

BONDING OF LAMINATE VENEER MATERIALS TO ENAMEL

A. E. Khairy and F. Sobhy*

ABSTRACT

The purpose of this study is to examine the effect of enamel surface pretreatment on the shear bond strength of tooth colored restorative materials bonded to human enamel with different luting systems.

Forty-two extracted human molars were used in this study. Buttons, 6 x 3 mm., of two types of composite resin (Silux# & Visio-Gem[®]) and 5 x 3 mm. buttons of dental porcelain, were prepared. The prepared buttons were attached to the buccal, lingual and proximal surfaces of extracted molars. The enamel surfaces were cut in some groups while left uncut in other groups. One, or a combination of two, of the following luting materials was used with the composite resin groups: Chemically-cured Scotchbond# ; Light-cured Scotchbond# ; Visio-Gem ; Visio-Gem Glaze[®] and Conclude[®]. For the porcelain groups, Scotchprime#, Conclude, Silux, and Visio-Gem were used as luting materials. Samples were tested on an Instron testing machine. Single factor analysis of variance of the data obtained that: a) In the silux groups there is no significant difference in shear bond strength between cut and uncut enamel with different luting systems; b) Among the Visio-Gem groups the highest shear bond strength is obtained with the cut enamel surface when a combination of Visio-Gem and Visio-Gem Glaze was used as luting material; c) The porcelain groups show the highest shear bond strength with the enamel surfaces trimmed flat and the use of a combination of Scotchprime and Conclude as luting material.

* Department of Operative Dentistry, Faculty of Oral and Dental Medicine, Cairo University # 3M Company, St. Paul, MN.

@ ESPE -Premier Dental Products, Norristown, P A.