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[\[Image PDF \(314K\)\]](#) [\[References\]](#)**Fracture Resistance of Inlay-retained Fixed Partial Dentures Reinforced with Fiber-reinforced Composite**[Tomonori WAKI](#)<sup>1)</sup>, [Takashi NAKAMURA](#)<sup>1)</sup>, [Toshio NAKAMURA](#)<sup>1)</sup>, [Soichiro KINUTA](#)<sup>1)</sup>, [Kazumichi WAKABAYASHI](#)<sup>1)</sup> and [Hirofumi YATANI](#)<sup>1)</sup>

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**Abstract:**

In this study, the effect on the fracture load of inlay-retained composite fixed partial dentures (FPDs) caused by reinforcing them with fiber-reinforced composite (FRC) in different positions was examined. Experimental FPDs were fabricated using Estenia/ EG Fiber (Kuraray Medical) . Pontic reinforcement was then performed in one of the following three ways: reinforced the central area in a single line or in double straight lines, or reinforced the bottom in a curved line. The finding was that, when the area ranging from the connector to the bottom of the pontic was reinforced with FRC in a curved line, the fracture load of the FPDs tended to become higher. In addition, the FPDs fractured mainly at the veneering composite of the connector area. Based on the results of this study, it was concluded that reinforcement using FRC is effective, and that the veneering composite in the connector area needs to have sufficient strength to prevent the fractures.

**Key words:**[Fiber-reinforced composite](#), [Fracture load](#), [Inlay-retained fixed partial dentures](#)[\[Image PDF \(314K\)\]](#) [\[References\]](#)

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