

Modern provisional restorations - a guide to successful aesthetics

Provisional restorations are sometimes treated as less important restorations - only to serve for a short period of time between tooth preparation and insertion of the final restoration. They are usually made of tooth-coloured acrylic resins, in a very quick way with minimal attention to details. Some dentists fabricate their own provisional restorations chairside. Using an impression that was taken earlier they manage to provide a very basic replicate of patient's original teeth with average colour match and poor polish. This same low standard technique applies for edentulous cases, where there is little idea about previously existing labial contour, form, occlusion, canine guidance, vertical height, etc. The marginal adaptation of such provisional is hardly perfect and in some cases it may affect the natural profile of soft gingival margins. Other disadvantages of poorly fabricated acrylic provisional include the disappointment of dental patients, making them less cooperative and optimistic about the ability of prosthetic team.

One might have come across a situation just after insertion of final porcelain crown and bridge work, to know that there are some missing details? They appear like a surprise to you, and there are not much you could do about it. It takes another big round of hard work for you and your patient to adjust the little problems. Those little aesthetic or function related issues could have easily been rectified if you should have tested the aesthetic and function of your proposed smile before final fabrication of completed restoration.

Modern composite materials are utilised to assure predictable aesthetics with perfect harmony

to oral environment as well as from, colour and tooth position of each individual patient.

They go beyond usual expectation by providing very natural looking colours and they are easy to characterise in addition their application resembles application of ceramic materials, thus they could be used to diagnose the results of specific build up method or smile design, for definitive restorations.


This article discusses the laboratory technical procedures on fabrication of modern provisional restorations for successful aesthetic dentistry. 



Figure 1: The picture demonstrates a poorly fabricated provisional restoration with unnatural aesthetics. Undesirable colour resulted in an unhealthy gingival condition.



Figure 2 & 3: Some other examples of improper provisional restorations, failed to fill aesthetic and functional requirements.



Figure 4: A restorative situation where details of specific aesthetic requirements are being evaluated before fabrication of provisional restoration.

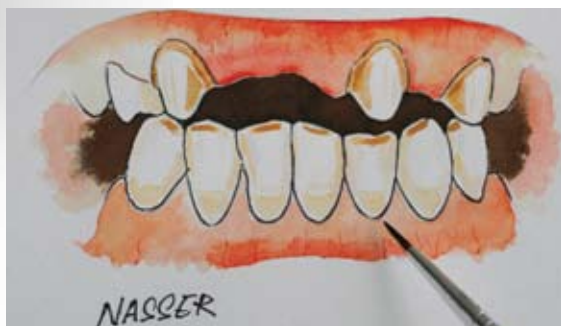


Figure 5: Using water colour technique to replicate the existing environment and further analyse the possibilities and limitations ahead of successful provisional restoration.



Figure 6: Diagnostic wax up to replicate an estimated design of expected smile is just a basic yet important step towards more realistic architecture of aesthetic provisional restorations.



Figure 7: An accurate design of frame work for fabrication of provisional bridge to assure adequate support for dentine material while providing stability against heavy occlusal forces.

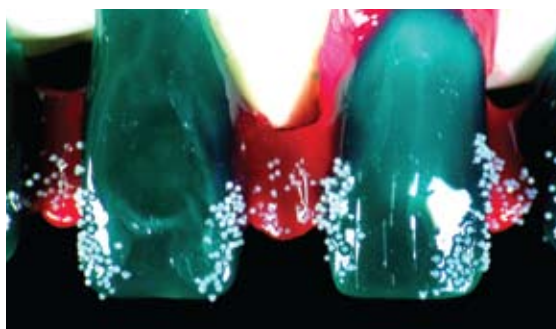


Figure 8: Retention beads for mechanical retention, to be placed only on incisal half of the bridge works, leaving the cervical half with more room for natural looking margin colours.



Figure 9: Controlling the labial contours of anterior on wax to make sure it has the right profile

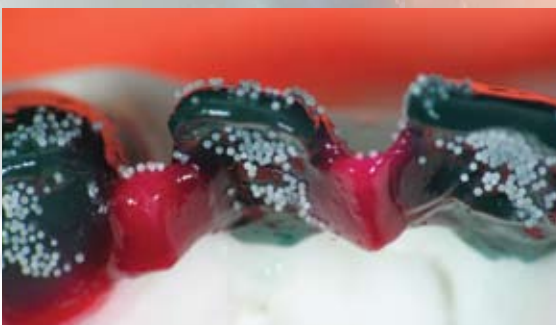


Figure 10: The thickness of joints are to match those of final frame work so that the possible opacity in joints are known and rectified at the second phase where frame work will be designed for definitive bridge.



