

## CS 3500 Intraoral Scanner

# Crown preparation and placement with the CS 3500 intraoral scanner and CS 3000 milling system

Daniel C. Delrose, DDS

Thirty-six year old male presents with some dental issues on his right side. A full review of his medical history reveals no medical issues and no known drug allergies. His dental history involved multiple direct restorations with a history of failure over time. Patient's chief dental complaint is to have a restoration that will endure longer than a few years.

A full dental examination was completed, including a CBCT scan with the CS 9300, a full series of intraoral radiographs with the RVG 6100; intra and extra oral photographs, hard tissue examination, and a soft tissue examination.



Top: Pre-treatment, patient's right side. Middle left: Pre-treatment bitewing radiograph. Middle center: Pre-treatment intraoral photograph Tooth #4. Middle right: Pre-treatment intraoral photograph, Tooth #30. Bottom left Pre-treatment intraoral photograph Tooth #4. Bottom right: Pre-treatment intraoral photograph Tooth #30.



### Daniel C. Delrose, DDS

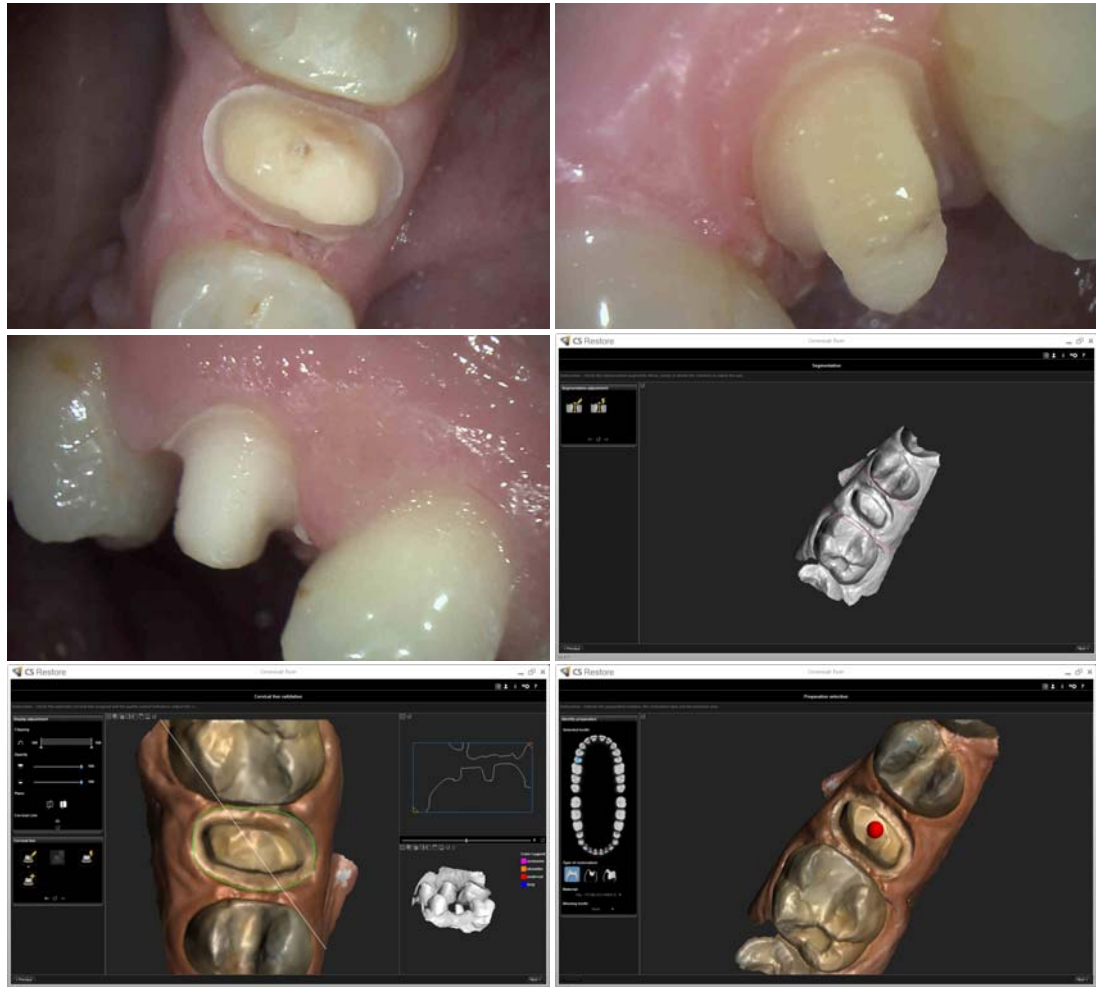
Dr. Delrose is a graduate of Case Western Reserve School of Dentistry, he then finished a Fellowship in Prosthetics before joining the U.S. Navy. His last duty in the Navy was as the branch Prosthodontist. He joined North River Dental, a private dental practice in Ellenton, in 1997.

