

Creating New Esthetic Veneer Provisionals



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Porcelain veneer makeovers have evolved during the years. The initial treatments were a color-masking-space-closing alternative to composite bonding. Improvements in porcelain technology during the last 10 years have allowed applications to improve occlusion because of better strength properties. Because of increased patient demands for immediate esthetic results as well as functional testing of the new contours, the use of provisionals has evolved from placing direct composite temporaries to dispensing

Bis-acryl materials from automatic mixing syringes.

PRODUCT DESCRIPTION

Zenith™/DMG recently introduced an enhanced version of their popular Luxatemp® Automix Plus. According to the manufacturer, this new material has the exact same properties as Automix Plus except for the addition of fluoride and fluorescence. The new provisional material is called Luxatemp® Fluorescence and offers the most natural appearance of provisionals in all lighting conditions.

CASE EXAMPLE

Patient Description

A 31-year-old woman (Figure 1) desired a smile enhancement because her two front teeth were worn. She also wanted brighter teeth and a nonorthodontic alternative to straighten her teeth (Figure 2). Esthetic evaluation revealed irregular gingival heights

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that were attributed to rotations as well as incisal wear/extrusions (Figure 3). Furthermore, a thick labial frenum kept teeth Nos. 8 and 9 from contacting interproximally and destabilized the gingival margins (Figure 4). A deep vertical overbite along with occlusal prematurities created fremitus of the upper teeth as well as muscle tenderness that was inflamed by the patient's para-functional habits, which included lemon sucking. After relaxing her muscles with a maxillary orthotic, a three-dimensional wax-up was created on a Stratos® articulator (Ivoclar Vivadent®, Inc) (Figure 5). A treatment plan was created to improve her occlusion, uncrowd the teeth, and repair the

worn edges while creating a uniform, bright smile. Porcelain veneers were selected as the best option to conservatively enhance this patient's smile and preserve anterior occlusal elements optimized after equilibration.

Treatment

Gingival architecture is critical to balance and symmetry in a new smile. Using a fine tip marker, changes were outlined for a minor gum lift (Figure 6). An atraumatic soft tissue recontouring was done with a Waterlase™ (BIOLASE® Technology, Inc) laser at 1.5 Watts, 30% water, and 30% air (Figure 7). The new gingival height and scallop followed the outline. No bleeding was created



Figure 1—This patient desired a smile enhancement because her front teeth were worn.



Figure 2—The patient wanted brighter teeth and a nonorthodontic alternative to straighten her teeth.



Figure 3—Esthetic evaluation revealed irregular gingival heights that were contributed to rotations as well as incisal wear/extrusions.



Figure 4—A thick labial frenum kept teeth Nos. 8 and 9 from contacting interproximally and destabilizing the gingival margins.



Figure 5—A three-dimensional wax-up was created.



Figure 6—Using a fine tip marker, changes were outlined for a minor gum lift.



Figure 7—An atraumatic soft tissue recontouring was done with a laser.



Figure 8—A thick putty stent was created by the laboratory.



Figure 9—After lubricating the teeth with petroleum jelly, Luxatemp® Fluorescence was placed into the stent.



Figure 10—The putty matrix was placed in the mouth and firmly held in place.



Figure 11—Because of the length of the provisional, it was left in the hard matrix for 3 minutes.



Figure 12—Any heavy excess was removed from the edges.



Figure 13—Slow speed garnet and diamond discs helped trim and smooth the margins.



Figure 14—The incisal edges were placed in the soft silicone gel to create a registration of this critical anatomy.



Figure 15—The Luxatemp® was removed and a cut back was made of the incisolabial contour.



Figures 16—A surface glaze and sealant was thinly painted on the exterior surfaces of the provisional and cured thoroughly.

to allow for impression taking. Teeth Nos. 4 through 13 were prepared according to the wax “blue-print” and impression bites were acquired. Note that after provisionalization, a closed flap adjustment of the osseous crest maintained physiologic width for long-term health and esthetics. Lastly, the Waterlase™ allowed for ablation of the heavy frenal tissue.

The laboratory technician created a thick putty stent of Sil-Tech® (Ivoclar Vivadent®, Inc) (Figure 8). This made a stable, mirrored reproduction of the wax-up details. It was checked in the mouth for accuracy and to practice the path of insertion with the patient.

After lubricating the teeth with petroleum jelly, Luxatemp® Fluorescence was carefully placed into the stent (Figure 9). A bottom-up technique was used with even dispensing of the material to avoid entrapment of bubbles in the provisional, which would compromise strength and esthetics.

