

The use of the SATURN

A winged implant, for Immediate Loading after Socket Preservation.

Author: Dr. Zvi Laster D.M.D

Head of Oral & Maxillofacial Surgery Dept.

Padeh Poriya Medical Center

Tiberias-ISRAEL | zvi@lasters.co.il

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Fig. 1- Split root of #24

A 55 years old female patient was referred to our clinic complaining of pain and mobility of bridge #24-#27. Examination and x-rays (Fig.1) revealed a split root of #24 and bone support loss of #25.



Fig.2 - Socket preservation of #24 and #25.

The bridge was cut mesial to #27 while #24 and #25 were extracted. Due to bone loss, the damaged sockets were preserved using allograft freeze-dried bone particles (Fig. 2).



Fig.3 - Complete healing of the extraction site.

Healing of the site was uneventful with satisfactory results (Fig. 3).

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Fig.4 - Temporary Bridge and Guide.

Immediate loading was planned for the second stage, and a preformed temporary bridge that will function also as a drilling guide was constructed (fig.4).



Fig.5 - The temporary bridge is used as a guide for drilling.

3 months post extraction and socket preservation, the guide was used to mark the drilling points for implantation (Fig.5)



Fig.6 - 2 Winged "Saturn" implants at #24 and #25 sites. Note the Wing penetrating the crest.

2 winged "Saturn" implants (Cortex-Israel) were placed at the preserved #24/# 25 extraction sites (Fig. 6). A regular Dynamix Cortex implant was inserted at #26 site.



Fig.7- 40Ncm resistant torque was achieved in spite of the relative soft bone at the preserved sites.

Although the preserved extraction sites were not finally calcified, a 40Ncm resistance torque was achieved (Fig.7).



Fig.8 - Temporary abutments installed and soft tissue closed.

Temporary abutments were installed and soft tissue was sutured using Vicryl sutures (Fig.8).

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The temporary Bridge/Guide was then installed (fig.9).

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The guiding holes were filled and the occlusion was released from guidance and lateral movements.



Fig.10 - X-ray on day of implantation. The bone particles were not replaced at this time.

The occlusal contact points were reduced as well. Periapical x-ray was taken as a reference (Fig.10).



Fig.11 - Final restoration installed.

4 months later the temporary bridge was replaced by the final restoration. (Fig.11).



Fig.12 - X-ray on day of final restoration installment - Partial bone replacement.

Checkup x-ray at that time showed that still only parts of the bone particles were replaced (Fig.12).

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Fig.13 - Final restoration 12 months after installing.

The patient returned for 1year recall. On examination, a sound pink and healthy attached gingiva was present without any pocket formation around the implants (Fig 13).



Fig.14 - Final restoration 2 years after installment.

Next recall was 2 years post installment of the final restoration. Examination revealed no change in soft tissue condition. (Fig.14)

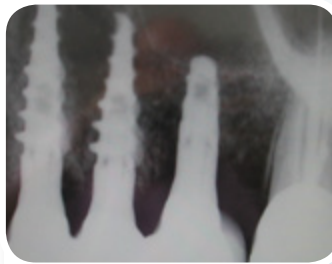


Fig.15 - X-ray 2 1/2 years post implantation shows no bone loss and almost complete replacement of the bone particles by native bone.

An X-ray was taken at that examination, 30 months post-op, that exhibited minimal bone loss around the neck of the winged implants at #24 and #25. It showed also that practically all of the bone particles were replaced by regular bone. (fig.15)

A plausible reason for the minimal bone loss may be attributed to the wings of the “Saturn” implant that defuse the stress around the cervical area of the implant. A computerized finite element analysis supports this hypothesis.