

# An IPS e.max CAD single crown - Second upper premolar in 60 minutes

## Case Description

The following case refers to a 71-year-old female patient. She was diagnosed with mesial and distal marginal caries on tooth 25. The ceramic veneer of the PFM crown was partially broken. The treatment plan was to restore the tooth with an all-ceramic crown (IPS e.max CAD, Ivoclar Vivadent) after caries removal. The aim was to create a better facial and incisal fit for the crown into the dental arch as well as to match the fixed prosthetic structures at the front in a more visually pleasing way by using the B1 shade. The patient received local infiltration anesthesia. This was followed by a scan with CEREC Primescan of the maxilla and mandible, and bite registration. The existing crown was to serve as a reference for the new restoration. After removal of the defective crown, the tooth was prepared and then scanned again. The crown designed with the Biocopy mode was then fabricated directly in the CEREC Primemill. The fast grinding mode for IPS e.max CAD was used, which enabled the restoration to be completed in just around seven minutes. Immediately after grinding, the crown was tried on the patient. Following incisal staining for greater translucency and glazing, crystallization was done in the sintering furnace. This process took approximately 20 minutes. The restoration was then cemented with a conventional RMGI cement, with axial and occlusal wall thicknesses of 1,000 microns and 1,500 microns respectively. A postoperative intraoral X-ray (Schick 33 sensors, Sidexis 4) was taken as a final control, confirming the successful restoration of the tooth. Including preparation, fabrication and cementation of the restoration, the treatment took only 57 minutes. The patient was very satisfied with the short treatment time and the pleasing esthetic result.

## Discussion

The interesting aspect of this case was the workflow speed. Taking the first scan while anesthesia was taking effect already saved a significant amount of time. With CEREC Primescan, the impression could be taken quickly. Hardly any changes were made to the initial design, so the manufacturing process could be started immediately. Since CEREC Primemill's pre-touch process was already started during design, the fabrication itself took only seven minutes. In addition, conventional cementation with an RMGI cement proved to be timesaving.



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### Before:

Tooth 25 had mesial and distal marginal decay and broken porcelain on the existing PFM.



### After:

The crown on tooth 25 was remade to be brought more in line facially and incisally with the arch.

## Clinical Images



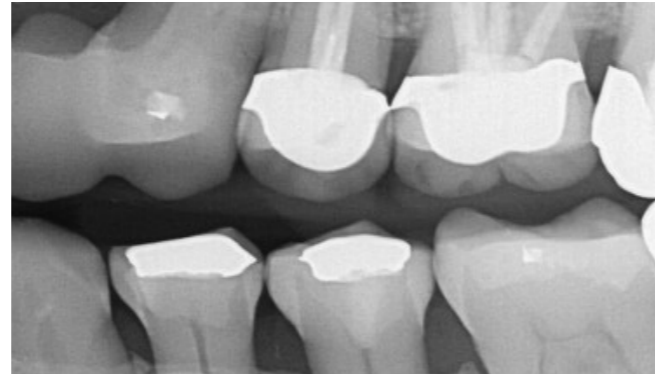
Preoperative occlusal view.



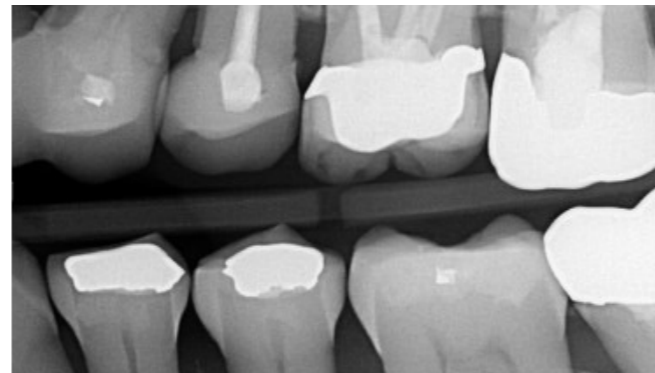
Lateral view of the preparation.



Postoperative occlusal view of finished crown.



Preoperative X-ray.



Postoperative X-ray.

## Workflow Images



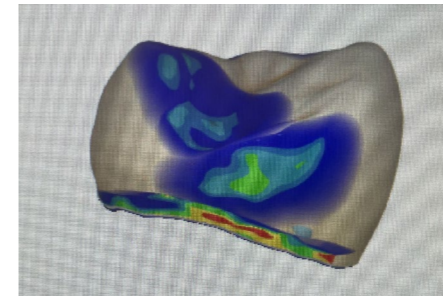
First proposal of the prep margin shows high level of accuracy.



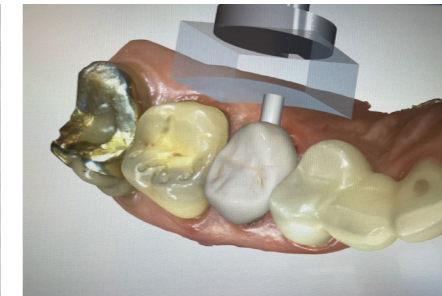
Design proposal in the CEREC SW. Minor modifications were made, which involved making a broader contact both mesially and distally.



Examination of the design from different angles ensures that there is proper facial alignment.



Checking contacts to ensure that they meet my desired configuration.



Demonstration of the crown and sprue position in the block (Manufacture phase).