Create an Intraoral Blueprint

Many times in dentistry, restorative treatment begins without any type of blueprint or map to help the dentist, laboratory, and patient communicate about what the final restorations should look like. With this type of "prep-and-pray" approach, the teeth are prepared and impressions are taken and sent to the laboratory in the hope that they will return looking esthetically pleasing. Diagnostic wax-ups are a convenient way to show a patient what the final case will look like, but the ultimate diagnostic wax-up is one that can be actually transferred to the patient's mouth.

BioTemps® provisional restorations allow you to accomplish this step in a simple and straightforward manner. After discussing the desired esthetic outcome with the patient, this information can be transferred to BioTemps Dental Laboratory in a verbal, written, photographic, or wax-up form. Specific instructions, such as, "Make the central incisors 10.5 mm long and follow golden proportion," help the technician visualize the desired outcome.

The accompanying case illustrates the simple steps used for the intraoral reline of a BioTemps® provisional bridge. Figure 1 shows the patient's preoperative smile. This case involved a missing tooth and several other teeth with large, failing composite restorations. It was decided that the patient's teeth would be provisionally treated with an 8-unit BioTemps® bridge. Though nearly all of the final restorations would be single units, the BioTemps® bridge was splinted to increase retention during the 2 weeks until permanent cementation.

The first step in the laboratory fabrication of BioTemps® is to reduce 1 mm of tooth structure from a preoperative model. Many dentists have the laboratory provide them with a preparation stent of this reduction, as seen in Figure 2. Placing the stent onto the teeth not only verifies that enough tooth structure has been reduced to properly seat the BioTemps®, but it also helps ensure that enough tooth structure has been reduced for the final restorations, as well. After removing the preparation stent, the BioTemps® bridge is tried in to confirm passive seating. It is normal for it to fit loosely on the teeth, and perhaps even rock before the reline procedure.

Figure 3 shows application of a thin layer of petroleum jelly to the external surfaces of the BioTemps® bridge. This prevents the excess reline material from sticking to the outside of the bridge and speeds clean-up. After mixing, a methyl methacrylate material should be placed in the abutment teeth, filling them to three quarters as shown in Figure 4. If any margins are subgingival, add slightly more reline material to that abutment. After the acrylic loses its shine, the BioTemps® bridge should be placed into the mouth.

Figure 5 shows the excess reline material oozing out from under the BioTemps® bridge when seated. Without the presence of this excess material, it is difficult to know whether or not the margins have been accurately captured. The petroleum jelly on the facial and lingual surfaces of the bridge will keep it from sticking to the highly polished BioTemps® surface. As the reline material begins to set, gently work the bridge on and off the preparations to help eliminate any undercuts that may be present.

After the reline material has fully set, a thin diamond disc can be used to trim the flash and open interproximal contours as shown in Figure 6. Care should be used not to open the interproximal contours—to allow for proper gingival healing and ensure a smooth cementation appointment. Figure 7 shows the relined BioTemps® bridge provisionally cemented into place. It is easy to see the dramatic difference in the

Figure 1—Preoperative view of smile.

Figure 2—Preparation stent of the tooth reduction.

Figure 3—Application of a thin layer of petroleum jelly to the external surfaces of the BioTemps® bridge.

Figure 4—After mixing, a methyl methacrylate material should be placed in the abutment teeth.

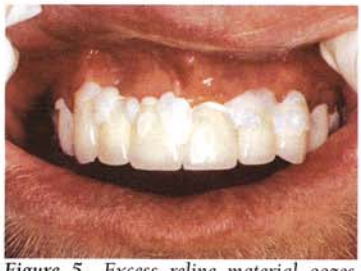

Figure 5—Excess reline material oozes out from under the BioTemps® bridge,

Figure 6—A thin diamond disc can be used to trim the flash and open interproxi-

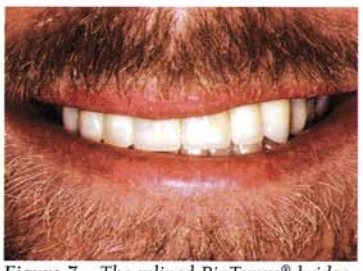

Figure 7—The relined BioTemps® bridge, provisionally cemented into place.

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Figure 8—Preoperative view of a second patient.

Figure 9—The BioTemps® bridge after the reline procedure.

Figure 10—The final restorations permanently cemented in place.

patient's smile between Figures 1 and 7.

The patient should return to the office after 3 or 4 days to evaluate the esthetics, phonetics, and overall function of the new tooth size and shape. The patient's opinion is important, as is any feedback from the patient's spouse, friends, or family. If any adjustments will need to be made, they can easily be accomplished at this follow-up appointment. At this point, an alginate impression of the BioTemps® is taken, and BioTemps Dental Laboratory duplicates the size, shape, and shade in the restorations. Because of the relative simplicity of this process, BioTemps® are often referred to as the "blueprint" of a smile—before fabrication of the final restorations.

Additional Case

Figure 8 shows the preoperative view of another patient who presented with an anterior crossbite and congenitally missing maxillary lateral incisors. A diagnostic wax-up was used to design the desired final results, and a BioTemps® bridge was fabricated from the wax-up. Figure 9 shows the BioTemps® bridge after the reline procedure. After 10 days of use, the patient was pleased with the form, function, and esthetics of the BioTemps® bridge. An alginate impression was taken and sent to BioTemps Dental Laboratories with directions to duplicate this blueprint in the final restorations.

Figure 10 shows the final restorations permanently cemented in place. Cementation appointments are far less stressful when both the dentist and patient know what to expect from the dental laboratory. With proper planning, blueprint may help put an end to "prep-and-pray" days, and help dentists reap the benefits of "prep-and-praise" predictable esthetic restorations.

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