

# Fracture resistance of zirconia FPDs with adhesive bonding versus conventional cementation.

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## Source

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## Abstract

This study investigated the fracture resistance of three different zirconia fixed partial dentures (FPDs) with different cementation methods. Forty-eight three-unit FPDs were adhesively bonded (AB) or conventionally cemented (CC). Sixteen glass-infiltrated zirconia FPDs were used as a control. Fracture resistance was determined after aging. The zirconia systems showed no significant different fracture forces with the different bonding methods (CC: Cercon [ $1,231.5 \pm 410.1$  N], Ceramill [ $1,311.3 \pm 318.3$  N], Vita YZ [ $1,269.0 \pm 317.4$  N]; AB: Cercon [ $1,072.3 \pm 516.7$  N], Ceramill [ $1,358.6 \pm 176.4$  N], Vita YZ [ $1,270.6 \pm 267.6$  N]) or between the different materials. The control group provided significantly lower fracture strength. Regarding fracture resistance, adhesive bonding or conventional cementation of zirconia FPDs showed no restrictions for posterior application.