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## Effect of implant insertion and loading protocol on long-term stability and crestal bone loss: A comparative study.

Kohen J<sup>1</sup>, Matalon S<sup>2</sup>, Block J<sup>3</sup>, Ormianer Z<sup>4</sup>.

**Author information**

**Abstract**

**STATEMENT OF PROBLEM:** Different insertion and loading protocols have been used to implement implant therapy; the consequences of these methods are unclear.

**PURPOSE:** The purpose of this retrospective study was to compare the long-term outcomes of different implant insertion and loading protocols on crestal bone loss.

**MATERIAL AND METHODS:** This was a nonrandomized retrospective study investigating data of patients in a private practice. Data were collected by an independent Tel Aviv University group from the patient records of a general practitioner's private practice. A total of 1688 implants were inserted in 343 patients whose records met the inclusion criteria, that is, 1317 immediately placed implants (IP group), 310 early placed implants (EP group) placed 6 to 8 weeks after implant placement, and 61 delayed placement implants (DP group) placed 4 to 6 months after extraction. The groups were also divided by implant loading method, giving 1203 immediately loaded implants (IL group), 273 early loaded implants (EL group) loaded within 4 to 10 weeks after implant placement, and 212 delayed loading implants (DL group) loaded within 3 to 6 months. Mixed model analysis was used to account for the different number of implants for each patient.

**RESULTS:** The average follow-up time was 107 months, with a cumulative implant survival rate of 95.6% and an average crestal bone loss of 2.03 mm. No statistical differences ( $P > .05$ ) were found among the insertion or loading protocols. However, additional statistical analysis showed the influence of implant type on marginal bone loss ( $P < .05$ ).

**CONCLUSIONS:** The 3-implant insertion and loading protocols exhibited minimal crestal bone loss and a high survival rate.

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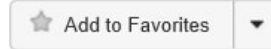
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