

Grandio – Adhesion of candida albicans

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Restoratives should primarily provide stable, functional and aesthetic restoration of tooth substance defects. They should additionally prevent, or at least not promote, the colonization of harmful organisms in the oral cavity. A study at the University of Regensburg (Germany) examined the adhesion of *Candida albicans* to diverse restoratives.^[1]

Candida albicans is the pathogenic fungus occurring most often in the oral cavity. The fungus is detectable in more than half of the population; however the immune defence can normally repress the fungus. Candidiasis can, however, develop in immunocompromised patients (HIV, chemotherapy, etc.) as well as transplant patients, and also infect the internal organs in the course of the affliction and result in serious illnesses.

Analysis of the adhesion of *Candida albicans*

15 test specimens were fabricated for each of the 14 examined restoratives in the study. The test specimens were then stored in a suspension of *Candida albicans* for 2.5 hours at 37 °C. A bioluminescent pigment was added after rinsing the test specimens three times.

The relative luminescent intensity was calculated from a comparison of the luminescence of the untreated test specimens with the incubated test specimens. The results are summarised in Figure 1.

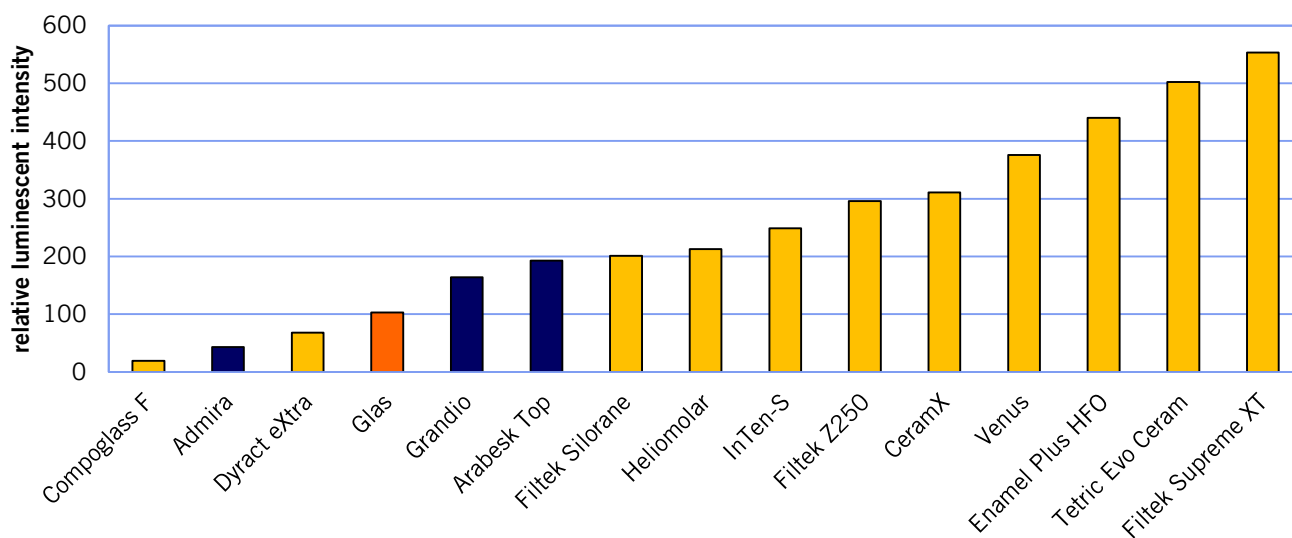


Figure 1: Adhesion of *Candida albicans* to restoratives

The three restoratives from VOCO performed well in this test with very low fungal colonisation. Noteworthy is that the colonisation with the tested compomers and Admira, the ormocer, turned out to be the lowest, while all of the composites demonstrated a higher luminescence than standard glass. The study attributed this to the different hydrophilic properties of the surface. It appears that *Candida albicans* prefers to bind to hydrophobic surfaces.

Conclusion: The adhesion of the pathogenic fungus *Candida albicans* to the restoratives Admira, Arabesk Top and Grandio was very low. The colonisation of the oral cavity with *Candida albicans* is thus not promoted.

[1] R. Bürgers, W. Schneider-Brachert, M. Rosentritt, G. Handel, S. Hahnel, *Clin. Oral Invest.* **2009**, *13*, 293-299.