Completely Digital Supplied, Part 2

Digital Approach Based on Analog Fundamentals: Our author describes a prosthetic treatment with a ceramic implant, a custom abutment, and a crown made of monolithic zirconium dioxide. In the second part of the article, we will discuss the scanning of the model with the individually fabricated abutment and the digital modeling of a crown.

Materials List

- Zeramex Implant XT16510
- Zeramex XT Abutment ZERABASE WB RB16530
- Zeramex Scan-Body RB36514
- Zeramex XT Digital Implant – Replica RB
- priti multidisc Zr O_2 multicolor, extra Translucent
- priti multidisc Zr O_2 monochromatisch Opaque
- Glass Solder DCM hotbond zircon
- Polisher EVE DIACERA Set HP 321
- Polisher EVE OCCLUFLEX

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The model is scanned with the individually fabricated abutment (Fig. 32) (Fig. 33). A crown is digitally modeled with the occlusion type 'static' in the anatomy process (Fig. 34). Then, the insertion direction is set in the software (Fig. 35). Various steps are taken to construct the abutment (Fig. 36 to 38). The cement gap is also prepared for the crown (Fig. 39). Finally, the anatomy of the opposing crown is mirrored (Fig. 40) and slightly adjusted, occlusion is checked (Fig. 41). Then, nesting is performed again (Fig. 42 and 43), and it is milled from priti multidisc ZrO2, multicolor, extra translucent.

After the sintering process, crown 37 is placed on the model. The completed work is checked for the contact point and dynamic occlusion (Fig. 44 to 46), and then it is polished to a high gloss in three stages using special polishers from EVE DIACERA Set HP 321. The new EVE OCCLUFLEX is a great help in achieving targeted polishing of the occlusal surface (Fig. 47 and 48). Currently, it is only available with a VG shank, but it will be available in the near future with a regular shank for the handpiece. This step is crucial to avoid damaging the antagonist (Fig. 49 and 50). An insertion key is provided as a standard practice accessory (Fig. 51) to ensure the correct placement of the custom abutment (Fig. 52).

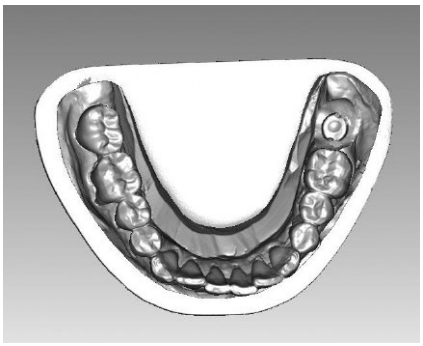
Final Integration

Insertion and securing were carried out without any issues. The crown elegantly conformed to the gingiva and the tooth row (Fig. 53 to 55). The final X-ray image illustrates the success (Fig. 56) of a metal-free restoration, from the implant with screw to the custom abutment with glass solder and a monolithic zirconium dioxide crown.

