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Long-term temporary with CAD/CAM

Using a milling machine and excellent materials to make a great temporary

As any technician can attest, technology is ever changing and quickly re-writing the way we fabricate our dental restorations. This includes provisionals, which is what we will discuss in this particular case study.

The author had been used to creating temporary restorations using an acrylic heat-cured

method which was both time consuming and labor intensive. But with the advantages we see with digital technology by CAD/CAM milling machines for implants, long-term temporary restorations are much more simple to create—even the All-on-4 type of implant restoration. This provisional stage is especially important for

the technician and patient to determine comfort and fit level for the final prosthesis. Once the patient approves the fit of the provisional, the technician is able to duplicate it for the final restoration.

USING CAD/CAM TO CREATE A LONG-TERM TEMPORARY



Fig. 1 Impression for implants



Fig. 2 After pour-up



Fig. 3 CAD design



Fig. 4 Computer design



Fig. 5 Front view



Fig. 6 Premiotemp—Multilayered PMMA



Fig. 7 Abutment



Fig. 8 Fit to die of cast model



Fig. 9 GC Gradia



Fig. 10 Facial view



Fig. 11 Medium pumice, polish



Fig. 12 After clean-up



Fig. 13 Final high-shine polish



Fig. 14 After polish



Fig. 15 Mirrored image

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CASE STUDY

1. In (fig. 1), the lab received an impression for an All on 4 implant case which is pictured here before pouring up the model.
2. In (fig. 2) the soft model was poured up using the temporary abutment. The CAD design was created by the Amann Girschbach Map 400 Scanner (fig. 3).
3. In (fig. 4) we see the computer design created by the technician. We are able to utilize the library in order to verify access holes to navigate future prosthetic options. In the front view (fig. 5), the size of teeth, shape and contour is all controlled through this design process. It is easy to work with the software and create a unique design for the patient's particular situation. Premiotemp by Primotec is made with multiple layers, including translucency (fig. 6). This leads to a very life-like provisional result for the patient.
4. The author tried to fit the shape of the restoration to the cylinder of the abutment and screw it all the way down on the model (fig. 7).

5. Fig. 8 shows the die fit to the cast model. Next, the author used GC Gradia Light Cure Dentin material for bonding (fig. 9).
6. The restoration is next fit to the model in this facial view image (fig. 10). Using a medium pumice, the author applied polish to the restoration (fig. 11). After cleaning the polish off of the restoration, he dried it and inspected it for an appearance check (fig. 12).
7. Finally, he applied a high shine polish (fig. 13) and checked the fit on the model (fig. 14). In the mirrored image, we see the 10 unit provisional implant as a finished restoration (fig. 15).

CONCLUSION

Prior to this technique being available for technicians, creating a temporary such as this one was much more of a struggle. Now, it's possible to make a better temporary for patients, with excellent results in less time and a maximum profit. It's an amazing step in technology, and clinicians should be happier with the worry-free delivery of the patient's restoration in a minimum amount of time. **lab**

ABOUT THE AUTHOR

An accomplished dental technician with more than 20 years of experience, Luke S. Kahng, CDT, is the founder and owner of LSK121 Oral Prosthetics, a dental laboratory in Naperville, Ill. He has published more than 85 articles in dental journals, and his lectures have taken him across the United States and internationally. He is the creator of the Chair Side Shade Guide Seasons of Life, 3.0, 4.0, 5.0, 6.0 and 7.0 ceramic shade tabs, which were invented to facilitate effective communication regarding color between doctors, patients and technicians.