

[Clin Oral Investig.](#) 2009 Sep;13(3):293-9. Epub 2008 Sep 23.

## Candida albicans adhesion to composite resin materials.

[Bürgers R](#), [Schneider-Brachert W](#), [Rosentritt M](#), [Handel G](#), [Hahnel S](#).

Department of Prosthetic Dentistry, Regensburg University Medical Centre, Franz-Josef-Strauss-Allee, 93042 Regensburg, Germany. ralf.buergers@klinik.uni-regensburg.de

The adhesion of *Candida albicans* to dental restorative materials in the human oral cavity may promote the occurrence of oral candidosis. This study aimed to compare the susceptibility of 14 commonly used composite resin materials (two compomers, one ormocer, one novel silorane, and ten conventional hybrid composites) to adhere *Candida albicans*. Differences in the amount of adhering fungi should be related to surface roughness, hydrophobicity, and the type of matrix. Cylindrical specimens of each material were made according to the manufacturers' instructions. Surface roughness  $R(a)$  was assessed by perthometer measurements and the degree of hydrophobicity by computerized contact angle analysis. Specimens were incubated with a reference strain of *C. albicans* (DMSZ 1386), and adhering fungi were quantified by using a bioluminometric assay in combination with an automated plate reader. Statistical differences were analyzed by the Kruskal-Wallis test and Mann-Whitney U test. Spearman's rank correlation coefficients were calculated to assess correlations. Median  $R(a)$  of the tested composite resin materials ranged between 0.04 and 0.23 microm, median contact angles between 69.2 degrees and 86.9 degrees. The two compomers and the ormocer showed lower luminescence intensities indicating less adhesion of fungi than all tested conventional hybrid composites. No conclusive correlation was found between surface roughness, hydrophobicity, and the amount of adhering *C. albicans*.