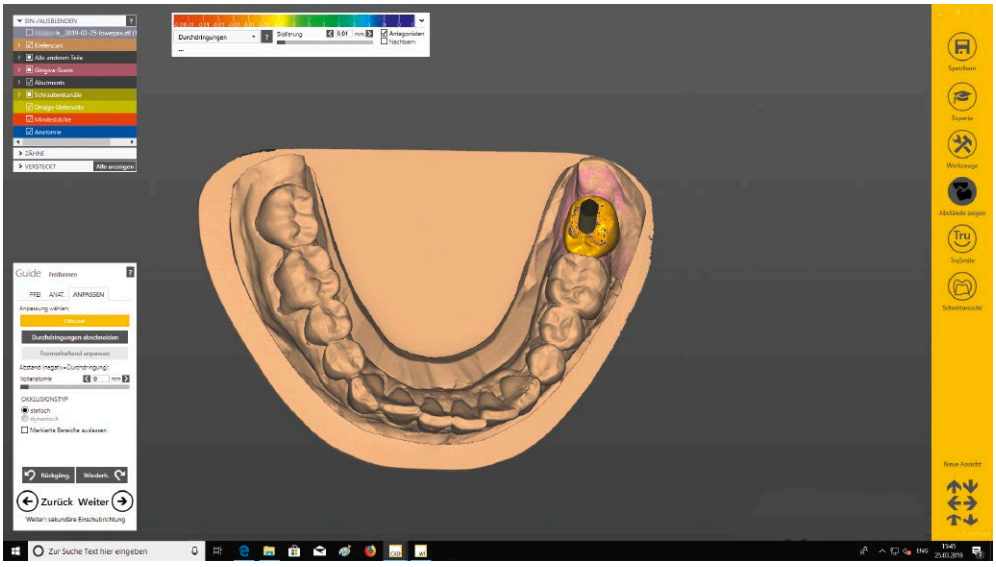
Conclusion

Today, it's no longer a problem to produce such restorations 80 percent digitally. Technical intermediate steps and finishing were done analogically - something that digitization hasn't fully replaced yet. Analog fundamentals are still very important, especially in cases like this. In the future, the impression process will be replaced by intraoral scanners, eliminating the need for a physical model. ■

