

Implant-Supported Prosthesis Impressions: Clinical Features and Production Techniques

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Abstract

In implantology, taking an impression is the fundamental link in the prosthetic chain, and has its own specific character of precision.

In this work, we present this crucial stage of the treatment by highlighting the specificities in terms of the production chronology and the recommended fittings.

Then, we discuss the benefit of rigorous treatment of implant impressions and obtaining a validated working model allowing a faithful reproduction of the position, the cervical and the internal configuration of the implants guaranteeing a precise and passive prosthetic adaptation.

Keywords: *Implantology; Prosthetic Chain; Implant Impressions*

Introduction

Conventional fixed prosthesis impressions are used to transfer to the laboratory all the necessary information to obtain an accurate replica of the therapeutic procedure performed in the mouth.

In implantology, the impression is made at the end of the healing period of stage 2 surgery, between 3 to 6 months after implant placement.

First, we will focus on presenting and describing the different implant impression techniques, then we will describe the method of treatment of these impressions allowing to obtain a working model faithful to the clinical situation in the mouth.

Impression materials

Elastomers:

- Silicone crosslinking by addition: Silicone A or Vinylpolysiloxane.

- Better dimensional stability/Permanent deformation + low.
- No alteration of the surface condition of the replica material.

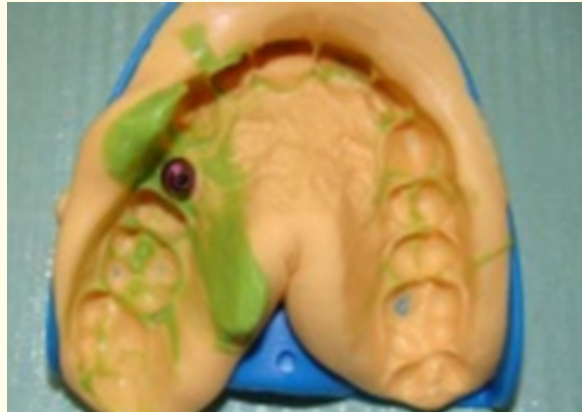


Figure 1

Polyethers:

- Adapted viscosity.
- Hydrophilic with great ability to wet surfaces.
- Less risk of transfers displacement in the footprint.
- Compatible with replica materials.



Figure 2

The plaster:

- Dimensional stability after setting.
- Low cost.
- Combination with other materials: elastomers, polyethers, irreversible hydrocolloids.



Figure 3

Impression techniques

Direct, open technique known as: pick-up

- More precise technique, simpler and allows a good visual control of the adaptation of the analog.
- This technique uses a windowed P.E.I. and consists of unscrewing the transfer and taking it into the impression [5].

