COMMENTARY

Color Stability of Ten Resin-Based Restorative Materials

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Color-related properties of tooth-colored restorative materials encompass three major groups of topics¹:

- Color compatibility: same material (batch variations), material-material, and material-tooth.
- 2 Color stability: during fabrication/at placement (polymerization or other type of setting) and after placement (aging, staining).
- 3 Color interactions: blending and layering.

Polymerization- and aging-dependent changes in color of ten resin composites were evaluated in this paper. Two shades of each composite system were analyzed (bleach and A3), and two thicknesses for each shade were evaluated (I and 3 mm). Two aging periods, I day and I month after polymerization further contributed to comprehensiveness of the study.

As in many other studies, a finding on 50:50% acceptability threshold of $\Delta E^* = 3.3$ was used in result interpretation,² which is pretty consistent with the thresholds reported in some other well controlled studies.^{3,4} Compared with the current study, Ruyter and colleagues evaluated different materials and specimens of different size (35 mm in diameter). It is always beneficial to include a remark on relative validity of interpretations due to differences in study design into the discussion section.

Although polishing of composite specimens would have eliminated resin-rich surface layer⁵ and bring additional clinical relevance, no in vitro study actually fully resembles in vivo conditions. However, in vitro studies are beneficial from the standpoint of providing consistent comparisons among the tested materials. The authors of this article should be commended for performing an ambitious project on color stability of resin composites.

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