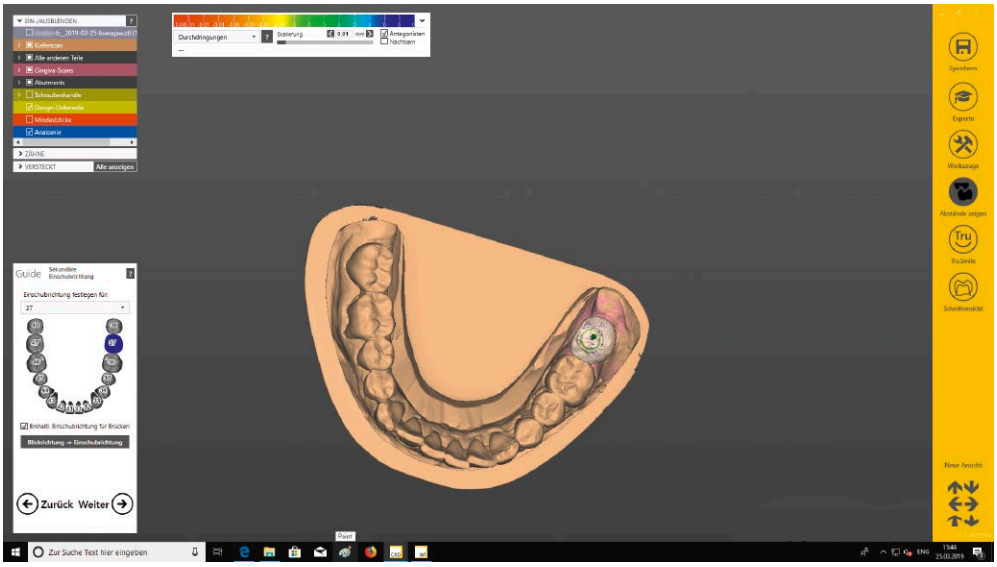
32 Custom Abutment on Model



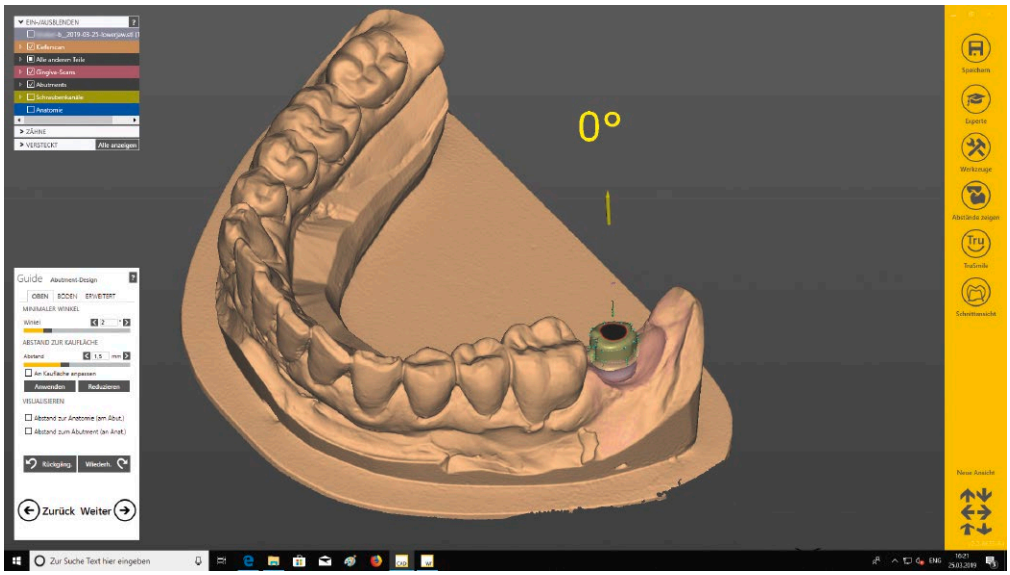
33 Jaw scan for the framework

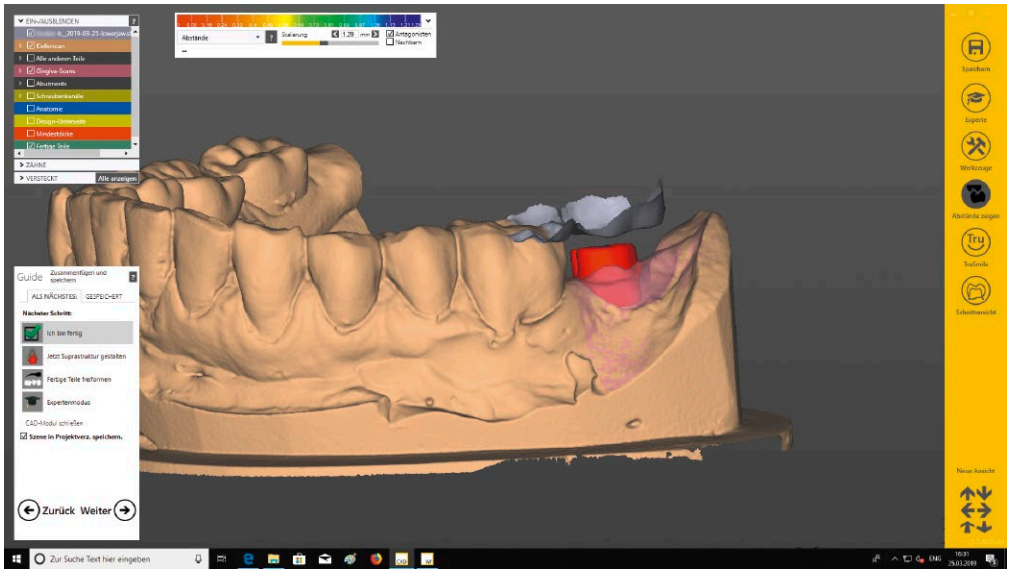


34 Anatomy for planning

