$  increased in the sterilized group more than in the disinfected samples ( $p<0.001$ ). **Conclusions:** The color change of shade tabs was significant both after disinfection by a chemical solution and by sterilization through autoclaving. However, although disinfectants may not have a clinically important effect, sterilization should be considered as an interfering factor during color-matching procedure

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