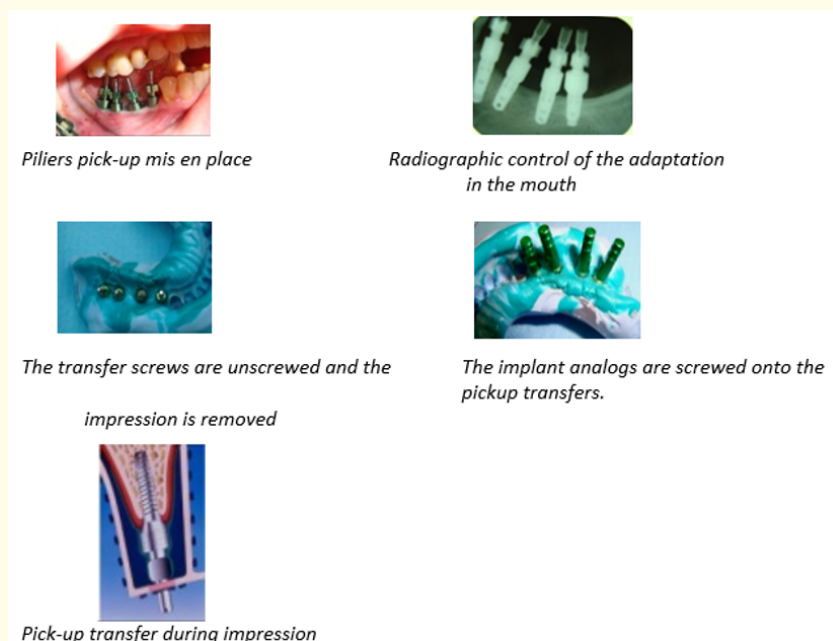


Figure 4

Impression with clipped transfers: Snap-on

- Plastic transfers clipped onto the prosthetic abutment.
- During disinsertion, the transfers are carried away in the impression [5].

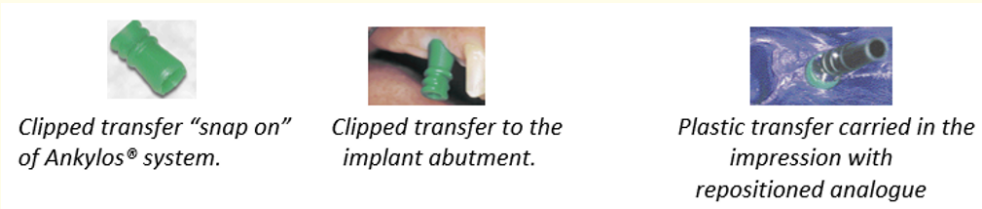


Figure 5

Indirect, closed technique known as: Pop-on

- Uses closed impression trays, and resembles conventional techniques
- This technique uses a short screwed or screwed transfer which remains in place during the removal of the impression [5].

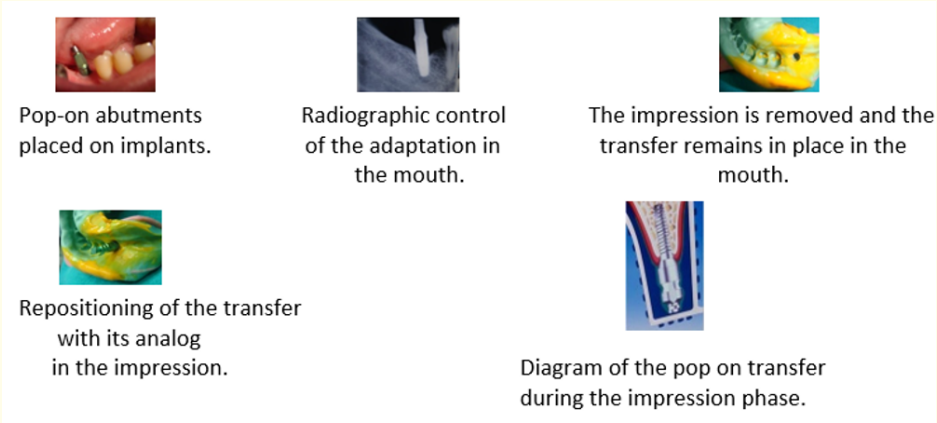


Figure 6

Implant abutment impression: FM-clip concept

This technique uses one-piece false dies associated with small impression trays to make a conventional impression of the abutments guaranteeing a good emergence profile [1].



Figure 7

Modified direct technique: modified pick-up

When there are several implants, the pick-up transfers are joined together in the mouth with calcinable resin. After polymerization and impression taking, the transfers are unscrewed and the impression tray is removed [5].

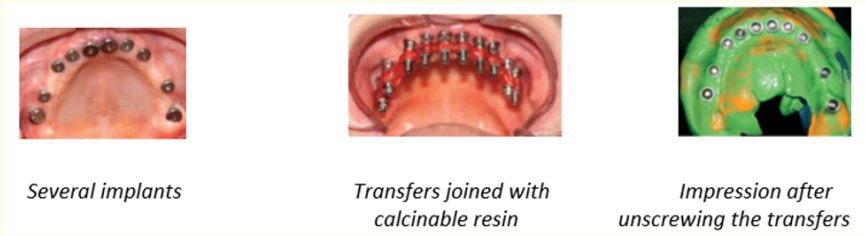


Figure 8

Optical impression: Scan body [6]