He has been published in J.A.D.A. and Dental Economics. Dr. Delrose has produced training videos in conjunction with Knight Dental Group in Clearwater Florida, he was a spotlight speaker at the 2006 Florida Academy of Cosmetic Dentistry, and in 2008 lectured at the Academy of CAD/CAM Dentistry. Dr. Delrose is a board member of the Academy of CAD/CAM Dentistry and the North American Editor for the International Journal of Computerized Dentistry. Dr. Delrose is a Certified Trainer for the International Society of Computerized Dentistry.



Recurrent decay was revealed on tooth #18 and a MOD direct composite was treatment planned.

Tooth #4 had an existing MOD composite with recurrent decay at the margins. The tooth was “over filled” and lacked integrity. To provide strength and function to the tooth, a full ceramic crown treatment was planned.

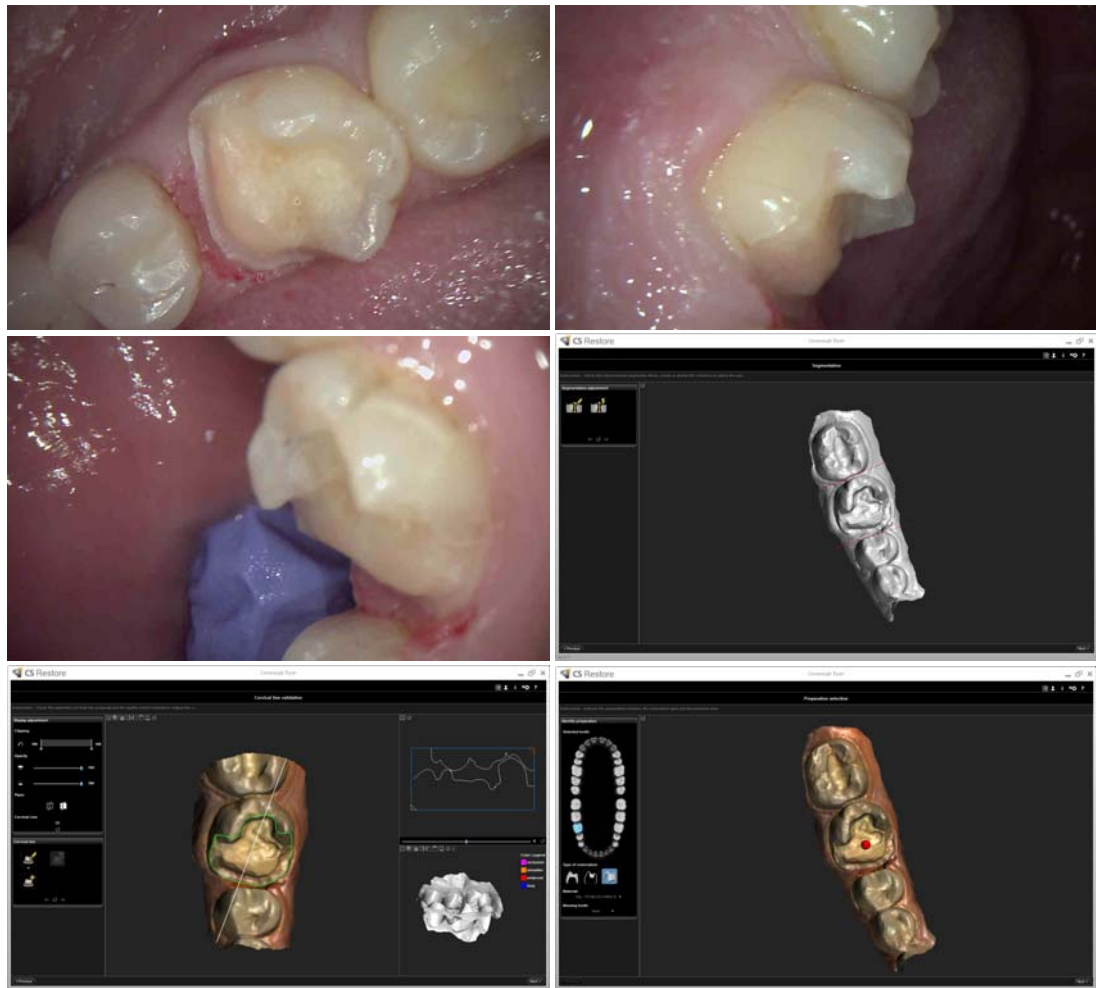


Top left, top right, and middle left: Prep of Tooth #4 Middle right: Segmentation of Tooth #4 in CS Restore software. Bottom left: Margin of Tooth #4 in CS Restore software. Bottom right: Preparation selection of Tooth #4 in CS Restore software.

Tooth # 30 had recurrent decay on the lingual and a fractured MO composite. Since healthy tooth structure existed and the tooth was not a point for full coverage, an onlay treatment was planned. Porcelain onlays bond to the existing enamel which restores a tooth to contour and function without dramatically removing healthy enamel. The preparations were completed using SOLO diamonds from Premier. The burs included the 368023C; 856L108C; 801023C; 862012C; 837012C; 368023F. Traxodent from Premier Dental was placed at the margins, rinsed and then imaged with the CS 3500.

