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# DENTISTRY TODAY

www.dentistrytoday.com

Circulation 150,000

VOLUME 24 NO. 10

THE NATION'S LEADING CLINICAL NEWS MAGAZINE FOR DENTISTS

OCTOBER 2005



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# Temporization

## Freehand Artistry Defining Clinical Success



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In today's world of aesthetic dentistry, the media serves as a powerful advocate in educating the public about the benefits of a beautiful smile. Patients are requesting whiter smiles. As a result, single-tooth dentistry has evolved into comprehensive dentistry. With this evolution, the needs of the aesthetics-minded clinician have pushed manufacturers to create better temporization materials and more lifelike porcelain restorations.

The downside to all of this is that many clinicians have become fiercely dependent on their laboratory ceramists to create these

*The freehand shaping of temporary restorations can provide a more predictable outcome for permanent restorations. Having a temporization material with superior aesthetics and sculptability will aid the clinician through this process.*

smiles. Many laboratory ceramists can verify that a common prescription they receive will only say, "Please fabricate Nos. 4 to 13 porcelain veneers, Vita Shade B1," with no other supporting information. A more experienced clinician may request a laboratory wax-up to create the temporaries. Often, a wax-up may look good on a model; when transferred to the mouth, however, it does not look quite right. Through no fault of the laboratory technician, a wax-up is not always able to determine the ideal incisal edge position or the appropriate width of the buccal corridors.

Dental schools and continuing education courses have bombarded the clinician with preparation design, but minimal time has been allocated to the didactic skill of freehand shaping and recontouring of teeth. A solid understanding of tooth morphology, smile design, and facial aesthetics is necessary to become proficient in the freehand shaping of teeth. With this knowledge, the clinician will have a better "vision" of a smile. The more difficult part comes in making your hand do the work.

The focus of this article is to present the clinician with an alternative approach to smile

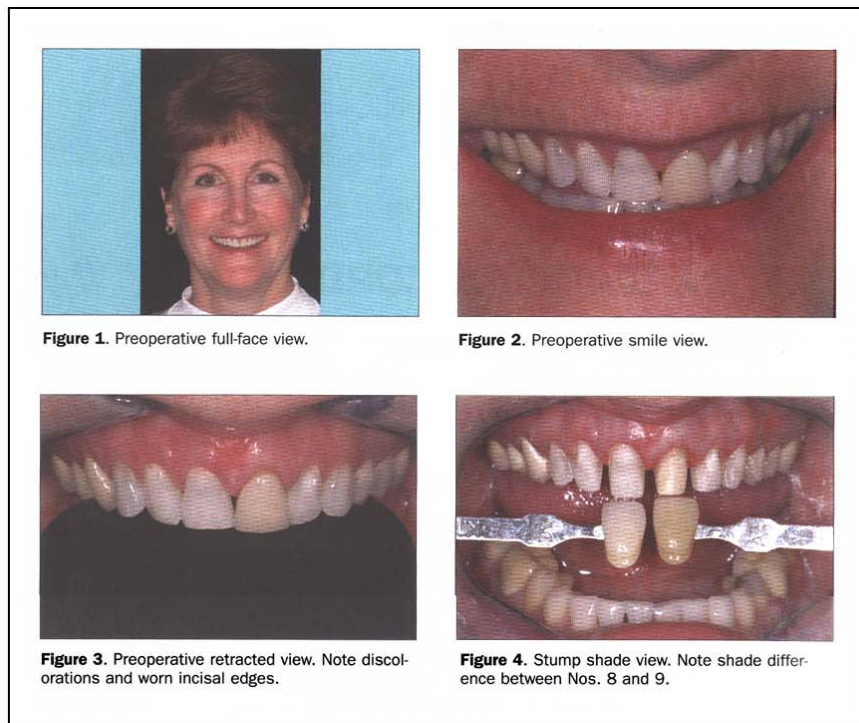


Figure 1. Preoperative full-face view.

Figure 2. Preoperative smile view.

Figure 3. Preoperative retracted view. Note discolorations and worn incisal edges.

Figure 4. Stump shade view. Note shade difference between Nos. 8 and 9.

design. Some may see it as a new challenge, while others may find it difficult and time-consuming. When we first learned to prepare a tooth, it took a tremendous amount of time and repetition to master it. The same is true here. This skill can only be attained if the clinician is willing to put in time and repetition.