The putty matrix was carefully placed in the mouth making sure that it was seated completely on the rest stops established by the molars and hard palate. It was firmly held in place (Figure 10). Any excess material was flicked off with a cotton tip. The matrix was removed after 1 minute, which pulled the temporaries off the teeth for extraoral modification. Any leftover debris

was easily removed with a hand scaler and suction to avoid any false occlusal markings in final adjustment.

Luxatemp®’s hardness properties improve over time. Because of the length of the provisional, it was left in the hard matrix for 3 minutes (Figure 11). During that time any heavy excess was judiciously removed from the edges (Figure 12). The provisional was carefully lifted from the matrix with a large spoon excavator.

Creating a natural look was very important. Therefore, translucency was created using a “cut back” technique.

Any bubbles were repaired with LuxaFlow™ (Zenith™/DMG) and a curing light. Furthermore, better visualization allows for clean, smooth margins for better home care and healing postoperatively.

Slow-speed garnet and diamond discs helped trim and smooth the margins (Figure 13). Furthermore, the gingival embrasures were easily opened up to avoid papillary trauma and promote better hygiene. Because the frenectomy would relieve the pull on the midline papilla, the embrasure was contoured to promote improved esthetic height of positioning of the midline tissue.

The provisional was carefully

replaced on the preparations. Labial contours and margins were fine-tuned with LuxaFlow™ and then shaped with gentle high-speed instrumentation using a “safe end” H135 TDF carbide bur (AXIS™ Dental Corporation). Lingual and occlusal anatomy was shaped with a H3179 carbide bur (AXIS™ Dental Corporation). Centric marks and excursions were meticulously fine tuned because of the patient’s deep overbite. Furthermore, incisal edge positions were carefully

perfected to promote a comfortable envelope of function and phonetics. Vertical centric was verified, with the patient sitting up, using the T-Scan II™ analyzer (Tekscan, Inc).

Creating a natural look was very important. Therefore, translucency was created using a “cut back” technique. A pad of clear Affinity™ (Clinician’s Choice® Dental Products, Inc) was placed on a tray paper. The incisal edges were placed in the soft silicone gel to create a registration of this critical anatomy (Figure 14). The Luxatemp® was removed and a cut back was made of the incisolabial contour. Mamelons were



Figure 17—TempoCem® was painted into the intaglio using the Smartmix™ dispenser.

carved as well to add more realism (Figure 15). Composite resin was painted in the altered area. Clear occlusal flowable composite (Renamel®, Cosmedent®, Inc) was placed very judiciously in the matrix for the altered teeth. The Luxatemp® structure was reinserted into the matrix. A curing light hardened the new colors into the provisional for a minute. All anatomy was preserved but now realistic in color. Any minor flash is easily trimmed.

A surface glaze and sealant (LuxaGlaze®, Zenith™/DMG) was thinly painted on the exterior surfaces of the provisional and cured thoroughly with light (Figure 16). The extra attention in this step helped promote better patient comfort and hygiene compliance.

The interlocking nature, intimate fit, and strength of Luxatemp® Fluorescence created more than adequate retention on the teeth. To help seal and adhere the transitional to the teeth, TempoCem® NE (Zenith™/DMG) was



Figures 18 through 21—Bright natural color and reflective contours gave the patient's face a new glow of health and beauty.

easily “painted” into the intaglio using the Smartmix™ (Zenith™/DMG) dispenser (Figure 17). This allowed for a smooth procedure and complete placement of the provisional structure. The cement was easily cleared from the margins.

Bright natural color and reflective contours of the smile gave this patient's face a new glow of health and beauty (Figures 18 through 21). Better proportions made her smile more pleasing to the eye. Occlusal engineering and gingival sculpting improved the health and longevity of these enhancements. Using these materials and techniques, the patient was able to

test drive her esthetics and function to customize her new look and manage her expectations.

CONCLUSION

Patient expectations are continually rising in appearance-related dentistry. Previewing a new smile before the laboratory makes the porcelain ensures that

all involved parties are protected financially and medico-legally while avoiding the hazards of remakes. Allowing a patient to wear provisionals promotes fewer interruptions in his/her lifestyle and professional activities. Therefore treatment acceptance increases, and patients can enjoy their improved esthetics sooner. Lastly,

a well-crafted set of provisionals can be a great source of positive public relations for a practice and a conduit of referrals. Luxa-temp® Fluorescence provides greater realism and added fluoride. Improvements in Bis-acryl technology have allowed good to become great—something we can all smile about. ○