## COMMENTARY

## THE EFFECT OF BLEACHING TIME ON DENTIN FRACTURE TOUGHNESS IN VITRO

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The results of this study are clear: the fracture toughness of dentin decreases with direct exposure of peroxide bleaching products in vitro. Enamel was not present as a potential barrier to peroxide penetration. The study used very long contact times and large reservoirs of product with no potential dilution from saliva.

What we do not know is what significance the present results have to a typical clinical bleaching protocol on intact teeth. The presumed mechanism for fracture toughness reduction is demineralization. If demineralization is indeed the mechanism, then we might reasonably expect some dentin remineralization to occur (as with sealed carious dentin). Furthermore, carbamide peroxide products have been used for a long time, originally advocated as an oral antiseptic for gingival healing and later for caries control. There are no reports of adverse effects, except tooth whitening when it was not a desired result.

In my opinion, the present results should be considered in obtaining "informed consent," especially when dealing with either extended bleaching times or on teeth with dentin exposure.

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