An IPS e.max CAD single crown – Tooth 26, in 75 minutes

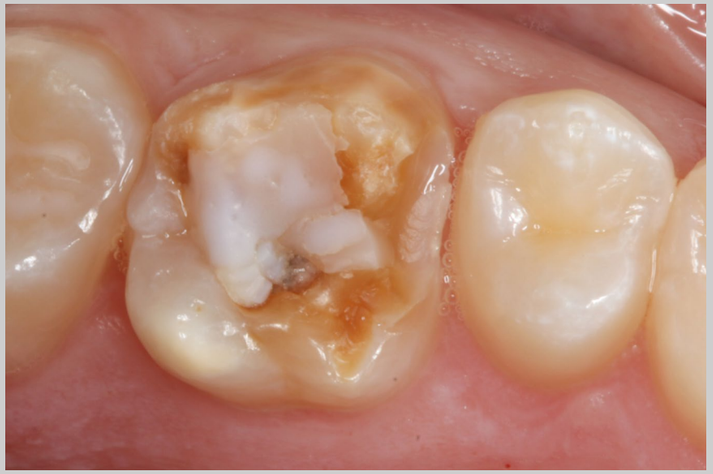
Case Description

A 32-year-old male patient consulted my practice due to decay and a failing direct composite restoration on tooth 26. The treatment plan was to fabricate a full coverage crown for this tooth in a single visit. After infiltrative administration of anesthesia with Septocaine®, tooth 26 was prepared for a crown. The digital impression was then taken with CEREC Primescan and the crown was designed in CEREC SW 5.1. The initial software proposal was perfect and the design didn't need to be modified. For the crown we chose an IPS e.max CAD block shade A2 MT size 26. After placing the block in the CEREC Primemill, we initiated the pre-touch process, even though the crown had not yet been designed. The advantage of the pre-touch process is that my assistant can prepare the milling unit while I'm working in the patient's mouth and the fabrication process can begin as soon as the start button is pressed. With CEREC Primemill, the restoration was completed in a very short time. Due to the pre-touch step and the grinding protocol itself, the entire grinding process has become faster overall. After sintering and glazing in the CEREC SpeedFire, the crown was ready to be fixed with Calibra Ceram. In total, the treatment time was only about 75 minutes.

Discussion

Producing restorations in just one session is now faster than ever before. A quick and very accurate scan, manageable and intuitive design software, combined with a milling and grinding unit that completes a restoration in just a few minutes, makes for a significant increase in efficiency and greater patient satisfaction with my practice.

Dr. Dan Butterman
Centennial, USA



Before:
Tooth 26 presenting decay and a failing direct composite restoration.

After:
Highly esthetic and functional lithium disilicate ceramic crown.

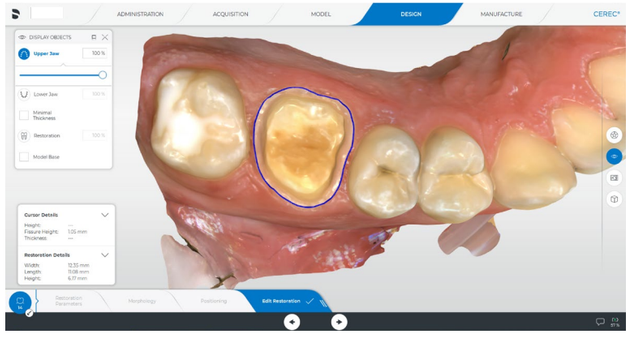
Clinical Images

Pre-op tooth #26 with a failing composite restoration and recurrent decay.

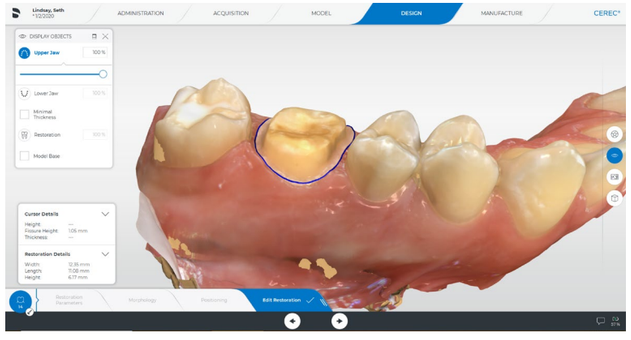
The old restorative material and the decay were removed, and the tooth has been prepared for a full coverage crown.

