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Early loading in edentulous mandibles: healed bone vs. extraction sites

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This study describes success of early/immediately loaded implants [I] in completely edentulous mandibles. 36 patients [P] (18 men, 18 women; 63-81 years old) were treated; 6 had a few periodontally involved teeth in the implantation area which were extracted during surgery; 30 had healed bone. Machined surface titanium implants (Nobel Biocare Sweden) of various length (7-18mm), width (3.75-5.0mm) or design were inserted, the choice left to the decision of the surgeon, taking bone quantity and initial stability into account. All implants were stable at 40 Ncm torque. In total 184 I were installed and loaded within 0-52 (mean 18.2) days. 1/153 I (0.7%) in healed bone failed within 13 weeks. However, 12/31 I (39%) in extraction sites failed 4-16 weeks after loading; they were 15mm (n=8),

13mm (n=3) and 11.5mm (n=1) long. Consequently 3/6 prostheses failed. No delayed losses occurred after 1 year (P=28; I=134), 2 years (P=22; I=104) or 3 years (P=16; I=75) with corresponding mean bone remodelling values of 0.97mm, 1.0mm or 1.3mm.

Brånemark implants with machined surfaces can be early or immediately loaded with cross-arch mandibular restorations in healed bone. This can not be recommended in fresh extraction sites probably because an initially reduced bone to implant contact or increased risk for infection jeopardizes the prognosis.

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