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Visualize and achieve

Seeing the final outcome for a tricky case.

Through experience and knowledge, it is a dental technician's duty to foresee the final outcome from an esthetic standpoint when a less than ideal situation is presented. It is also our responsibility to provide a solution based on minimal alterations within the patients mouth. Through anticipation and careful planning, challenges can be met straight on prior to any material being laid. This article will address what appears to be a straightforward request of a no prep veneer along with a single unit zirconia implant abutment and crown. Upon further inspection, it was revealed the case would require some special attention to achieve a successful final restoration.

The patient, a professional in her mid 30's, had been sent to our laboratory to have a custom shade match performed. Initially, we noticed the temporaries she was wearing were very wide. The patient expressed that she did not care for the overall size and shape of the temporary restorations, but due to an open contact area had already accepted that her final restorations would be similarly fabricated. An idea was formed and after discussion a solution was formulated that gave the patient much hope for a highly esthetic outcome she thought would not be possible to attain. Again with minimal adjustments and no additional preparation, we created a "filler" on #7 from the gingiva to the mesial.

FORESEEING A MORE ESTHETIC OUTCOME

Fig. 1 Custom shade match to determine most esthetic outcome.

Fig. 2 Denotes post temporary removal showing a large gap between #8 and #9 as well as #7 and #8.

Fig. 3 GC Initial porcelain was utilized followed by an 810 Celsius body bake.

Fig. 4 The zirconia abutment produced using the Motion Mill 2.

Fig. 5 Using platinum foils 0.001 thickness, #7 is simply wrapped.

Fig. 6 Build up with CL-F.

Fig. 7 Try in of abutment before removal of foil to establish final fit.

Fig. 8 Inserted #8 in bisque bake stage to make sure that the modifications were successful.

Fig. 9 Removal of foil.

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Fig. 10 No-prep veneer and zirconia crown; ready for final insertion.

Fig. 11 Crown delivered for try in but still was in need of a touch up adjustment to the shade.

Fig. 12 Try in no prep veneer. Notice the high translucency in the final restoration.

Fig. 13 Try in of final restorations.

Fig. 14 Notice the beautiful harmonious shade and symmetry.

Fig. 15 Side view of final restoration.

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01 During the custom shade match it was determined that the symmetry of the temporary when compared to #9 was not conducive to an esthetic final outcome and that higher esthetics could be obtained via modifications. A custom shade match was done at this time. #9 showed a high opacity in an A3 range along with B0 mixture with enamel (Fig. 1). Incisal 1/3 has some staining with subtle gray, white-ish, orange, and tan modifications.

02 Figure 2 denotes post temporary removal showing a large gap between #8 and #9 as well as #7 and #8. Careful attention must be paid to the interproximal contacts to avoid black triangles.

03 GC Initial porcelain was utilized followed by an 810 Celsius body bake. (Fig. 3) And the zirconia abutment produced using the Motion Mill 2 (Fig. 4).

04 Using platinum foils 0.001 thickness, #7 is simply wrapped. No preparation will be necessary as this will be produced along the mesial gingival areas to act as a filler and achieve proper symmetry (Fig. 5).

05 Bulid up with CL-F. Added to the mesial of #7 dentin A3 and E58 to match natural dentition of tooth #7. Apply CL-F and dentin A3 (Fig. 6).

06 Figure 7 shows the try in of abutment before removal of foil to establish final fit

07 Tooth #8 was inserted in bisque bake stage to make sure that the modifications were successful (Fig. 8).

08 Figure 10 shows the no-prep veneer and zirconia crown and ready for final insertion.

09 The crown was delivered for try in, but still was in need of a touch up adjustment to the shade.

10 Figure 12 shows the try in with no prep veneer. Notice the high translucency in the final restoration. This creates a natural hue to show through enabling a higher success in adjacent area shade match.

CONCLUSION

Evaluation and diagnosis within the laboratory is essential to achieve the most esthetic outcome. An experienced technician can formulate a blueprint or map of the desired result through proper communication via the patient, doctor and laboratory. Through a thorough understanding of natural tooth color components and how to replicate, along with information obtained in relation to understructures and adjacent teeth, successful results can be formulated and achieved. lab

ABOUT THE AUTHOR

Luke S. Kahng is an accomplished lab technician, specializing in high-end ceramic restorations. Frustrations with the shade matching systems available to him inspired his creation of the Chairside Shade Guide. Originally comprised of Volumes 1 and 2, it was later expanded into a unique ceramic shade guide system, the Seasons of Life Selection. As an active contributor to the dental community, he has also held positions on several major dental journal boards, and is frequently a keynote speaker at numerous conventions, labs or his own lab-hosted seminars. Luke is also the owner and president of LSK121 Oral Prosthetics, high-profile entity. Located in Naperville, Ill., LSK121 provides oral restorative services and assistance transnationally.