In the previous two issues of cerecdentists.com magazine, we discussed the current modality to restore implants using CEREC, and the integration of CEREC with GALILEOS CBCT. In this issue, we are going to take a step back and look at utilizing all this great technology to produce a complex CEREC implant temporary.

(Don’t worry, in an upcoming issue we’ll walk a case from start to finish — including fabrication of a custom zirconia abutment with CEREC!)

Implant temporization is considered one of the most difficult temporaries to make. First, you are generally working in a surgical site and have to be extremely careful of possible site contamination. More importantly, you don’t always have control of where the implant is placed, the angle of placement or depth of placement. These issues can combine to make implant temporization difficult.

Luckily, with CEREC and GALILEOS, we are moving toward a solution that will greatly reduce the surgical site, gain control of total implant placement, and allow prefabrication of temporaries.

**CASE DETAILS**

Our patient came to the office with a long-span FPD extending from #11 to #15, which had extensive recurrent decay on abutment #11 (Figure 1). As many of you have experienced, when the patient has decay on a terminal abutment of an FPD, you are not left with many options. The decay was so extensive that removal of #11 was necessary. Neither the patient nor I wanted to explore another FPD. Instead, we decided to look at the options for implant dentistry.

My first step in exploring implant options includes a GALILEOS CBCT scan and CEREC integration (Figure 2, following page). By combining the two technologies, I am able to review both the bone availability and the restorative positioning. This allows me to plan the implant placement in the ideal long axis restorative positioning. In this case, the patient and I are able to visualize ideal implant placement with adequate bone and restorative support (Figure 3).

Our final plan involved sectioning the current bridge to leave #15 as a single PFM restoration, removal of tooth #11 with immediate implant placement, and individual implants to replace missing #12, #13 and #14 utilizing guided surgery (Figure 4). Since this involved teeth that...
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showed in the smile, the patient was adamant to have teeth the day of surgery.

THE CEREC IMPLANT TEMPORARY

The first step in fabricating a long span implant temporary involves creating an implant level model. This can only be accomplished with accuracy when using guided surgery. Most guided implant systems come with a method to accurately retrofit the implant analog into the model, using the surgical guide (Figure 5). This will give us our working model. After creating the working model you select, customize, and place implant temporary cylinders into the model (Figure 6). From here, you are ready to fabricate your CEREC temporary bridge.

Utilizing the Bluecam, a CEREC scan of the working model with temporary abutment sleeves is completed to produce a digital model (Figure 7). A preoperative scan was also taken and “ghost correlation” (Figure 8) will be used to design our bridge. Ghost correlation allows us to utilize the preoperative widths and contours as a guide to fit our proposals. The bridge is designed and adjusted using the Form and Scale tools for ideal soft tissue and occlusal contours (Figures 9, 10).
The restoration is finalized and visualized for milling using a multicolored 40mm Vita CADTemp block (Figures 11, 12). After milling, the restoration has access created to allow for screw retention, contour, and polish (Figure 13). The restoration is now ready for day of surgery (Figure 14).

**CONCLUSION**

This case illustrates several important techniques. First, the utilization of CEREC and GALILEOS to plan ideal implant placement. Second, the use of guided surgery not only for implant placement, but also for creating an accurate model prior to implant placement. Finally, an advanced use of CEREC for fabrication of a temporary bridge.

Hopefully, you have learned from and enjoyed this series of articles discussing implant dentistry for the CEREC dentist.

I look forward to regularly contributing to cerecdentist.com, and sharing the latest news and techniques with you.

If you have any questions, please don’t hesitate to contact me by email at DrA@raleighdentalarts.com. ✫