



A Chairside Solution for Treating Immediate Anterior Provisional Challenges

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Introduction

A dentist's biggest challenge is to treat an anterior dental emergency where the patient needs an immediate biological deficiency corrected as well as an acceptable esthetic outcome. Until recently, these challenges were particularly problematic when a patient's financial situation made it necessary to delay a permanent restoration for several years. In such cases, the only option was to pursue a phased approach utilizing provisional restorations until the patient could afford a permanent solution. However, a significant obstacle to such an approach has been the inability of provisional restorations to last until the permanent restoration was affordable. Now, a new long-term crown and bridge material (LuxaCrown, DMG) makes it possible to create restorations that are long-lasting.

The case below describes and illustrates a technique as well as related materials that will enable practices confronted with such challenges to efficiently and cost-effectively create biologically sound, predictably long-lasting and esthetically pleasing long-term restorations chairside.

Case Report

An otherwise healthy male patient in his 40s presented with teeth #s 9 and 11 broken off due to failure of an old three-unit fixed porcelain-fused-to-metal bridge. In addition, the patient exhibited many failing restorations, both periodontal and dental disease, and missing dentition (including tooth #6) (Figures 1-3). The patient was committed to addressing his dental condition comprehensively, but it was agreed that it would take several years to complete the therapy due to his financial challenges.

The necessary materials were gathered to create a restoration for teeth # 5-7 (Figure 4). An alginate type impression was taken of the pre-operative condition and a quick set stone model was poured, after which a quick but proportional three-tooth wax-up was created (Figure 5). A putty stint (Figure 6) was modeled chairside over the wax-up using a vinyl polysiloxane impression material system (Honigum Pro, DMG) and extended over a few teeth on either side of the proposed bridge (Figure 7). The damaged teeth were prepared to remove any deficient or diseased tooth structure. The stint was tried in to confirm its fit. It was then filled with an esthetic bis-acrylic long-term crown and bridge material (LuxaCrown, DMG) and placed over the teeth. While the colors of the patient's existing teeth were all different, the LuxaCrown color chosen blended well enough to yield a pleasing esthetic outcome.



After the material was set, the provisional bridge was trimmed and polished with a finishing and polishing kit (Spear Provisional System, Brassler) and cemented using a self-adhesive resin cement (PermaCem 2.0, DMG). If any bubbles or voids had been present, they could have been easily filled using a flowable composite (LuxaFlow Ultra, DMG).

Due to the superior strength of the long-term crown and bridge material and the proper sealing and luting of the restoration with a self-adhesive resin cement, both the patient and dentist can have confidence that the restoration will be both durable and aesthetically pleasing while the patient engages in the protracted full mouth treatment (Figs. 8 -10).



Figure 1: Pre-op image of patient



Figure 2: Pre-op image of patient



Figure 3: Pre-op image of patient



Figure 4: Materials used



Figure 5: Three-tooth wax-up



Figure 6: Putty stint and wax-up



Figure 7: Stint placed on wax-up



Figure 8: Post-op image of patient



Figure 9: Post-op image of patient



Figure 10: Post-op image of patient

»» Pro Tips

1. There are a variety of techniques for finishing and polishing resin-based materials. For traditional bisacrylic provisional materials and the long-term material, such as LuxaCrown; this author has great success by first doing the gross finishing with carbide burs which removes most scratches followed using the Brassler orange (coarse) felt wheel to eliminate the remainder of scratches and finally using the pink (fine) felt wheel to create a beautiful sheen and luster.
2. The final shape, form, and marginal adaptation of the long-term restoration is totally dependent on the accuracy of the stint. This level of accuracy is easily achieved using Honigum Pro allowing for the provisional restoration to mimic the design and detail of the proposed wax design.
3. Since the long-term material is resin based, repairs due to voids or bubbles can be made quite easily using a flowable composite, such as LuxaFlow Ultra, as its mechanical and optical properties closely match those of the long-term material.

Author Bio

Dr. Jack Ringer practices general family and restorative dentistry in Anaheim, CA and is an Accredited Fellow and Past President of the American Academy of Cosmetic Dentistry (AACD). He is also certified as a dental sleep medicine practitioner by the American Academy of Dental Sleep Medicine and co-founder and current President of the Orange County Academy of Cosmetic Dentistry (OCACD). Dr Ringer is a nationally and internationally renowned lecturer in contemporary esthetic dentistry, a faculty mentor for the Spear Institute at the Scottsdale Center in Arizona, a past faculty member for the Esthetic Professionals Dental Education and Training Center in Tarzana California, and is past Associate Professor at Loma Linda Dental School and past Assistant Clinical Director for Center for Esthetic Dentistry at UCLA.