



# *immediate temporary restoration*

A reliable guide for the final restoration on Xive TG  
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## **INTRODUCTION**

In the field of implant dentistry, there is an abundance of clinical and scientific data that supports immediate loading as a viable and successful dental treatment. The first longitudinal clinical trial on immediate or early loading in mandibles was published in 1990. Today, we are studying and implementing protocols for immediate loading implants placed in fresh extraction sockets or positioned in soft quality bone such as the posterior mandible and the maxilla.

When treating patients with immediate placement and immediate loading protocols, the morbidity rate is reduced and the peri-implant soft tissue morphology is better maintained. The residual alveolar ridge is possibly preserved and any kind of removable intermediate prosthesis is unnecessary.



1, 2\_ All teeth in the maxilla need to be removed



2\_



3\_4 out of 8 implants were inserted into the fresh socket after tooth extraction



4\_ The stent – based on the mock-up – gives information about the implant position

Immediate functionality and esthetic rehabilitation can be achieved and patient comfort and acceptance of the implants appreciably increased. Obviously, the cases that benefit most from these treatment protocols are those, in which all residual teeth are going to be lost or all pre-existing fixed prosthesis are unsalvageable. Patients over 50 more and more decide to proceed with an implant-supported bridge rather keeping longer periodontal or poor prognosis teeth (Fig. 1 and 2).

Immediate and early loaded implants may be at greater risk of failure than conventionally loaded ones but the treating dentist has to distinguish each and every time the patients optimal treatment plan. Factors that influence the overall success of such treatment methodologies are according to Esposito et al the operators experience, the degree of primary stability at implant insertion, the proper patient selection and most possibly the design of the prosthetic rehabilitation.

- Dentist's experience
- Degree of primary stability at implant insertion
- Proper patient selection
- Most possibly the design of the prosthesis rehabilitation (passive fit of the prosthesis and cross arch stabilization)

Chipasco in an extensive literature review concluded that for the mandibles at least 4 implants in the anterior regions are able to support a fixed prosthesis when immediate loading is advocated whereas a greater number of implants are necessary in the maxilla. Primary stability and insertion torque up to 35 Ncm seems to be one of the most important factors for long-term survival of implants.

#### CLINICAL PROTOCOL

In our clinic, we performed immediate loading of implants on eleven patients using the technique described below – six of these treatments in the maxilla and five in the mandible. Out of the total 63 Xive TG implants, 37 of these in the maxilla and 26 in the mandible. The first treatment was in March 2005 – the follow-up periods for these cases range from 48 months to 18 months. We succeeded in having no implant or prosthesis failures, despite the fact that 31 of these implants (half of the total implants) were placed in immediate extraction sites.



5\_Xive TG with temporary metal abutments



6\_Dental dams protect the fresh implant area



7\_The mock-up provides the mould for the temporary prosthesis



8\_Acrylic resin connects the mould and the temporary metal abutments

This innovative technique involves full arch cases with immediate loading of Xive TG implants. We work exclusively with backwards planning and always prepare a mock-up before implant placement. All teeth removed (Fig. 3), after the placement of the implants (Fig. 4 and 5), temporary metal abutments are picked up with cold cured acrylic in a pre-made prosthetic stent (mock-up) directly from the patient's mouth (Fig. 6-8). The stent must be positioned correctly and the temporary abutments must be incorporated in this prosthetic stent. 2-2,5 hours later, this stent will become the temporary immediate prosthesis (Fig. 9 and 10). In these cases, the immediate temporary prosthesis plays a decisive role (Fig. 11). When the proper time is chosen for making the final prosthesis, only one office appointment is required for the patient. This appointment consists of:

1. Registration of face bow and centric relation using the immediate prosthesis (Fig. 12 and 13).
2. Final impression with an open tray with the entire temporary prosthesis being removed from the mouth using the corresponding long screws (Fig. 14 and 15). No impression pins are used in any point.



9, 10, 11\_The dental technician transforms the stent to a temporary bridge



10\_



11\_



12, 13\_Facebow and centric relation registration after 5 months



13\_



14 15, 16\_Preparation for final impression



15\_



16\_Articulation of final cast with the temporary bridge

This method leads to 100 percent accuracy of the final cast (Fig. 16). Furthermore, the technician already has access to a buccal silicone stent (Fig. 17) made from the temporary prosthesis, which is screwed to the final cast. This stent indicates the correct buccolingual, incisal, and occlusal teeth positions (Fig. 18-20). Prior to the creation of the final prosthesis, all of these parameters should be established in order to achieve esthetic and functional patients demands.

### CONCLUSIONS

This is an immediate loading protocol in edentulous patients with a one-stage implant design. Additionally, the Xive TG has a final abutment incorporated to the implant body, thus being immediately ready for the integration of a prosthesis. It is preferably used for patients with a considerable loss of hard and soft tissues and a low lip line. The fact that it is a one-stage implant with a 2 mm polished transgingival neck results in a proper healing and preservation of soft tissues over time, as the prosthetic connection is in a safe distance from the bone level. The Xive TG implant seems to have a positive influence to the biological width around the implant neck. Some obvious advantages of immediately loaded temporary prostheses are increased patient satisfaction and reduction of required treatment time. Furthermore, the guidance achieved from a tested temporary prosthesis allows one to create any kind of final prosthesis, whether fully ceramic or with metal reinforcing, with the highest degree of fitting accuracy and esthetic success. ■

Literature from the author on request



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17\_The mock-up mould provides orientation to design the final prosthesis



18, 19, 20\_The final situation with a metal-reinforced ceramic bridge



19\_



20\_