

Color Stability of Nanocomposites Polished with One-Step Systems

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Objective: This study compared the color changes of five novel resin composites polished with two one-step polishing systems when exposed to coffee solution. **Methods:** The resin composites tested were Filtek Supreme XT, Grandio, CeramX, Premise and Tetric EvoCeram. A total of 150 discs (30/resin composites, 10 x 2 mm) were fabricated. Ten specimens/resin composites cured under Mylar strips served as the control. The other samples were polished with PoGo and OptraPol discs for 30 seconds using a slow speed handpiece and immersed in coffee (Nescafé) for seven days. Color measurements were made with Vita Easyshade at baseline and after one and seven days. Repeated Measures ANOVA and Bonferroni tests were used for statistical analyses ($p \leq 0.05$). **Results:** The differences between the mean ΔE^* values for the resin composites polished with two different one-step systems were statistically significant ($p < 0.05$). After one week, all materials exhibited significant color changes compared to baseline. All Mylar finished specimens showed the most intense staining ($p < 0.05$). There were no significant differences between the OptraPol and PoGo polished groups. Mylar finished specimens of CeramX, Tetric EvoCeram, Premise and Filtek Supreme XT presented the greatest staining ($p < 0.05$). For Grandio, there were no significant differences between the Mylar and PoGo groups, while the most stain resistant surfaces were attained with OptraPol. **Conclusion:** Removing the outermost resin layer by polishing procedures is essential to achieving a stain resistant, more esthetically stable surface. One-step polishing systems can be used successfully for polishing nanocomposites.

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