Implant-based all-ceramic restoration using 3M Impregum Penta Polyether Impression Material

By Dr. Gunnar Reich, Germany

Open tray (pick-up) technique

Initial situation

Single implant in region 15 to replace missing tooth. Patient arrived for impression taking appointment with trans-gingival healing cap. Surrounding soft tissue shows excellent healthy conditions (Fig. 1).

Treatment

After removal of the healing cap, the impression post (Straumann implant system) for the open tray (pick-up) technique was positioned (Fig. 2). For impression taking, Impregum Penta Polyether Impression Material was selected. For the monophase technique the same material is used for tray loading and syringing the impression post. While the assistant was filling the tray, the dentist syringed the material thoroughly with the elastomer syringe (Fig. 3). The impression was taken using a 3M ESPE Impression Tray. The perforation was made according to the individual situation (Fig. 4). The accurate impression with the fixed impression post (Fig. 5) was then sent to the dental lab. Prior to pouring the model, the laboratory implant analog was exactly mounted (Fig. 6).

For highest esthetics, a custom-made zirconia abutment (3M Lava Plus) was delivered by the lab. On top, an individualized monolith (3M Lava Plus Zirconia crown was placed (Fig. 7). In this technique, the direct transfer coping gets “picked up” and remains in the set impression upon removal from the mouth. Once the impression has set, the screw holding the coping on the implant is accessed through the hole above/below the implant in the open tray and unscrewed to allow removal of the impression from the mouth. Once outside of the mouth, the implant analogue is connected to the transfer coping prior to pouring the stone model (Fig. 8).

Closed tray (snap-on) technique

Initial situation

Single implant in region 15 to replace missing tooth. Patient arrived for impression taking appointment with trans-gingival healing cap. Surrounding soft tissue shows excellent healthy conditions (Fig. 1).

Treatment

After removal of the healing cap, the corresponding impression post and the impression cap (CAMLOG implant system) for the closed tray (snap-on) technique were mounted. For impression taking, Impregum Penta Polyether Impression Material was chosen since it offers dimensional accuracy and a secure impression cap fixation. The impression was taken using a regular stock tray. For the monophase technique the same material is used for tray loading and syringing the impression post. While the assistant was filling the tray, the dentist syringed the material thoroughly with the elastomer syringe (Figs. 2 and 3).

The accurate impression with the fixed impression cap (Fig. 4) was then sent to the dental lab. For high esthetics, a veneered Lava Plus all-ceramic crown was placed on an individualized Lava Plus Zirconia abutment (Fig. 5).

Closed tray (snap-on) technique

In this technique, the direct transfer coping “snap-on” to the top of the implant abutment in the mouth. Once the impression has set, the coping becomes embedded in the impression and is pulled off of the implant abutment when the set impression is removed from the mouth. Once outside of the mouth, the implant analogue is connected to the transfer coping prior to pouring the stone model (Fig. 6).

Tips for making great implant impressions

- Support tray until impression material is sufficiently set. Stabilize the tray after seating, avoid any movements.
- Use enough material and keep the tip permanently immersed in the material during syringing to avoid air entrapment and voids.
- Pick-up technique: Widen implant windows in the tray to avoid tray-abutment contact.

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Dental Practice Spearhead Dental Practice

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