**ID: 3575**

**Congress:** 12th International Congress of Iranian Academy of Restorative Dentistry 24-26 October 2012 Tabriz-Iran

**Title:** Effect of blood contamination during adhesive restorative procedures on dentin-resin cement shear bond strength

**Authors:** Dr Ghaffari T: Assistant professor, Department of prosthodontics, Tabriz dental faculty  
Dr Hamedi Rad F: Assistant professor, Department of prosthodontics, Tabriz dental faculty

**Abstract:**

**Introduction**  
The purpose of this study was to evaluate the effect of blood contamination at different steps during the restorative procedure on the shear bond strength between dentin and resin cement, and to determine the best decontamination method to re-establish the original resin-dentin bond strength. The null hypothesis tested was that different treatments of the blood contaminated dentin do not affect the bond strength.

**Methods and Material:**  
Crowns of 120 bovine incisors were prepared to obtain flat superficial dentin surfaces. Dentin was etched with phosphoric acid and contaminated with fresh blood for 10 seconds, before or after adhesive system application. Different treatments were tested in contaminated dentin, resulting on eight groups (N=15). Composite resin restorations (TPH Spectrum, Dentsply) were adhesively fixed (Excite, Ivoclar-Vivadent) with resin cement (Variolink 2, Ivoclar-Vivadent) and shear bond strength test (0.5 mm/min) was performed. Morphologic observations were carried out with scanning electron microscopy (SEM). Data (MPa) were submitted to one-way ANOVA following Tukey's test (p<0.05), showing that blood contamination during adhesive procedure negatively affects bond strength, and decontamination methods do not recover original bond strength. The negative effects of blood contamination on shear bond strength to dentin and resin cement were significant in all contaminated groups; none of the tested dentin treatment procedures resulted in higher bond strength irrespective of the moment on which blood contamination took place.

**Results:**

blood contamination, adhesive system, dentin bonding, indirect restoration, shear bond strength

**Presentation:** Poster