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Dental PRODUCT SHOPPER
DENTAL LEARNING

# Conservative CAD/CAM Onlays

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**Sam J. Halabo, DMD**, earned his dental degree from Boston University School of Dental Medicine. He completed a General Practice Residency at the Loma Linda Veterans Hospital. Dr. Halabo was the director of dental care at the UCSD Homeless clinic in San Diego and he also served as a faculty member at UC San Diego. He is a clinical member of the Continuum for Innovative Dentistry. Dr. Halabo is a member of the San Diego County Dental Society, California Dental Association, the American Dental Association, the Academy of General Dentistry, and The American Academy of Cosmetic Dentistry. Dr. Halabo lectures internationally and publishes in well-known dental journals on esthetic and restorative dentistry. Dr. Halabo enjoys lecturing so he can pass on his knowledge of materials and practice growth with an emphasis on improving patient care and the dentists' enjoyment of their profession.

## CASE PRESENTATION

A healthy 29-year-old female presented for treatment on her lower left quadrant. Her treatment plan included replacing the leaky and broken-down amalgam fillings over the posterior sections of her mouth. The patient previously treated her upper 2 quadrants. In this particular case, I treated the lower left quadrant.

I used HiRes Loupes (Orascoptic) at 3.5X magnification, along with digital X-rays using DEXIS Platinum Sensors (DEXIS) to come to a diagnosis. I found the patient's molar teeth had such large fillings that onlays or crowns were the best options.

Before treatment day, I showed the patient her teeth using the GXC-300 intraoral camera (Gendex). We discussed her treatment options and choices of restorative materials. We also discussed the option of no treatment and the consequences of each option.

The final treatment chosen for this case was to treat teeth Nos. 18 and 19 with 2 conservative CAD/CAM onlays using CEREC Bluecam (Sirona). This type of treatment gave the patient a restoration that would last a long time with proper home care.

I also chose to do a conservative distal-occlusal filling on tooth No. 20. After clearing out the amalgam and because most of the walls of the tooth were intact, I used a distal-occlusal resin filling on tooth No. 20 as it was the most conservative material.

The patient already knew of the value of conservative onlays since she had this procedure done successfully in other quadrants of her mouth. This was the most conservative treatment, and it was also the one that would hold on to as much healthy enamel as possible. Treatment went well, and the only challenge I encountered was that I could not use the iZolation unit (iZolation) as the patient was having some issues with gagging.

The restorations came out wonderfully using the materials we commonly use on these procedures. I tried in the onlays and then glazed them in the oven. Finally, I cemented the 2 onlays with BeautiCem SA (Shofu) for a number of reasons. This cement has many great features: it is a self-etch, self-adhesive, dual-cure resin cement with less than 12 µm film thickness. It has high bond values and excellent physical properties with bioactive benefits of fluoride release and recharge, antiplaque effect, and acid neutralization. I took a final x-ray to assure no cement was left behind. I did the filling in a conservative manner and shade matched it. The patient loved the results and the fact that they were all done in 1 visit and at 1 time so she could make it home in time to pick up her daughter from school.

Figures 1 and 2 —A healthy 29-year-old female presented for treatment on her lower left quadrant. She wanted to replace her broken-down amalgam fillings over the posterior sections.

Figure 3—As part of the patient's treatment plan, we had previously treated her upper 2 quadrants.

Figure 4—In this case, I treated the patient's lower left quadrant. I used DEXIS Platinum Sensors (DEXIS) and Orascoptic HiRes Loupes (Orascoptic) at 3.5X magnification to make a diagnosis. I found that onlays or crowns were the best options.

Figure 5—I chose to treat teeth Nos. 18 and 19 with 2 conservative CAD/CAM onlays using CEREC Bluecam (Sirona), which would give the patient a long-lasting restoration.

Figures 6 and 7—I then cleared out the amalgam. Because most of the walls of the tooth were intact, I used a distal-occlusal resin filling on tooth No. 20 as it was the most conservative material.

Figure 8—This conservative treatment was successful, and I found that we could hold on to as much healthy enamel as possible. I then tried in the onlays and finally glazed them in the oven.

Figures 9 and 10—I took a final x-ray to assure that no excess cement was present.

Figure 11 [Before] and Figure 12 [After]—Both the patient and I were pleased with the outcome of the restoration, and the patient was satisfied because the natural-looking restoration was done in 1 visit and all at 1 time.

## GO-TO PRODUCTS USED IN THIS CASE

### BEAUTICEM SA

According to the manufacturer, BeautiCem SA is designed to deliver high bond values across all substrates, ensuring the cement can handle any clinical situation. In addition, the S-PRG filler has been demonstrated to inhibit plaque formation and has excellent acid neutralization capabilities.

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### CEREC BLUECAM

The CEREC Bluecam is a handheld acquisition camera that uses a highly visible blue-light LED (light emitting diode) to capture digital impressions.

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### HYBRID POINTS

Hybrid Points combine both diamond and abrasive technologies. These precision rotary instruments are ideal for cavity and crown preparation.

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### PICASSO

The Picasso diode laser provides optimum power, precision, and portability for a broad range of soft-tissue procedures.

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