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Editorial

Color stability and the influence of chromogenic beverages

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In recent years, dentistry has undergone a drastic change in several respects. We have switched to minimally invasive preparations, thanks to the improvement in adhesive systems, and preparations have been modified, to preserve as much dental tissue as possible. In this sense, dental treatments mostly require adhesive protocols that allow bonding to different dental substrates. The patient's requirements have also changed over time; the need for high aesthetics is a priority, not only because they are looking for a change in shape but also in color.

Restorative materials, whether direct or indirect, are expected to undergo as little sorption as possible, thus ensuring shade stability. Some of the factors associated with color change are associated with the material itself, such as the chemical composition, the filling material, or the photoinitiators; however, other extrinsic factors can affect long-term color, such as those associated with light-curing lamps or the excessive intake of chromogenic foods and beverages.

It has been observed that in Mexico there is a high intake of chromogenic foods and beverages such as cola, sauces, wine, and caffeine-containing energy drinks. Direct contact with this type of food can produce or accelerate the change of color in restorations, which will require the patient to change the restoration, even if it is in a good state of marginal adaptation. Consequently, the tooth will enter the so-called death spiral[1,2]. It is important to think about and raise awareness in patients, focusing on prevention, the reduction of cola and carbonated drinks in general, as well as sauces, wine, or energy drinks, which in addition to producing a color change have been shown in several studies, the pH they present can erode the dental tissues present, also generating demineralization or white stain lesions.

One of the most reliable methods of assessing color stability is through specialized equipment such as spectrophotometers, which are capable of measuring color on various scales. One of the most commonly used in dentistry is the CieLAb scale, which is capable of measuring color in three dimensions (black-white, red-green, blue-yellow), which allows us to calculate the color difference Delta E (ΔE), i.e. the difference between the initial measurement and the final measurement, thus obtaining a numerical value. In this way, the Delta E value will allow us to find the point at which the human eye can visualize the color change. It has been mentioned that Delta E values above 3 are perceived by an untrained eye, but the dentist's eye can perceive values of 1.5[3,4].

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