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## Orthodontic bonding to Adlloy-treated type IV gold

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### ABSTRACT

Adlloy surface treatment of noble alloys has been shown to increase the bond strength of composite to gold alloys. The purpose of this study was to test the bond strength of Adlloy-treated type IV gold surfaces and orthodontic brackets bonded with self-curing composite resin, and compare it with sandblasted gold and etched enamel. Data were derived from a control sample of 40 human premolars and two experimental groups of Adlloy-treated and sandblasted gold surfaces. "A"-Company premolar brackets were bonded with Concise self-curing composite resin. The specimens were submerged in water for 30 days and thermocycled 1500 times before being subjected to shear bond tests. Statistically significant differences were found in the mean values of the three groups ( $F=124.04$ ;  $df=2, 117$ ;  $P<.001$ ). Bonds on the Adlloy-treated gold were twice as strong as those found on microetched gold. Adlloy surface treatment of type IV gold will permit adequate bond strength; however, FDA approval is required for intraoral use.

**KEY WORDS:** Bond strength, Adlloy, Gold.

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