Trends & Applications

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In the past several years, the range of restorative materials available for dentists and dental technicians has increased remarkably. New technologies have made treatment processes more efficient and enabled dental professionals to fabricate reproducible and predictable restorations that blend into the natural oral environment harmoniously.

In direct restorative treatment with composite materials, the increment technique has so far been the gold standard. This technique requires applying the material in thin layers and curing these increments individually. Consequently, it is relatively time-consuming to place restorations. Quality issues also often arise, such as air bubbles between the layers, for example. The increased risk of contamination of the materials can also compromise the quality of the restorations.

Some manufacturers, however, offer composites that can be placed in the cavity in large (bulk) increments. Tetric N-Ceram Bulk Fill (Ivoclar Vivadent), for example, can be cured in layers of up to 4 mm thick.

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Tooth 14 was finally prosthetically restored. Two weeks after the exposure of the implant, an impression of the dental situation was taken (Fig. 9) and an individualised hybrid abutment was planned to provide the basis of the restoration. For this purpose, an abutment was modelled, pressed (IPS e.max Press, Ivoclar Vivadent, HO) and then adhesively cemented to a titanium base (Multilink Implant, Ivoclar Vivadent). During the try-in of the abutment, the cervical margin and the emergence profile were examined (Fig. 10). Since no additional adjustments were required, the crown was fabricated (IPS e.max CAD, Ivoclar Vivadent, LT A2) and characterised with stains (Fig. 11). In the permanent cementation of the crown to the abutment, retraction cords were used to minimise the occurrence of excess luting material in the gingival area, as well as to allow the easy and safe removal of excess material after curing if required (Figs. 12 & 13).

Conclusion

The ongoing development of dental materials and processing techniques has greatly affected and changed restorative dentistry. Tetric N-Ceram Bulk Fill, which is light cured in 4 mm layers, simplifies direct restorative filling therapy with chairside composites. IPS e.max CAD, which is processed using CAD/CAM technology, renders the fabrication of restorations efficient. Furthermore, individualised ceramic layering is no longer required for certain indications.

In this case, the implant in the position of tooth 14 was restored with an all-ceramic restoration. Tooth 15 was restored with a composite filling (Fig. 14). Although this indication does not seem to be as demanding as anterior restorations, patients expect natural-looking results nevertheless (Fig. 11). Therefore, both dentists and patients desire a simple and efficient procedure that will produce aesthetic results.