Figure 9

Treatment of physical prints

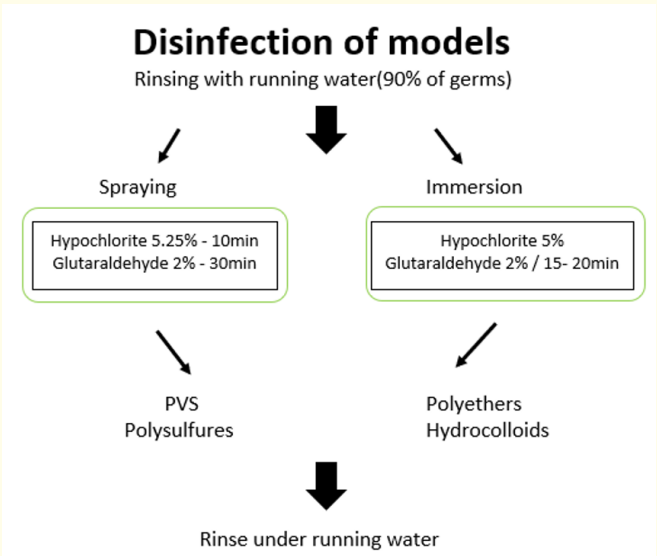


Figure 10

Working model

Model with false gingiva

The soft tissue material is applied directly to the impression [3].

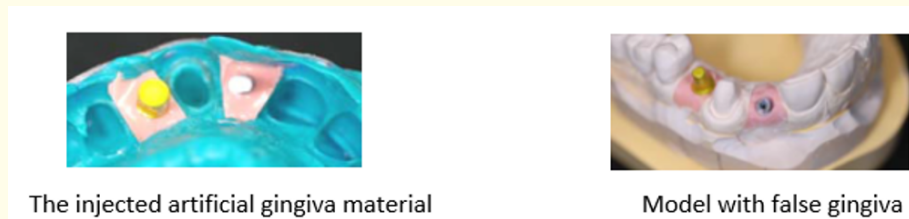


Figure 11

Model without false gingiva

The analog junction /the transfer is waxed. The molding is then made directly in hard plaster, class IV [2,4].

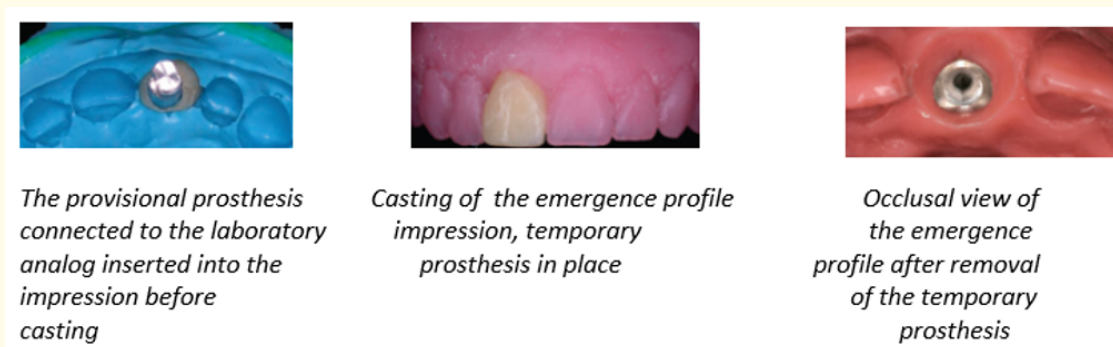


Figure 12

Conclusion

The impression is not the only important element to understand in the prosthetic implant restoration. A large number of parameters must be taken into account to approach the desired perfect passivity. The realization of the working model, the different metal casting processes and the choice of alloy are all factors that can compromise the obtaining of a suitable prosthesis.

However, it is imperative to establish a true interdependence between the laboratory and the dental office. Effective and permanent communication between these two parties is the key to prosthetic success.

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