



INSTITUTO
UNIVERSITÁRIO
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Universidad
Rey Juan Carlos

PhD in Health Sciences

Research Area: Oral Rehabilitation and dental materials

Title: Fluorescence and color of dental ceramics: an in vitro study of the influence of cement on the final rehabilitation

Ceramic veneers color is determined by color and thickness of the ceramic, the cement and the color of the dental substrate. Anterior tooth shade matching presents itself as one of the major challenges in aesthetic dentistry. Fully ceramic crowns and veneers are among the most used anterior restorations considering their natural and aesthetic appearance. The color of the ceramic restoration depends on several factors, among them, the characteristics of the ceramic system used, the change of thickness, material or shade of the ceramic, support substrate and resin cementing agent. The color of the substructure also influences the final color of the ceramic restorations. Nonetheless, dentists select color based only on the color of adjacent teeth often disregarding the other factors.

Fluorescence is the optical property responsible for the perception of tooth vitality. It is defined as the absorption of light by a substance and the spontaneous emission of light at a wavelength greater than 10-8 seconds of activation. It consists of the emission of a larger wavelength when a smaller wavelength is used as an illuminant. There are different methods that can be used to measure fluorescence. Among them, photographs of the material under ultraviolet light, produce qualitative results, nonetheless these are more subjective and dependent on several factors (type of camera, illumination type and the observer). Alternative methods such as fluorometers and spectrofluorometers result in quantitative measurements that are not limited as photographic methods.

Keywords: Dental ceramics, Fluorescence, Color, Cement

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