There are a lot of factors that go into matching color for the posterior teeth. Harmony is sometimes difficult to achieve because patients often have amalgam fillings in these teeth, which will generate a blue tint to the enamel. We need to first understand natural teeth color and then see a proper preparation reduction margin design to create a matching restoration for the molars. We also have to look at the occlusal surface of the adjacent teeth.

This article will detail a case for one of my own clients, a periodontist, who trusted me with his work.

As we outline the step-by-step system for creating a posterior crown with the GC Initial One Body Concept, we will show you just how simple it can be to provide your clients with a mandibular molar restoration that matches with natural teeth.

**Features**
- Crown build-up with only one powder allows full attention to shaping and function
- Fast reproduction of standard VITA® shades following the “Paint by numbers” with Lustre Pastes
- Total compatibility within the existing MC/Initial range and with many alloys
- Saves time and increases productivity by using one powder

**CASE STUDY**

01 Notice the large amalgam filling in tooth No. 19 that created a blue enamel affect for the patient’s adjacent teeth due to the dark discoloration (Fig. A). This type of variation in color is a challenge to match. Our first step was to make note of his base shade, which is B-1.

**Fig. A** Amalgam filling gives No. 19 a bluish tint.

**Figs. B and C** With temporary in place, premolar occlusion is checked using the LSK Chair Side Shade Selection Guide.

**Fig. D** Renfert GEO Waxer is used to apply beige wax to the opaqued restoration to create marginal ridge cusp.

**Fig. E** GC Initial One Body Porcelain requires no enamel porcelain application.

**Fig. F** Three buccal occlusal cusps and a marginal ridge were created using a porcelain brush.

**Fig. G** After firing the restoration it will have a shiny appearance.

**Fig. H** Lustre paste L2 was next applied.

**Fig. I** Subtle chroma was applied at the gingival 1/3.
02 With the provisional in his mouth, a shade check was done on his adjacent teeth using the LSK Chair Side Shade Selection Guide (Fig. B). The occlusal 2/3 of tooth color is whitish enamel, which means the amount of enamel overlay that a technician chooses to apply before he gets to the gingival area will decrease or increase the value of the color. He must decide on thickness of enamel application prior to beginning the case work, which always is a challenge. In this instance, the teeth are a subtle white color with a reddish tint over the top. The Chair Side Shade Selection Guide tab used in this image is PO-10, demonstrating the warm occlusal color that almost matched with the patient’s shade.

03 In Fig. C Premolar Occlusion was again checked, this time against PO-12 to verify exact color. This particular tab has an orange touch to the occlusal area. The patient was ultimately found to have an occlusal stain color somewhere in between PO-10 and PO-12, meaning we needed to incorporate a red and orange mixture into the occlusal surface color.

Understanding tooth morphology and material selection is the key to approaching this situation. With 50% translucency and opacity already in place, GC One Body Concept can provide a solution because all we have to do is layer Lustre Paste over the top to achieve the desired occlusal color effect.

04 Using the Renfert GEO Waxer (Fig. D), beige colored wax was easily applied on to the opaqued coping to create the marginal ridge cusp. GC One Body Concept requires no enamel build-up (Fig. E) and is simply fired at 900°C after application.

05 To mimic natural tooth morphology, the technician needs to create buccal occlusion with three cusps (Fig. F) and a marginal ridge, completed with a porcelain brush. Fresh out of the oven (Fig. G), after firing at 900°C, the restoration’s appearance will be shiny.

06 An application of white translucency Lustre Paste L-2 (Fig. H) was the next step. In trying to mimic the natural adjacent teeth, a subtle chroma was applied to the gingival 1/3 (Fig. I).

07 Between the white paste areas, beige and grey Lustre Paste was then applied to the buccal, mesial area (Fig. J). Layering to the occlusal area with Lustre Paste created the warm effect (Fig. K) we were looking for. After these four application steps, the restoration was fired at 810°C.

08 The finished restoration was placed on the cast model (Fig. L) for an appearance check. In a subsequent buccal view, the marginal and appearance check is continued (Fig. M). Post cementation, the crown is viewed in the mouth, with saliva (Fig. N) and again from a slightly different angle (Fig. O).

CONCLUSION

With no enamel color needed, One Body is a sure bet for a good background color when it comes to posterior restorations. The florescence and natural-looking color we all try to re-create can be mimicked through the porcelain particles included with the product. You may find that by giving One Body a try you will have a whole new experience in your work—a whole new way of thinking in fact! In the search for life-like restorations, here is a new option that will make your clients happy with the natural appearance you are able to provide.

ABOUT THE AUTHOR

Luke S. Kahng, CDT, is the owner of LSK121 Oral Prosthetics, a dental laboratory in Naperville, IL. He has published more than 50 articles in major dental publications. He is the author of three recently published books, including Anatomy from Nature, with 50 illustrated pages of full contour wax-ups, stone models and porcelain teeth, all re-created using natural teeth as a guide; the Esthetic Guide Book features 31 patient cases from a single anterior tooth to a full-mouth reconstruction and Smile Selection + CS³ Clinical Cases, a complete supplement to the Chair Side Shade Selection Guide Standard Kit. He invented the Chair Side Shade Selection Guide and the Simple Enamel and Prep Color Guide, featuring over 150 zirconia fabricated restorations based on patient enamel and translucency research, with patent pending, in 2009.