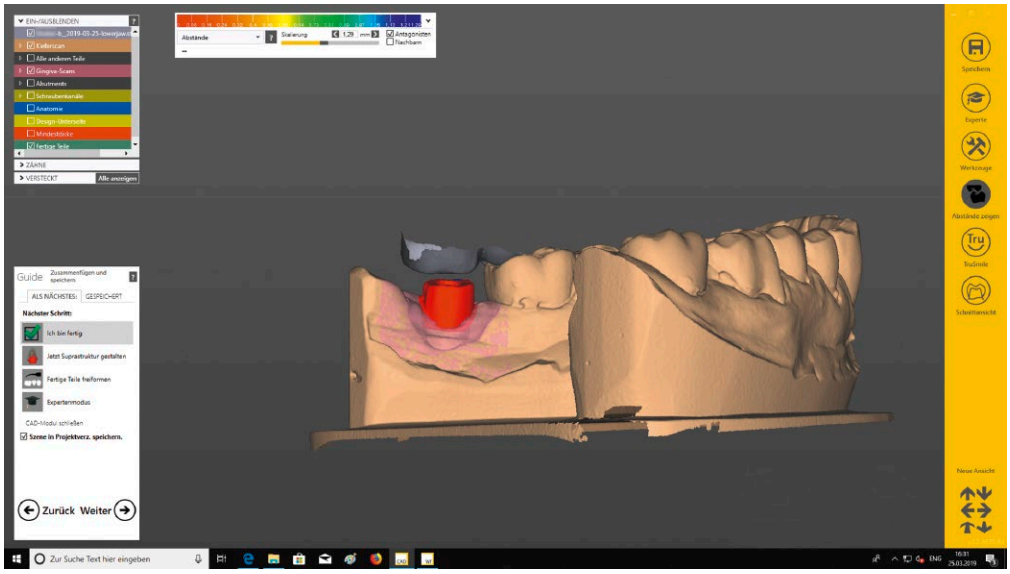


35 Insertion Direction

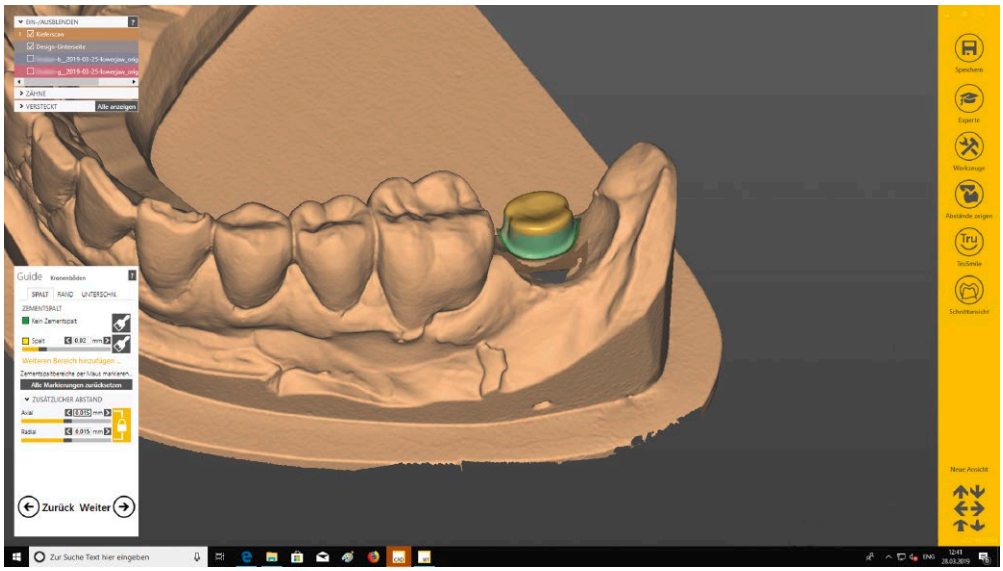




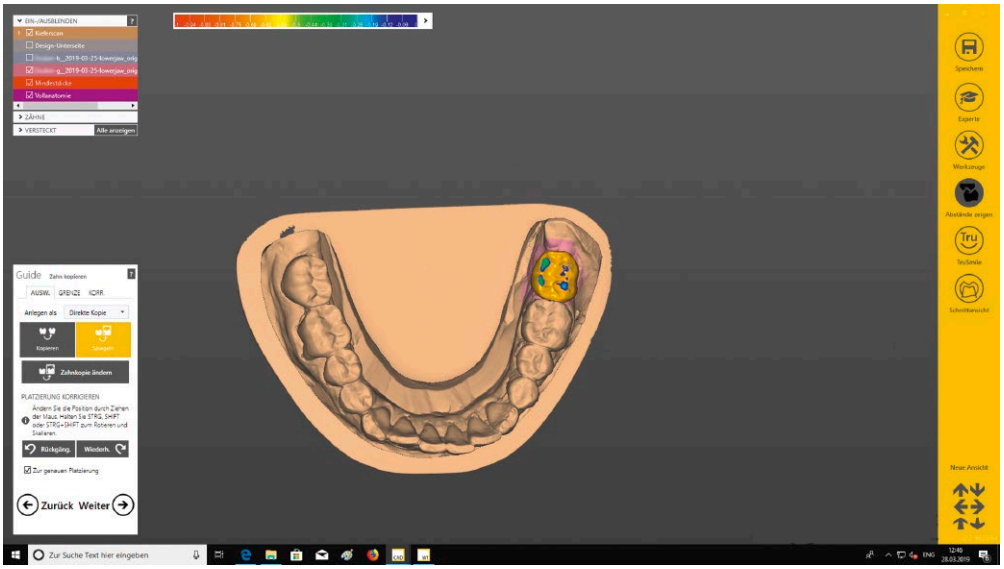
36 and 37
Constructing the abutment



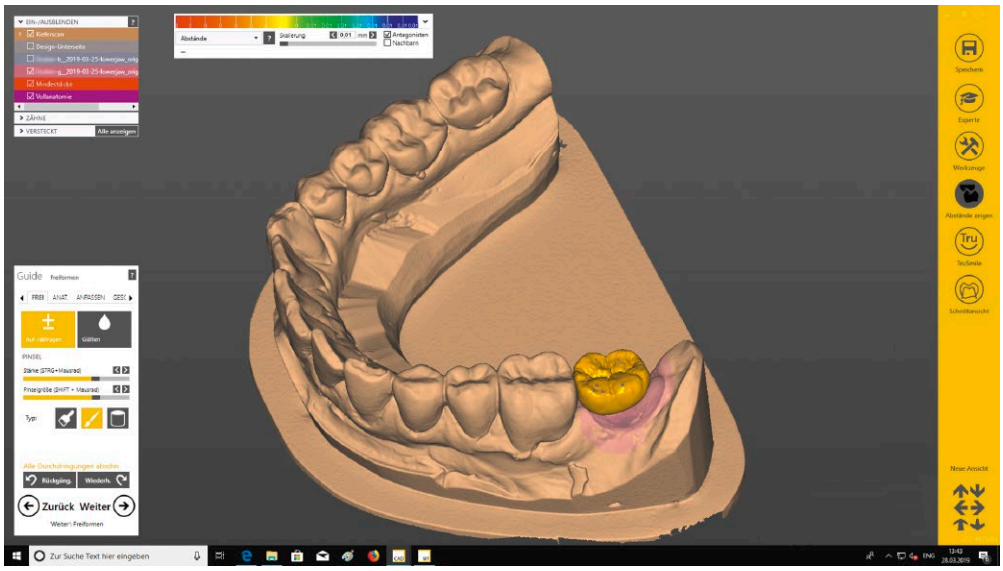
38 Finished Abutment Lingual