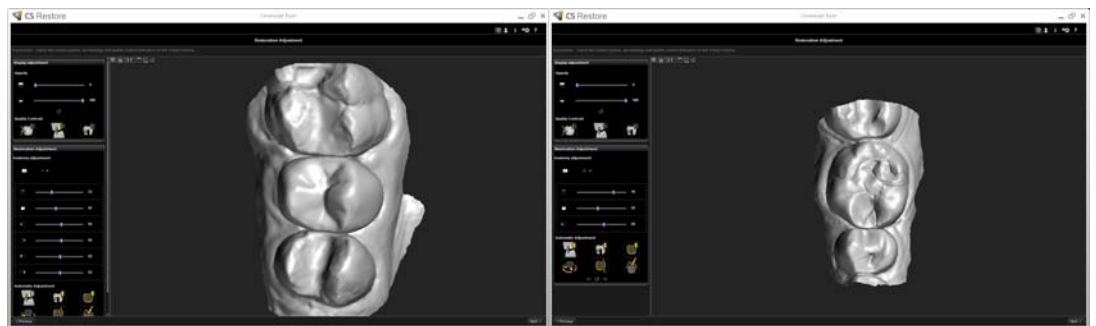


# Clinical Case Study



Top left, top right, and middle left: Prep of Tooth #30 Middle right: Segmentation of Tooth #30 in CS Restore software. Bottom left: Margin of Tooth #30 in CS Restore software. Bottom right: Preparation selection of Tooth #30 in CS Restore software.

The restorations were designed on CS Restore and then milled using the CS 3000 and Vita Mark II feldspathic porcelain.



Left: Design of crown for Tooth #4 in CS Restore software. Right: Design of crown for Tooth #30 in CS Restore software.



The restorations were adjusted in the mouth and then stained and glazed using the Vita Akzent Plus kit. The preparations were then cleaned with 37% phosphoric acid, and Microprime from Danville Materials was used as a primer. Clear MaxCem Elite dental resin cement was used to lute the restorations. The SOLO fine flame bur was used again to polish the margins, and then Diamond Twist SCO from premier was used intraorally for the final polish. Radiographs are always taken to verify marginal integrity.



Top: Post-treatment, patient's right side. Top center: Post-treatment, Tooth #4 Top right: Post-treatment, Tooth #30. Middle left: Post-treatment bitewing radiograph. Middle center: Post-treatment intraoral photograph Tooth #4. Middle right: Post-treatment intraoral photograph Tooth #4. Bottom left and right: Post-treatment intraoral photographs, Tooth #30

Patient was extremely happy with the esthetics and the idea that porcelain was milled for his specific restoration.

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Clinical Case Study