### CASE REPORT

A 47-year-old woman presented to my office with an initial concern about the color of her front tooth. She had a single veneer placed there 12 years ago after an accident had fractured off the incisal edge. Later, she underwent at-home tooth whitening, and her surrounding dentition lightened in color, becoming significantly lighter than her restoration (Figures 1 and 2).

### Treatment Planning

A thorough examination and discussion with the patient regarding what she wanted her

smile to look like was accomplished. Clinical examination revealed worn and asymmetrical incisal edges and a narrow buccal corridor. The maxillary anterior dentition also exhibited a lingual inclination and various defective class V restorations (Figure 3). The patient elected to undergo treatment with 10 porcelain laminate veneers to create a new, beautiful smile.

### Clinical Protocol

A preliminary impression of the upper teeth was taken using Status Blue Alginate Substitute impression material (Zenith/DMG). After administration of local anesthetic, the teeth were prepared for the porcelain restorations. The preparations followed a minimum invasive preparation technique, except for teeth Nos. 8 and 9. The contacts were opened here because of pre-existing black triangles of the gingival tissue and the old restoration. A final impression using

Honigum PVS (Zenith/DMG) material was taken as well as a stick-bite and impression of the lower arch. A photo was taken of preparations of teeth Nos. 8 and 9 to allow the ceramist to see the variance in stump shades for the final restorations (Figure 4).

#### Temporization Technique

The Status Blue impression of the original teeth was filled with Luxatemp Fluorescence (Zenith/DMG) and placed over the prepared teeth for about 90 seconds. The impression was removed, and the temporaries were separated from the impression. The prepared teeth were cleaned of any excess Luxatemp. The temporaries were adhered to the teeth using a spot-etch technique and by coating the teeth with unfilled resin. The temporaries were relined with Luxaflow Fluorescence (Zenith/DMG) and placed on the teeth, then each tooth was light-cured for 15 seconds. This resulted in a temporized version of the patient's original dentition.

Next, Luxatemp Fluorescence was dispensed directly onto the temporaries to build them up facially and incisally. The material was allowed to set for 90 seconds and was then ready for artistic freehand recontouring (Figure 5).

The final result was achieved using various diamond burs and finishing discs. The majority of recontouring was done using a Brasseler 6844 and 8392 EF and various finishing discs. It took approximately 45 minutes to recontour the temporaries to a more ideal smile.

#### Postoperative Follow-Up

The patient returned to the office 2 days later for an evaluation of the temporary restorations. Only at this time can the clinician accurately determine incisal edge position, phonetics, and overall aesthetics. The patient was also able to give feedback regarding tooth color, shape, etc (Figures 6 and 7). An impression of the temporaries was taken using Status Blue and sent to the laboratory as a template for the permanent restorations.

#### Placement of Permanent Restorations

The teeth were isolated using a split rubber dam technique. Subsequently, they were etched, desensitized, and primed and bonded. The final restorations were placed using the Vitique veneer cementation kit Shade B1 (Zenith/DMG). The restorations were cured (interproximal areas cleaned of any excess resin) and polished. Occlusal adjustment was accomplished, and the patient was scheduled to return the next day for a follow-up visit (Figure 8).

#### Evaluation of Permanent Restorations

A comparison of the permanent restorations to the temporary restorations demonstrates how the ceramist was easily able to follow the template provided. The patient was very happy with her new smile (Figures 6 and 9, 7 and 10, and 1 and 11).

#### CONCLUSION

The freehand shaping of temporary restorations can provide a more predictable outcome for permanent restorations. Having a temporization material with superior aesthetics and sculptability will aid the clinician through this process. Although time-consuming, the clinician will gain a better understanding of smile design. ♦



Figure 5. Luxatemp provisionals directly dispensed on teeth in presculpted form.



Figure 6. Freehand sculpted temporaries.



Figure 7. Smile view of temporaries.



Figure 8. Cleaning of interproximal resin with permanent restorations.



Figure 9. Postoperative retracted view.



Figure 10. Postoperative smile view.

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*Disclosure: Dr. Marashi receives material support and is a clinical consultant to Zenith/DMG.*

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Figure 11. Postoperative full-face view.