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Activated charcoal as a whitening dentifrice

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Purpose: Recent social media posts suggest that activated charcoal powder can be used as a natural tooth-whitening agent, applied by brushing with the powder. This study was designed to assess the abrasive affects to acrylic. We suggest that the charcoal's abrasive characteristics will outweigh the benefits it may produce as a whitening agent and it will be more abrasive than toothpaste and water.

Introduction: Activated charcoal, due to its high capacity for absorption, is ingested in emergency medical situations regarding certain poisons. Its absorbing ability may produce an ion exchange in the mouth via its nano-sized pores to bind and remove tooth-staining agents. The abrasive nature of charcoal powder has not been investigated. Dental acrylic is known to be abraded by toothpaste, which provides a quick screening assessment of abrasive potential.

Methods: Three acrylic resin models were produced, each of equal size, structure, and composition to be used as surfaces in which the following three mixtures were applied by 2,000 strokes of identical toothbrushes: 1 capsule of activated charcoal mixed with 1 ml of water, 1 serving (pea-sized) of CVS brilliant white toothpaste with 1 ml of water and 1 ml of H₂O.

Results: We will compare the visual appearance of the surfaces after abrasion with each medium. Adhesion of particles will also be noted.

Conclusion: Our findings will provide evidence about the possible side effects produced by using activated charcoal as a dentifrice.

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Space management: A novel approach in interceptive orthodontics

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During the mixed dentition, the "golden stage of dentition", both skeletal and dental structures change concurrently. For a child with all developmental spaces prediction goes towards a well aligned permanent dentition. On the other hand, "serial extraction" is the only choice for a dental arch with severe space deficiency. However, borderline cases require more attention and treatment is more complicated. Such cases present with "moderate crowding" during the mixed dentition stage. With no intervention, the crowding will be established in permanent dentition. Consequently, the cases will certainly require an orthodontic treatment with extractions. Customarily, "space maintainer" protocol is indicated when an un-restorable primary tooth is to be removed. The SM appliance maintains the extraction space for settlement of the successor permanent tooth. However, the "Space Management" protocol is indicated when a SM appliance placed in the arch, with moderate crowding and healthy primary tooth is removed to facilitate the permanent tooth eruption. The appliance will remain in the mouth till eruption of all permanent teeth. Decision for "selective early extractions" is based upon number of criteria, like midline status, amount of crowing etc. Like all other interceptive treatments, the key success is the matter of what time, which tooth, from which quadrant and with what intervals to be extracted. These are important considerations for the best crowding resolution. Nonetheless, there are some unpredictable limitations that should be considered when performing the space management protocol. Evidence has fortunately rated this protocol with 75% success.

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