The final e.max crown bonded in place.

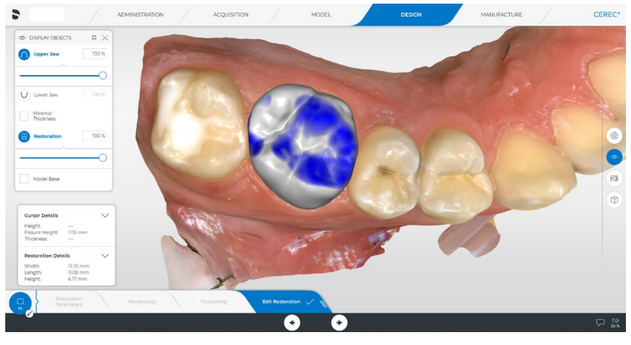
Workflow Images



Top view of the initial model with successful automargination.



Side view of the initial model. The margin did not need to be edited.



The initial crown proposal, no tools needed to be opened to edit this restoration because the initial proposal was perfect.

A CEREC Zirconia single crown – Tooth 16, in 82 minutes

Case Description

A 58-year-old male patient came into our practice with a large carious lesion on the distal surface of tooth 16. The tooth was previously restored with a CEREC onlay in 2003 with Vita Mark II ceramic. It was doing well, but the caries was large enough that a new restoration was indicated for the entire tooth. The large buccal abfraction was also a concern for the patient, so he wanted that covered as well. While waiting for the anesthetic, much of the digital work could already be completed. With the CEREC Primescan and the CEREC Primemill it is now possible to complete two workflow steps simultaneously. After scanning and creating the model, the margin was marked and approved and the proposal was completed. The CEREC software analyzed adjacent teeth to find the best anatomical shape that fit the patient. The milling strategies were calculated, and the proposal was displayed as it would be milled. The design for the molar was sent to the CEREC Primemill where the CEREC Zirconia block and the milling burs were ready to make a crown come to life. The entire time for milling was 4:22 minutes. Zirconia can be milled in Super Fast mode, resulting in sub-5-minute milling which reduces the overall process by approximately 10-15 minutes. Because the CEREC Primemill and the CEREC SpeedFire are seamlessly connected, the sintering cycle is automated and made very efficient. Standard sintering times can be as short as 18 minutes depending on materials and proposal design. The manufactured restoration was easily cemented with a resin-modified glass ionomer. Total treatment time was 1:22 hours, including preparation of the tooth and fabricating the restoration.

Discussion

The CEREC chairside system has always been known for its speed in delivering a restoration. In this particular case of a single unit, it requires usually just seconds of time to image the preparation. After imaging, the biogeneric proposal takes about 15 seconds. The clinician may do minor adjustments and changes of occlusion at his or her discretion. Finally, at the point of cementation, the clinical procedure is fast because CEREC supports you in producing predictable outcomes with regards to the anatomy, interproximal contact, and occlusion. The advancing technologies in zirconias are bringing out better esthetics with every generation. The design of the restoration enabled the restoration to fit interproximally and occlusally without any adjustment.

Dr. Todd Ehrlich, DDS, FAGD
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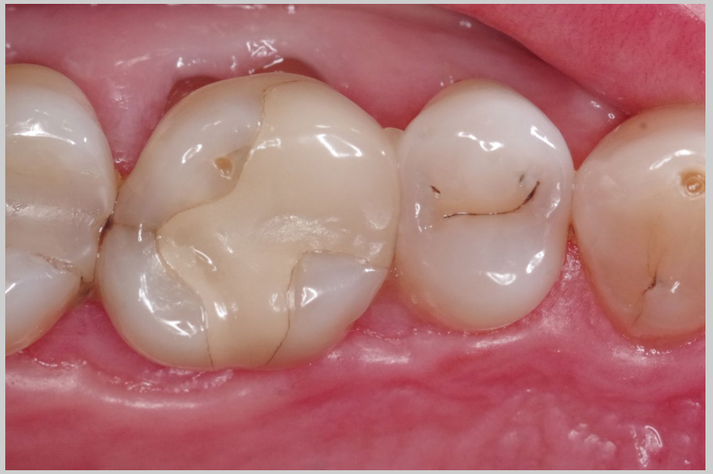

Before:

Large carious lesion on the distal surface of tooth 16, with 16-year-old onlay.

After:

Highly esthetic full-surface zirconia crown.