Can previously bleached teeth be bonded safely?

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The purpose of our study was to determine the effect of a 35% hydrogen peroxide bleaching agent on the shear bond strength of metallic orthodontic brackets. Sixty premolars were randomly divided into 3 groups of 20 each. Teeth in group A were etched with 37% phosphoric acid before bonding metallic premolar brackets. Teeth in the other 2 groups were bleached with a 35% hydrogen peroxide in-office bleaching agent according to the manufacturer’s recommendations. Twenty bleached teeth (group B) were bonded immediately, and the other 20 (group C) were stored in artificial saliva for 30 days before bonding. Shear bond strength of these brackets was measured on a universal testing machine and recorded in MPa. Adhesive remnant index (ARI) scores were determined after the brackets failed. Data were analyzed with analysis of variance (ANOVA) and chi-square tests. The shear bond strength values of groups A, B, and C were 12.9 ± 3.4, 12.0 ± 4.6, and 14.8 ± 4.0 MPa, respectively. Results of ANOVA showed no statistically significant differences in shear bond strengths between groups (P > .05). ARI scores were significantly different in all groups. The unbleached group’s failures were primarily at the bracket/adhesive interface, whereas the bleached groups either showed cohesive failures within the adhesive or failed at the adhesive/enamel interface. The results of this study suggest that office bleaching with hydrogen peroxide does not adversely affect the bond strengths of brackets bonded immediately after bleaching or 30 days after bleaching, even though bleaching can result in differences in the failure site. (Am J Orthod Dentofacial Orthop 2003;123:628-32)