

Esthetic brackets: the influence of filler level on color stability.

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INTRODUCTION: An undesirable effect of plastic brackets is their discoloration after a short time in the oral cavity. The objective of this study was to investigate the influence of the filler level of plastic brackets on color stability after exposure to food dyes or ultraviolet (UV) light. **METHODS:** Three bracket groups were produced with silicon dioxide as the filler: an unfilled urethane-dimethacrylate (UDMA) bracket, a UDMA bracket with filler content of 35% by volume, and a UDMA bracket with filler level of 70% by volume. All brackets were exposed for 72 hours to UV light in an aging device with a xenon lamp to simulate natural daylight or to food dyes (cola or tea). Color measurements were made with a spectrophotometer according to the CIE L*a*b* system, and color changes (ΔE^*) were computed. **RESULTS:** Greater exogenous discoloration was observed by raising the filler level of UDMA brackets. Almost all investigated polymer brackets showed clinically acceptable color stability during in-vitro exposure to colorants. However, almost all brackets seemed more yellow after UV light treatment. **CONCLUSIONS:** Silicon-dioxide filler-reinforced UDMA brackets showed an obvious trend for increased exogenous discoloration when filler level was raised. Highly filled brackets were less susceptible to endogenous discoloration caused by UV light.

PMID: 17628243 [PubMed - indexed for MEDLINE]