

Author: [ADVANCED](#)

Volume Page

Keyword: [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1881-1361

PRINT ISSN : 0287-4547

Dental Materials Journal

Vol. 26 (2007) , No. 5 p.746-755

[\[PDF \(269K\)\]](#) [\[References\]](#)**Tensile Bond Strength of Er, Cr: YSGG Laser-irradiated Human Dentin to Composite Inlays with Two Resin Cements**[Wan-Yu TSENG](#)¹⁾, [Min-Huey CHEN](#)¹⁾, [Hui-Hsin LU](#)²⁾, [Chii-Wann LIN](#)³⁾, [Tseng-Ting HSIEH](#)¹⁾, [Chun-Hao CHEN](#)¹⁾, [Juin-Yih LAI](#)⁴⁾ and [Bor-Shiunn LEE](#)¹⁾

1) Graduate Institute of Clinical Dentistry, College of Medicine, National Taiwan University and National Taiwan University Hospital

2) Department of Electrical Engineering, National Taiwan University

3) Institute of Biomedical Engineering, College of Medicine and College of Engineering, National Taiwan University

4) R&D Center for Membrane Technology, Department of Chemical Engineering, Chung Yuan University

(Received October 30, 2006)

(Accepted May 30, 2007)

Abstract:

The purpose of this study was to investigate the tensile bond strength of composite inlays to human dentin with two different cavity preparation tools (bur *versus* Er, Cr: YSGG laser) and with two different bonding procedures (total-etch: Variolink II *versus* self-etch: Maxcem). The specimens were divided into four groups: bur-cut/Variolink II, bur-cut/Maxcem, laser-ablated/Variolink II, and laser-ablated/Maxcem. The following characteristics were then investigated: morphological change, dentin-resin cement interface, surface roughness, and tensile bond strength. Results demonstrated that the tensile bond strengths of the four groups were 19.11 ± 5.88 MPa, 8.54 ± 2.38 MPa, 13.72 ± 3.43 MPa, and 12.11 ± 3.71 MPa, respectively. We concluded that Variolink II provided higher tensile bond strength to composite inlays than Maxcem. On the other hand, the bond strength of Variolink II with dentin cavity prepared by Er, Cr: YSGG laser was statistically lower than that prepared by bur.

Key words:

[[PDF \(269K\)](#)] [[References](#)]

Download Meta of Article[[Help](#)]

[RIS](#)

[BibTeX](#)

To cite this article:

Wan-Yu TSENG, Min-Huey CHEN, Hui-Hsin LU, Chii-Wann LIN, Tseng-Ting HSIEH, Chun-Hao CHEN, Juin-Yih LAI and Bor-Shiunn LEE. Tensile Bond Strength of Er, Cr: YSGG Laser-irradiated Human Dentin to Composite Inlays with Two Resin Cements . Dent. Mater. J. 2007; 26: 746-755 .

doi:10.4012/dmj.26.746

JOI JST.JSTAGE/dmj/26.746

Copyright (c) 2009 The Japanese Society for Dental Materials and Devices



[Japan Science and Technology Information Aggregator, Electronic](#)

