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[\[Image PDF \(1568K\)\]](#) [\[References\]](#)**Effect of Conditioners on Bond Durability of Resin Composite to Nd:YAP Laser-irradiated Dentin**[Chun-Cheng CHEN^{1\)}](#), [Tsui-Hsien HUANG^{1\)}](#), [Chia-Tze KAO^{2\)}](#) and [Shinn-Jyh DING^{2\)}](#)

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Abstract:

The aim of this study was to evaluate the effect of conditioners (sodium hypochlorite (NaOCl), Roth's ethylenediaminetetraacetic acid (EDTA), and phosphoric acid) on shear bond strength and morphology of Nd:YAP laser-irradiated dentin. In particular, the key focus was on the bond durability between resin composite and treated dentin after being subjected to thermocycling in artificial saliva between 5°C and 55°C. Results indicated that the application of phosphoric acid to laser-irradiated dentin produced a bond strength comparable to those using NaOCl and EDTA. Further, dentinal tubules which were closed after laser irradiation opened following the treatment with conditioners. When subjected to 3,000 thermocycles, the mean shear strength of the samples treated by the three conditioners following laser irradiation ranged from 9.7 to 12.6 MPa with a reduction of 25-33% — a reduction rate lower than that obtained using acid etching alone (50%). Among the three conditioners tested, only phosphoric acid treatment demonstrated an enhanced effect on bond durability of laser-irradiated dentin.

Key words:[Nd:YAP laser](#), [Shear bond strength](#), [Conditioner](#)[\[Image PDF \(1568K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

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