

## Brazilian Oral Research

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### Abstract








[MICALI, Bianca](#) and [BASTING, Roberta Tarkany](#). Effectiveness of composite resin polymerization using light-emitting diodes (LEDs) or halogen-based light-curing units. *Braz. oral res.* [online]. 2004, vol.18, n.3, pp. 266-270. ISSN 1806-8324. doi: 10.1590/S1806-83242004000300016.

The clinical performance of composite resins is greatly influenced by the quality of the light-curing unit used. The aim of this study was to compare the efficiency of a commercial light-emitting diode (LED) with that of a halogen-based light-curing unit by means of dye penetration of a micro hybrid composite resin. The composite resin evaluated was Filtek Z250 (3M Dental). The composite was filled into acrylic moulds that were randomly polymerized for 40 seconds by each of the light-emitting systems: light-emitting diode Ultraled (Dabi Atlante) or halogen light Degulux (Degussa H黠s) curing units. Immediately after polymerization, each specimen was individually immersed in 1 ml of 2% methylene blue solution at 37癸 2癸. After 24 hours, the specimens were rinsed under running distilled water for 1 minute and stored at 37癸 2癸 at relative humidity for 24 hours. The composite resins were removed from the moulds and individually triturated before being immersed in new test tubes containing 1 ml of absolute alcohol for 24 hours. The solutions were filtered and centrifuged for 3 minutes at 4,000 rpm and the supernatant was used to determine absorbance in a spectrophotometer at 590 nm. To verify the differences between groups polymerized by LED or halogen light *t*-test was applied. No significant differences were found between composite resins light-cured by LED or halogen light-curing unit ( $p > 0.05$ ). The commercially LED-based light-curing unit is as effective to polymerize hybrid composite resins as the halogen-based unit.

Keywords : Composite resins; Spectrophotometry.

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