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# Simplifying the single central

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**My father has been practicing** dentistry for more than thirty-five years. He told me back in the "old days," many lecturers would shy away from doing a single central incisor and just do both teeth. Considering how common the single central circumstance is, it appears that the technician who masters the task will be in great demand.

Modern technology with higher quality materials, digital photography and better shade options

enable the technician to create single central restorations that melt into the environment.

Unlike doing two or more teeth, where the dentist and technician have the freedom of altering contours and shades to the patient's desire, when doing a single central the task is one of working within the limitations and restraints of the existing dentition. A technician who welcomes limitations and restraints gets

the chance to exercise his or her true creative ability, and use his or her knowledge of color, form, texture and digital photography.

### CASE PRESENTATION

**01** The first task in this type of case is to obtain a clean clear image of the tooth in the surrounding environment. The criteria for this image is proper focus, a wide depth of field

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**Fig. A** The basic image needed for accurate shade matching.



**Fig. B** The different images that can be obtained with a photo editing software from the one original shade tab image.



**Fig. C** An understanding of the abutment is necessary for material selection.



**Fig. D** Fired GC Initial Zr shade tabs.



**Fig. E** Polychromatic layering schema for the restoration to be fabricated.



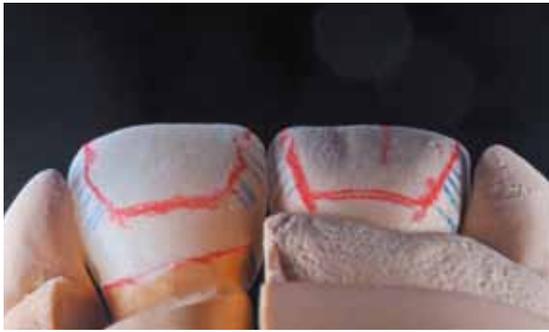
**Fig. F** The ceramic must be in its appropriate place to replicate the layered details.



**Fig. G** The restoration after its first firing cycle.



**Fig. H** Pencils are a great tool to help outline a central crown's form, texture and overall contour.



**Fig. I** The design must be observed from every angle.



**Fig. J** Lobe and final details can be obtained at the glaze cycle with a mixture 60/40 of GC Correction Powder and the enamel used for the previous layer.



**Fig. K** The crown at try in.



**Fig. L** A value check in the photo editing software shows the proper value was achieved.



**Figs. M - O** Overall harmony achieved from every angle of an everyday smile for the patient.

and proper image size (**Fig. A**). This image becomes the foundation for the information needed.

**02** We enter the image into any photo-editing software program. The software will provide us with the ability to view a value image, a saturated image for color and an inverted image for form (**Fig. B**).

**Web Exclusive tip:** For a step by step video on digitally adjusting the image to discern the details key to obtaining the correct value, shades and contours visit [dlpmagazine.com](http://dlpmagazine.com).

**03** Another important image is a shot of the natural abutment shade which is key when selecting the proper material for the restoration (**Fig. C**).

**04** These images help the technician to evaluate the ceramic selection based on the shade tabs fired in their personal calibrated furnace (**Fig. D**).

**05** With the photographic information to provide the necessary details, the first bake can be achieved, layering in the details using the GC Initial Zr Ceramic System from GC America (**Fig. E**).

The technician should limit the number of firing cycles in order to limit the loss of color that occurs when excessive grinding is required after each bake.

**06** The technician also has to layer the ceramic in its exact place in order to replicate the colors from wet ceramic to fired ceramic (**Fig. F**).

**07** After the first firing cycle the restoration should exhibit the depth and color we need (**Fig. G**).

**08** Once the contacts are adjusted the technician can now begin the detail work of creating proper form. Colored pencils are a great tool to help guide the technician in the right direction of contour and surface treatment (**Fig. H**).

**09** When finalizing the form and surface treatment it is important to check the restoration from every angle so as not to miss any details (**Fig. I**).

**10** Once every angle is checked and the first bake and contouring is complete, we can glaze the restoration and add some minor details. It is these details which help differentiate a great restoration from a mediocre one. Some of the details include a halo, and line angle adjustments.

We accomplish this by mixing a low fusing ceramic to our layered ceramic with a 60/40 mix (**Fig. J**).

**11** Once glazed and polished we can go to the mouth for our try-in, hoping the steps we took yielded an accurate restoration (**Fig. K**).

**12** To check our work we can convert an intraoral image of our restoration to black and white to confirm value (**Fig. L**).

With accurate form, value, and surface texture the single central becomes less of a challenge. The goal of the single central is to blend harmoniously into an existing site and not to overpower the surrounding dentition (**Figs. M - O**).

### CONCLUSION

It is through working within the restraints and limitations of the existing site that the technician can exhibit maximum creativity when completing this rather common occurrence in dental practice. **lab**