

# The Use of Tilted Implant for Posterior Atrophic Maxilla.

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### **Abstract**

#### **PURPOSE:**

To retrospectively analyze the influence of implant inclination on marginal bone loss at freestanding implant-supported fixed partial prostheses (FPPs) over a medium-term period of functional loading.

#### **MATERIALS AND METHODS:**

Twenty-nine partially edentulous patients with freestanding FPDs supported by two implants placed in a two-stage procedure comprised the study group. The anterior implant was placed axially, and the posterior tilted distally. Mesial or distal inclination of each implant was measured in relation to the vertical axis perpendicular to the occlusal plane. Average bone loss was compared between straight and tilted implants, smokers, and nonsmokers.

#### **RESULTS:**

Mean angulation of the anterior axial-positioned implant was 3.45 degrees distally (range 0-8) and of the distal implants was 32.83 degrees distally (range 20-50 degrees). Average bone loss after 1, 3, and 5 years was 0.89 (SD = 0.73), 1.18 (SD = 0.74), and 1.50 (SD = 0.81), respectively, for axial implants, and 0.98 (SD = 0.69), 1.10 (SD = 0.60) and 1.50 (SD = 0.67) for tilted implants, with no significant correlation between implant angulation and bone loss. A significant correlation between implant angulation and annual bone loss was obtained for tilted implants only ( $r = 0.52$ ,  $p = .004$ ). Using Albrektsson criteria, the success rate was 89.6% (26 out of 29 implants) for straight and 93.1% (27 out of 29) for tilted implants.

#### **CONCLUSION:**

The study demonstrates no effect of implant angulation on peri-implant bone loss in the posterior maxilla.

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#### **KEYWORDS:**

bone loss; tilted implants

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