

## IADR Abstract Archives

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### Comparison of Activated Charcoal vs. Bleaching Toothpaste Over Composite

**Objectives:** To assess whether brushing with whitening or non-whitening activated carbon toothpaste leads to significant changes in composite color and surface roughness. To evaluate changes made to a composite by different types of activated carbon toothpaste.

**Methods:** 70 composite disks (10x2) (Amaris, Voco, Germany) were produced and divided into five brushing study groups (n=14). Group 1 - Control (brushing without toothpaste); Group 2 - Conventional toothpaste (Colgate Total, Colgate, France); Group 3 - Non-whitening activated charcoal (Colgate Total Charcoal, Colgate, USA), Group 4 - Activated charcoal toothpaste (Black is White, Curaprox, Switzerland) and Group 5 - Unregulated activated carbon toothpaste (Zebra Teeth Whitening, China). Brushing protocol was done according to ISO 11609 – 2017, using an electric brush (Oral-B Pro 3000, Germany). The color and the roughness of each disc was evaluated using a spectrophotometer (Vita Easyshad Vita, USA) and a contact profilometer (Hommelwerk Iv50, Germany) at the following periods, assuming two brushings a day: a) 24h ; b) 7 days; 15 days and d) 30 days. Data analysis was made using the statistical analysis software SPSS® v.25.0.

**Results:** There was a significant increase in roughness in all groups at all periods, except in group 1 and 2 for the first day ( $p > 0.05$ ). The lowest roughness values after one month were observed in groups 1,2 and the higher in groups 4 and 5. The values of  $\Delta L^*$ ,  $\Delta b^*$  and  $\Delta E^*$  were significantly altered in group 5 ( $p < 0.005$ ) after 7 days. An increase in  $\Delta b^*$  and decrease in  $\Delta L^*$  was observed in groups 3,4 and 5 at the end of the experiment.

**Conclusions:** Unregulated activated carbon toothpaste presents aggravated roughness and color values and should be used with caution. Whitening toothpaste creates also elevated roughness over composites. Toothpaste with activated charcoal may influence the color of restorations.

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#### SESSION INFORMATION

Poster Session

Dental Materials: Color and Appearance (Esthetics) 2

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