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# A surface-retained glass fiber-reinforced bridge with a CAD/CAM-fabricated pontic

By Dr. Jasmina Bijelic-Donova (Finland), Dr. Clara Anton Y Otero (Switzerland), Prof. Dr. Pekka K. Vallittu (Finland) and Prof. Dr. Ivo Krejci (Switzerland).

Fixed partial dentures (FPD) fabricated from FRC (hereafter abbreviated as FRC FPDs) are nowadays considered a minimally invasive and cost-effective treatment<sup>1,2</sup>. They gained popularity in the early 1990's and since then have been commonly used in teeth with poor prognosis, as a substitute for removable partial dentures that replace a few missing teeth and in situations where costs are an issue<sup>3</sup>. Clinical experience has shown that most clinical failures are due to three main reasons: incorrect fiber orientation<sup>4</sup>, incorrectly designed fiber framework<sup>5,6</sup> or inaccurate occlusal adjustment<sup>3</sup>. The most commonly reported reasons for FRC FPD failures are delamination and chipping of the veneering composite<sup>2,5,7-10</sup>, dislodgement<sup>4,8,9</sup>, and partial<sup>6</sup> or complete debonding. Traditionally FRC FPDs have been fabricated directly (intraorally), semi-directly (chairside i.e. pre-making the fiber framework and the pontic partially extraorally)<sup>2,5,7</sup> or indirectly (in a dental laboratory)<sup>3,4,6,8,9,11</sup>. Until today, CAD/CAM technology has been used only in vitro for fabricating the pontic of a simple FRC FPD<sup>12,13</sup>. To the authors' knowledge, this technique, has not been yet implemented clinically.



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