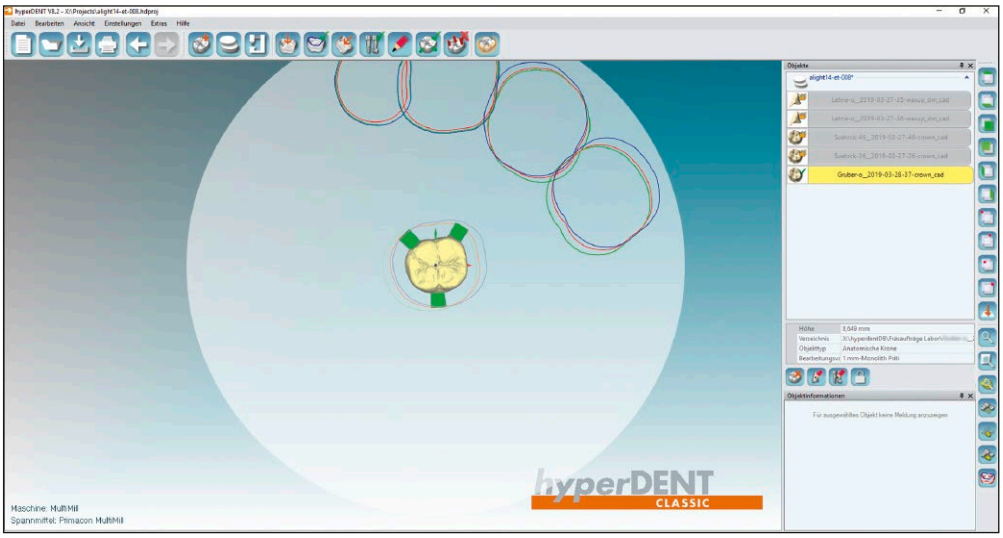
39 Cement Gap for the Framework

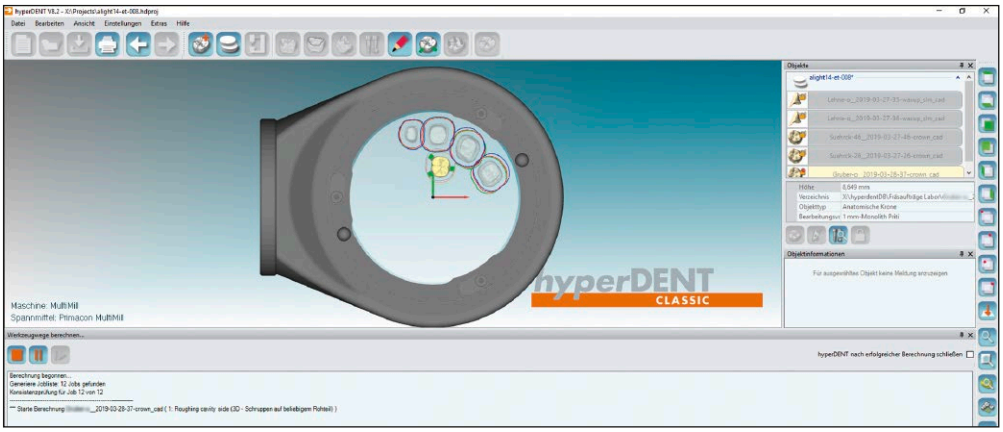


40 Mirrored Anatomy

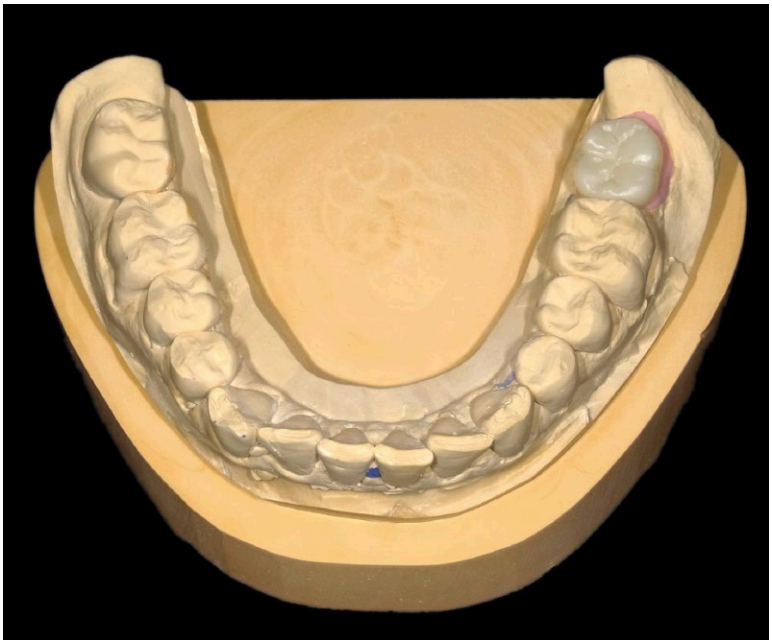


41 Finished Design

