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[\[PDF \(2358K\)\]](#) [\[References\]](#)**Influence of peroxide treatment on bovine enamel surface —Cross-sectional analysis—**[Toshiaki USHIGOME^{1\)}](#), [Shinji TAKEMOTO^{1\)}](#), [Masayuki HATTORI^{1\)}](#), [Masao YOSHINARI^{1\)}](#), [Eiji KAWADA^{1\)}](#) and [Yutaka ODA^{1\)}](#)

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Abstract:

Carbamide peroxide and hydrogen peroxide are used as the main agents in vital tooth bleaching. In this study, the influence of peroxide treatment on cross-sectional morphology and mechanical property was investigated. A 3×5-mm window of enamel on the labial surface of a bovine tooth was exposed to immersion in 10% or 30% carbamide peroxide or hydrogen peroxide for 30 or 180 min. After immersion, the cross-sectional structure of each specimen was examined by nanoindentation and SEM. Nanohardness in the enamel showed a decrease at 2 μm below the surface, but none at 50 μm. High concentrations of peroxide caused erosion to a depth of 5 μm below the surface. In conclusion, decrease in nanohardness and change in morphology were limited to an area less than 50 μm below the surface, regardless of either concentration of peroxide or period of immersion.

Key words:[Nanohardness](#), [Peroxides](#), [Cross-sectional structure](#)[\[PDF \(2358K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

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