

## **Evaluation of Lasing as a New Treatment Modality for Bonded Retainers**

Ainshams Dental Journal. Volume 3, September 2003

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The most frequent cause of clinical failure of resin—bonded fixed partial dentures is a debonding at the metal -cement interface. The purpose of this study was to compare the shear bond strength of three different alloy-surface treatments when cemented to human enamel with two different resin luting agents. Thirty six discs of nickel-chromium alloy are fabricated and assigned to three different surface treatment groups as follows Group I chemically etched Group II sandblasted with aluminum oxide 50  $\mu\text{m}$  and Group III laser treated [the three groups were further subdivided into subgroups a. and b. [the discs were bonded to the enamel surface of extracted human central and lateral incisors with Bistite II SC and Rely X ARC resin luting cement respectively. All bonded specimens were stored in deionized distilled water for two weeks followed by thermo cycling. The shear bond strength of all the specimens were measured on a Universal Testing Machine. Three specimens of each group were evaluated using scanning electron microscopy. Results were analyzed statistically. It can be concluded that laser has been proven as an effective tool for the metal surface treatment. The highest bond strength was recorded with laser metal surface treatment combined to Bistite II SC resin luting cement.