PRECISE IMPRESSION-TAKING FOR PERFECT RESTORATION - Preparation for a bridge reconstruction

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Perfect impression-taking is a prerequisite for the production of high-quality restorations. After all, optimal preparation is of no use if it is not subsequently possible to transfer the oral situation to the model in perfect detail and ideally 1:1. The use of highly precise impression materials is essential for this to be successful and for even the minutest and most intricate details in the mouth to be reproduced exactly. Materials which satisfy this requirement need to display a whole range of properties such as good hydrophilicity, precise dimensional accuracy and a high degree of resilience.

CASE REPORT

A patient (39 years old) presented in my practice requesting closure of a tooth gap in the region of tooth 36. Following detailed examination of the entire set of teeth and corresponding briefing, the patient elected to have the masticatory function restored by means of a bridge. As tooth 35 and tooth 37 each required a crown, restoration of gap 36 with an implant-supported restoration was not desirable. As the patient's primary focus was on closing the gap, tooth 34 was initially not restored with a crown at her request.
Tooth 35 and tooth 37 were prepared with a chamfer so as to accommodate the planned bridge with 36 as a pontic. The shade of the bridge (A2, Vita) was determined based on tooth 34 (Fig. 1).

OPTIMAL FLOWING BEHAVIOUR

Following successful preparation, size 00 and 0 retraction cords (Müller-Omicron) soaked in Viscostat (Ultradent) were laid on top of each other in the sulcus so as to indicate the preparation margins clearly (Fig. 2).

Following a short exposure time, the first cord (size 0) was removed and the tooth stumps dried and completely surrounded with V-Posil Light Fast (VOCO) (Fig. 3).
Thanks to the good hydrophilicity and the optimal viscosity, the impression material flowed around the tooth stumps and into the opened sulci very nicely. Following surrounding of the tooth stumps, the impression tray filled with V-Posil Putty Fast (VOCO) was introduced and removed again after two minutes in the mouth (Fig. 4). With an extraoral working time of two minutes, the material offers sufficient time for the preparatory steps and can be removed from the mouth after just two minutes, which also keeps the treatment step comfortably short for the patient.
The impression of both tooth stumps was taken exactly and all the details are clearly identifiable (Fig. 5). The material combination of the slightly viscous V-Posil Light Fast and highly viscous V-Posil Putty Fast thus lays the ideal foundation for further dental work.

CONCLUSION

In addition to clear preparation and atraumatic but still precise soft tissue management, perfect impression-taking also plays a very important role in the production of perfectly fitting restorations. The resulting model – with clear preparation margins and dimensional accuracy – allows the dental technician to produce a perfectly fitting bridge (Fig. 6-7). Following permanent luting with the self-adhesive composite cement Bifix SE (VOCO), the bridge blends harmoniously into the patient's mouth in terms of both its shape and colour (Fig. 8-9).

IMAGES

Fig. 1: Determination of shade for planned bridge.

Fig. 2: Prepared teeth with retraction cords.

Fig. 3: Surrounding of tooth stumps with V-Posil Light Fast (VOCO).

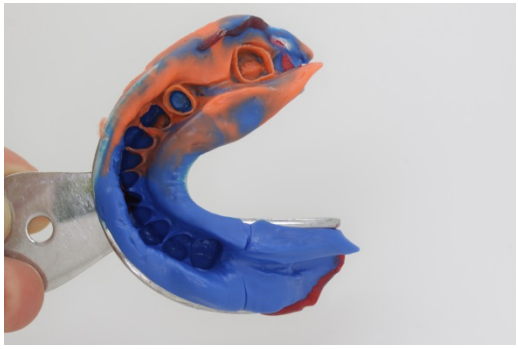

Fig. 4: Final impression-taking with V-Posil Light Fast and Putty Fast (VOCO).

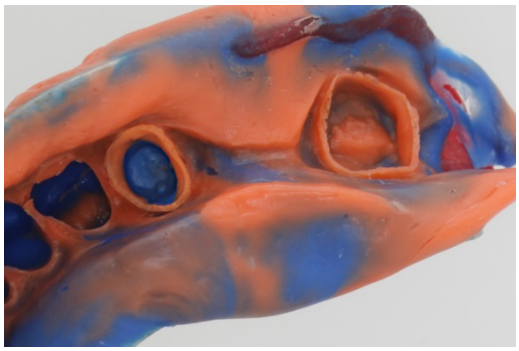

Fig. 5: Minutest details identifiable in the impression. (The edge of the tray had already been blocked with blocking wax dorsally on both sides.)

Fig. 6: Close-up of model with visible precise preparations.

Fig. 7: Final restoration on the model.

Fig. 8: The intraoral check confirms the excellent fit of the bridge.

Fig. 9: Following luting of the restoration with Bifix SE (VOCO), the result appears natural.

AUTHOR

Dr. Walter Denner studied dentistry in Würzburg (graduating in 2001) and then worked as a research associate in the Department of Restorative Dentistry and Periodontology at the University of Würzburg (Director: Prof. Dr. Klaiber). He was then employed as a dentist in Nuremberg (Dr. Lex's practice) from 2007 to 2010. He has been a DGZ specialist in conservative dentistry since 2010. He has been practising in the Denner & Denner practice in Fulda, Germany, since 2011. He became a member of the Neue Gruppe scientific association of dentists in 2013.
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