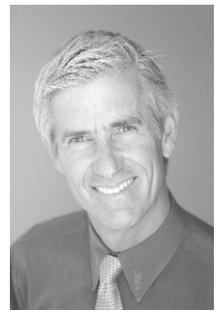




# Ask the Lab

Stephen D. Killian, CDT



## Diagnostic Wax-up: Smile Design

### In This Issue

- \* **Diagnostic Wax**
- \* **Pre-op Models**
- \* **Prep Guide**
- \* **Putty Matrix for Temps**

**Q:** *Steve, I have a patient who wants an improved smile, and is considering a multiple anterior restoration. How can I best communicate the patient's needs and my goals to you to ensure a superior restoration with predictable results?*

**A:** When beginning a large anterior case, whether it is a full mouth of restorations or a cosmetic veneer case, it is essential that the dentist and technician understand and practice basic occlusal and aesthetic principals. First, verification of centric relation is primary. Second, (especially important for full-mouth restoration) is a set of accurate and neat pre-op models to be mounted on a semi-adjustable articulator using face-bow transfer. Your models will be duplicated at the lab and refined to presentation quality, ready for preparation and fabrication of the diagnostic wax-up. Third, please provide comprehensive written instructions to clearly communicate both the patient's and your expectations. Finally, five photographs are needed to help convey all anatomical aspects of the desired finished restorations. For a detailed pictorial description of the photos, see next page.

**Q:** *What tools will you provide as an aid for preparation and temporization?*

**A:** You will receive a preparation study model with a **Split Putty Prep Guide** that will allow you to accurately compare the preparation in the patient's mouth with contour of the diagnostic wax model. Differences can be identified and adjustments made to insure adequate reduction for the ceramist to fabricate optimal esthetics. Additionally, you will receive a **Putty Matrix** of the diagnostic wax that you can use as a mold to fabricate the patient's temporaries.



Study cast of patient's current dentition



Diagnostic wax-up



**Diagnostic Wax-up**  
Lateral Close-up



**Split Putty Prep Guide**  
with Preparation Study Cast



**Putty Matrix** for fabrication of temporaries replicates design of diagnostic wax-up (shown in background).



Stephen D. Killian, CDT

## Cosmetic Dentistry Photos

for communicating and consulting with the Ceramist

### Discussion

#### \* **Five Photos**

**Q:** Steve, please describe the five photos you need for a large anterior case?

**A:** The sample photographs shown below will convey all essential anatomical aspects of the desired finished restorations, such as incisal length, tooth form, incisal edge position (over-jet and over-bite), occlusal plane (Curve of Spee and Curve of Wilson), labial inclination of anteriors, the buccal corridor (buccal bulk of posteriors), gingival height of contour, and incisal and gingival embrasure contours. To insure an accurate photographic record of the patient's anatomy, each of the five photos shown below must be taken without lip retraction or anesthesia.



**Photograph #1:** Shows the patient's full face while saying "eeeeee...". Notice the lips are in a full "Say Cheese" type smile. The teeth are slightly apart making the lower incisal edges clearly visible. All of the features of the face are visible in order to align the vertical mid-line and the horizontal occlusal plane.



**Photograph #2:** A close-up of the same facial pose as photograph #1, showing no more and no less than the corners of the lips. This photo, along with the study models, helps determine whether changes to existing anatomical features are needed such as mid-line, incisal length, curve of spee, the gingival and incisal embrasure contours and the buccal corridor.



**Photograph #3:** The "Relaxed Smile Pose". Ideally the upper lip aligns with the gingival height of the upper anterior teeth. Also, the curve of the lower lip aligns with the upper anterior incisal edges and the buccal cusp tips of the posteriors.

"These five photos combined with the mounted models and written goals provide a solid platform of success for cosmetic diagnostic wax-up. These important communication tools are needed for full-mouth rehabilitation cases to aid and simplify consultations with the lab."



**Photograph # 4:** The same "Relaxed Smile Pose", as in photo #3, but taken from the side at a 75° angle to the sagittal plane. Check the labial contour and inclination, as well as incisal edge position; ideally, the incisal edges will just touch the wet-dry inner vermillion border of the lower lip.



**Photograph # 5:** Also a "Relaxed Smile Pose", but with the mandible opened just enough to allow viewing of the lower incisal edges unobscured by the upper incisal edges. Make sure you can see the lower teeth 0.5-1.5 mm above and aligned with the lower lip. This photo along with Photo#2 help with lower arch anterior design.

Do you have a question for Steve?  
Please contact him at: [steve@killiandental.com](mailto:steve@killiandental.com)