Figure 11: The frame work covered with selected colours of opaque, and painted with opaque colour effects.



Figure 12: Canine tooth usually comes one tone warmer color than the rest of incisors.



Figure 16: Covering the inner layers with enamel effects of higher value following information gathered from patient's naturally existing teeth.



Figure 13: Preparation of base dentine materials including dentine and base dentine colour effects.



Figure 17: Translucent colours with variety of choices will need to be mixed gently according to individual shade and character of teeth.

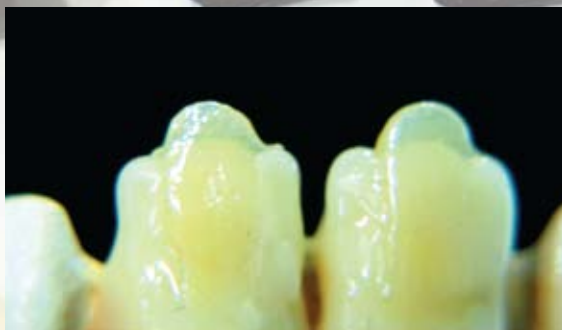


Figure 14: Application of warm dentine effects on central mamelon produced by mixture of dentine, enamel and ochre colour effect, to create the illusion of warm deep dentine.



Figure 18: Palatal view of provisional restoration needs to be built with same method.

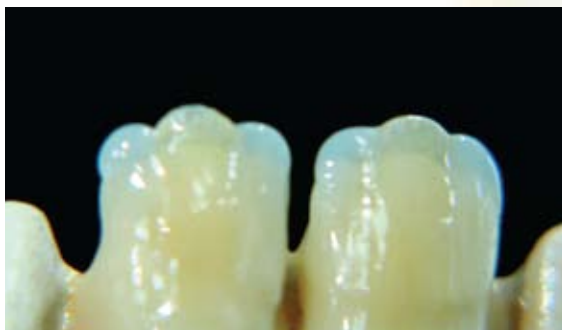


Figure 15: Mixing light blue satin with enamel to create the halo effect at mesial and distal edges of incisors.



Figure 19: Micro thin crack lines normally appear in white colour, they look more natural when they are not too close to the surface of the tooth.

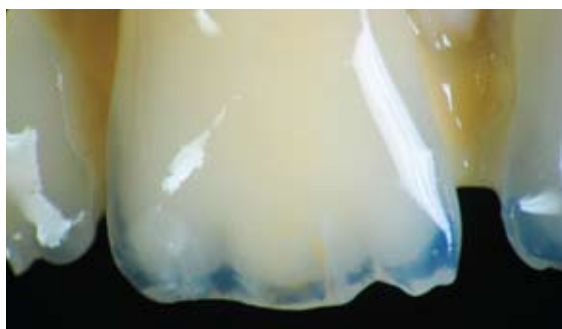


Figure 20: The detail of artistic composite build up has to be well recorded so that to be utilised while building ceramic on final restoration.



Figure 23: The completed build up of composite before surface characterisation and polishing of the bridge.



Figure 21: Identical build up of enamel edged plays an important roll in the overall outcome of provisional restoration.



Figure 24: The provisional restoration should have a polished surface to help prevent staining of the restoration as well as plaque accumulation that can irritate the gingival tissues.



Figure 22: The enamel is built to serve the already planned smile design.



Figure 25: Postoperative view of final provisional restoration after necessary modifications and verifications of its overall fit, functionality, aesthetic and also its impact on gingival health. The definitive restoration could be achieved with excellent aesthetics and function with confidence only at one go.

ABOUT THE EXPERT

Nasser Shademan (CDT) is a German-trained dental technologist, technical instructor and lecturer for a number of leading German dental companies in advance dental techniques, such as laser and plasma welding technology (Schutz-Germany) precision attachment techniques (ZL-Microdent. Germany). With years of experience in the field of cosmetic dentistry, over various parts of the world, including Europe and Southeast Asia, Shademan has a great passion for the ceramic art of dental technology.

