

## An IPS e.max CAD single crown – Tooth 16, in 60 minutes

### Case Description

A female patient, 47 years old, presented with a slightly intermittent sensitivity to cold at tooth 16. The clinical examination as well as the radiological findings indicated a large insufficiency of the composite filling with distal marginal ridge cracks, a lingual wall crack, and distal recurrent decay. The tooth was not sensitive either to percussion or palpation and showed no signs of apical inflammation. A cracked tooth syndrome was diagnosed. Due to the size of the filling and the caries to be treated, a core buildup and a full cuspal coverage ceramic crown restoration was planned. After local anesthesia with 4% seprocaine (1:100K ep), we selected the material and the color for the restoration: e.max CAD A3 MT. Prior to the preparation and design of the new restoration, my assistant prepared the CEREC Primemill by fixing the block and starting the PreTouch process. After the initial scan of the upper and lower jaw with CEREC Primescan, I removed the filling. This confirmed the initial diagnosis of a fracture in the lingual wall. Following the excavation, I applied a composite core build-up (3M Vitrebond, Empress Opaque, Ivoclar Vivadent). In this case, I was able to complete the preparation in such a way that the enamel was retained. Subsequently, I took a new digital impression with the CEREC Primescan. I then defined the preparation line in the digital model. The CEREC software provides excellent support in this respect. I was comfortable with the first restoration proposal, which I accepted without any changes. During the design phase I paid particular attention to the fissure height and contours, the correct occlusion and the contact points. After grinding with CEREC Primemill I glazed and sintered the crown. I made a short final check and could place the crown using adhesive. The patient was very happy with her experience and grateful for being able to have her tooth restored with a permanent, strong, and highly esthetic crown in a single visit that took just over an hour. Since then, she has been completely free of symptoms.

### Discussion

The clinical case demonstrates how quickly and efficiently the new CEREC Primemill allows a full-surface glass-ceramic crown to be fabricated chairside in a single session, while meeting the highest esthetic demands. I can no longer imagine practicing without CEREC Primemill.



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#### Before:

Large insufficiency of the composite filling on tooth 16 with distal marginal ridge cracks, a lingual wall crack and distal recurrent decay.



#### After:

High esthetic full-surface glass-ceramic crown.

Clinical Images



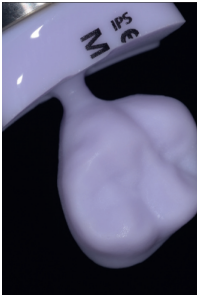
Patient presented with chief complaint of mild intermittent sensitivity to cold beverages and pointed to tooth #3.



The previous failing restoration was removed, and both mesial and distal recurrent decay was found and excavated. No pulp was exposed upon completed excavation. A composite core buildup was completed using a glass ionomer liner (3M Vitrebond) and composite resin (Empress Opaque, Ivoclar Vivadent).



After crystallizing and stream cleaning the restoration, the e.max CAD was prepared for bonding and bonded with resin cement.



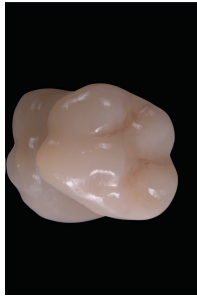
The local parameter marginal thickness was adjusted to 100um to allow for fast grinding with the CEREC Primemill. The design phase was then completed with very little modification to the fissure height and contours. The design was evaluated for proper occlusion, contacts and contours.



Since the touch process had been completed in advance, the grinding began right away after the restoration was sent to the CEREC Primemill. The e.max restoration was ground in 3:5:4 without any marginal chipping. The fit was checked and no further adjustments were needed.

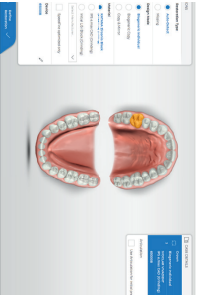


The restoration was then glazed and stained using Ivoclar crystal stain and glaze pastes. It was then crystallized in the Ivoclar Programat CS furnace.

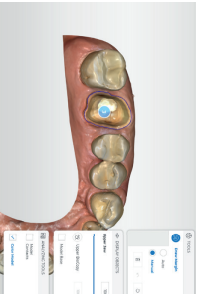


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Workflow Images



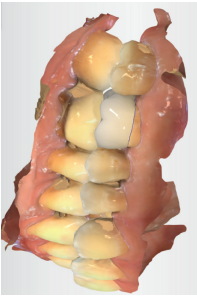
1. The patient information and the Administration Phase was completed, designating IPS e.max CAD for the restoration.



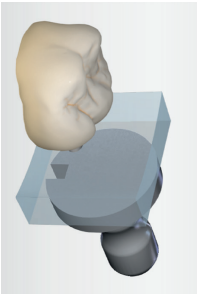
2. Auto magnification was completed by the software and no modifications were needed.



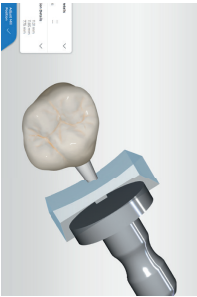
3. Design Proposal.



4. The design was evaluated for proper positioning, contours, occlusion, and contacts.



5. Manufacture Phase with Sprue automatically proposed on the lingual surface.



6. Manufacture phase sent to the CEREC Primemill.