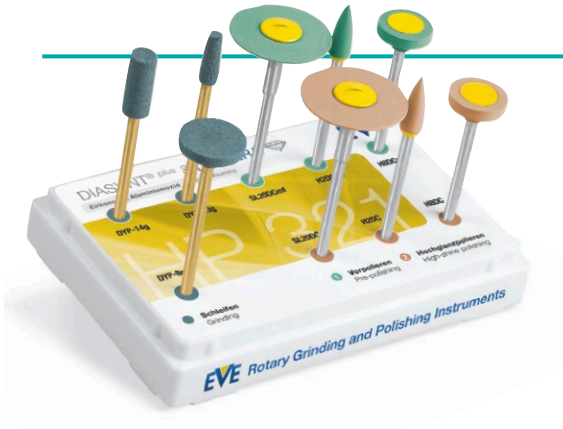




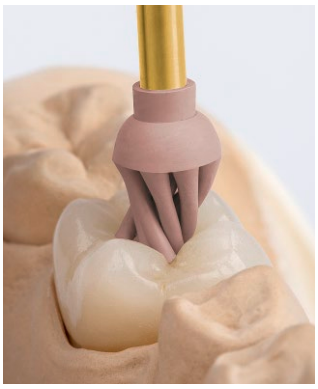
42 and 43 Nesting



44 to 46 Zirconium Dioxide Crown on the Model



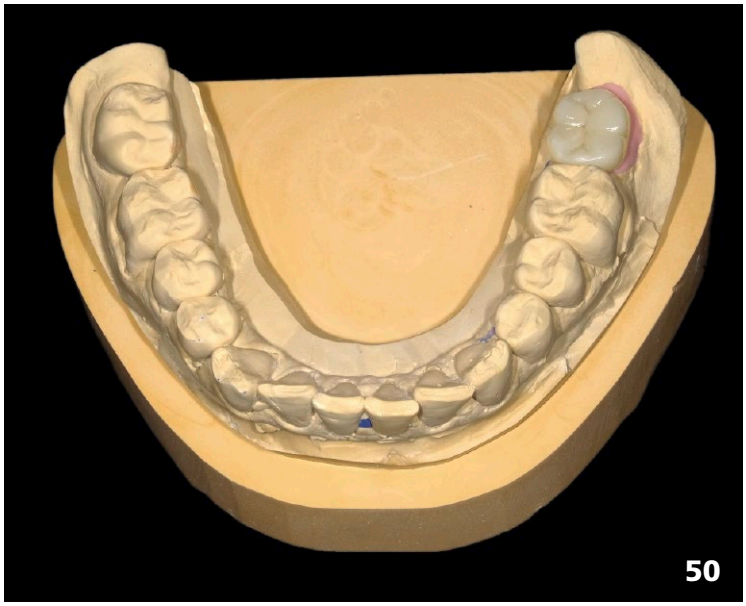
47 EVE DIACERA Set HP 321

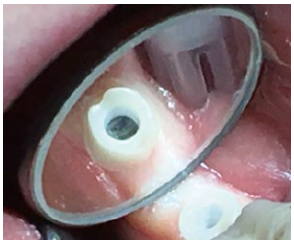


48 EVE OCCLUFLEX

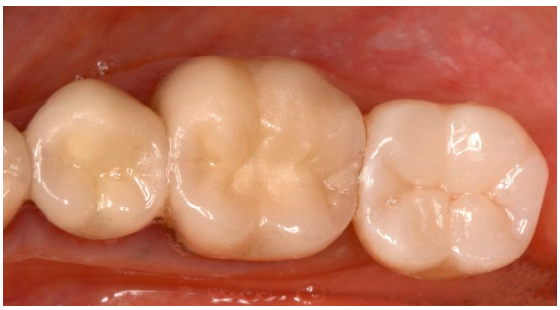
49 and 50 Polished Crown

51 Insertion Aid

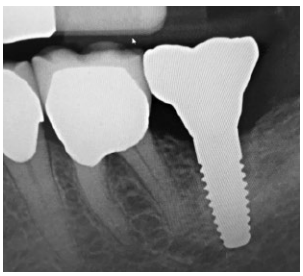




52 Custom Abutment in Situ



53 and 55 In Situ



56 X-ray image