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[\[PDF \(553K\)\]](#) [\[References\]](#)**Ultrasonic cleaning of silica-coated zirconia influences bond strength between zirconia and resin luting material**

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Abstract:

The purpose of this study was to evaluate how ultrasonic cleaning of silica-coated zirconia surfaces would influence the latter's bond strength to resin luting material. Forty zirconia specimens were divided into four groups: one air abrasion group and three silica-coated groups. Silica-coated specimens were cleaned with distilled water using an ultrasonic cleaner after tribochemical silica coating and then divided into three groups according to cleaning durations: 1 minute, 5 minutes, or without cleaning. Following which, resin luting material was polymerized against the specimens. After storage in water for 24 hours, the specimens were subjected to shear bond strength test. Shear bond strength of silica-coated group without cleaning was significantly higher than the other three groups, but there were no statistically significant differences among the three latter groups. SEM images suggested visible differences among the treatment methods. With EDXS analysis, it was revealed that ultrasonic cleaning decreased the silica content on the treated surfaces. Therefore, results showed that ultrasonic cleaning of tribochemically silica-coated zirconia surfaces decreased

the adhesion efficacy to resin luting material.

Key words:

[Zirconia](#), [Silica](#), [Adhesion](#)

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