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## Clinical effects of reduction of acid concentration on direct bonding of brackets

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### ABSTRACT

A total of 600 metal mesh-backed brackets were directly bonded to the anterior teeth of randomly selected orthodontic patients. Prior to bonding, enamel etching was carried out with 37% phosphoric acid on one side and with 2% phosphoric acid on the other side. The etch duration was 30 seconds. After 1 year no statistically significant difference was found between the failure rates of the two etching procedures. The assessment of the Adhesive Remnant Index (ARI) after debonding, however, revealed that the application of 37% acid resulted in significantly higher amounts of residual adhesive left on the teeth. The present study demonstrates that a phosphoric acid concentration of 2% can be sufficient for bracket bonding on anterior teeth.

**KEY WORDS:** Acid etching, Dental bonding, Dental enamel.