

HOW TO

DELIVER VENEERS IN A SINGLE VISIT

Using the PlanScan and Plan Mill 40 from E4D/Planmeca to produce predictable anterior restorations with great esthetics.

[by Michael J. Moroni, DDS]



DR. MICHAEL J. MORONI

ONE CORE AREA I REALLY ENJOY WORKING in at my dental office is anterior veneers. Oftentimes, I get frustrated with the veneers that I have completed from outside sources. In fact, there was a time when I received a restoration which I found was unsuitable for my patient. Needless to say, that will not happen again.

Having tried a few times before to scan and fabricate an anterior crown, I was never happy with how the end product turned out. This prompted me to further my education in restorative dentistry. Once I bought the PlanScan and Plan Mill 40, I was able to make beautiful crowns and onlays with the education I received from Lee Culp's course, Mastering Anterior Esthetics, at Planmeca University in Dallas, Texas. I can now make predictable anterior restorations with great esthetics that I can be proud to bond into any patient's mouth.

Digital Dentistry

Dentistry has made great strides in becoming digital. Thirty years ago, it was unheard of to produce a crown in one day, let alone producing it in-office. The high demand for digital dentistry has necessitated a way to make restorative dental

materials that not only increase productivity but are also more precise and cost effective.

Today, many general dentistry practices are moving fast to make the changes necessary to keep up with the technological advances. With many dental patients already in the habit of knowing what esthetics they'd like to achieve, dental professionals must stay one step ahead by continually being educated to deliver the best, most predictable and durable restorative results. By purchasing PlanScan, you are not only buying a system, but also the knowledge and comprehensive education for use and integration of digital dentistry as a whole.

Case presentation

In this specific case, the patient did not like how her laterals were smaller and rounder than her centrals. She always felt that her laterals just did not fit in with the rest of her teeth (Fig. 1).

Initial Treatment Planning

STEP 01 A scan of the diagnostic wax-up for what the final restoration would look like was made. This tool allowed the patient to see the results prior to treatment. After the patient approves the wax-up, the wax-up is then scanned — this was the matrix for how the final veneers would look — and the patient anesthetized.

STEP 02 Tooth Nos. 7, 8, 9, and 10

were minimally prepared. An impression was taken so that a model could be made for adjustments of the final restorations once they were milled (Fig. 2).

STEP 03 The PlanScan was used to scan and create a digital model of the prepared teeth (Fig. 3). The prepared teeth were then temped and the patient was sent home, to return back in 2 days to have the in-house manufactured veneers seated.

Restoration Prep

STEP 04 The impression was poured up with die-stone. The digital impression scan was orientated with the wax-up so that the image was overlaid onto the prepped teeth (Fig. 4). Tooth No. 7 margin was drawn, then 8, 9 and 10 (Fig. 5).

STEP 05 Once the margin was drawn, the wax-up that corresponded to that certain tooth was highlighted in order for the wax-up image to be merged onto the prepped tooth (Fig. 6).

STEP 06 Once all the images were placed on the prepped teeth, final restoration contouring was completed (Fig. 7). This is where the dentist applied his/her knowledge of tooth anatomy and morphology from Lee Culp's class at E4D. Culp was able to give precise and simple ways to make a fabricated veneer look like a real tooth. Subtle markings and indentations on the buccal



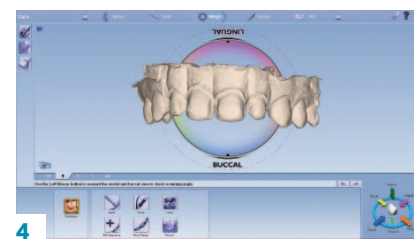
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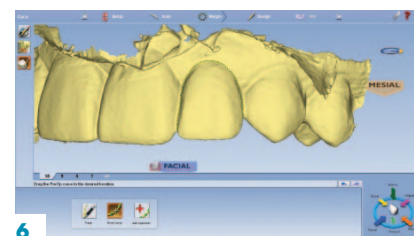
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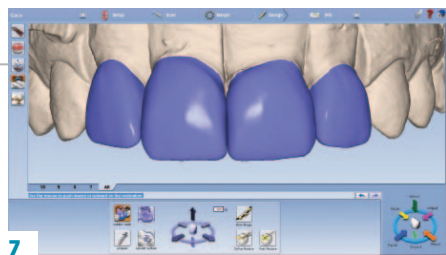
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AT A GLANCE

1. Patient did not like that her laterals were smaller and rounder than her centrals.
2. The wax-up is scanned with PlanScan.
3. Impression is taken so that a model could be made for adjustments.
4. The PlanScan is used to scan and create a digital model of the prepared teeth.
5. The digital impression scan is orientated with the wax-up so the image can be overlaid onto the prepped teeth.
6. Tooth No. 7 margin is drawn, followed by tooth Nos. 8, 9 and 10.
7. The wax-up that corresponded to that certain tooth is highlighted in order for the wax-up image to be merged onto the prepped tooth.
8. Final restoration contouring is completed.
9. Patient's facial picture before treatment. Note her laterals.
10. Final facial view.



Planmeca PlanScan

- ▶ Blue laser technology delivers superior accuracy
- ▶ Iris™ adjustable FOV allows adjustment of capture window
- ▶ Ergonomic design for scanning comfort

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surface of the veneers made a huge difference in creating a more life-like esthetic to the anterior veneers. Once the images were manipulated, and the esthetics were approved, the veneers were milled in the Plan Mill 40. The precision of the mill was checked on the model that was made prior to the placement of the temporaries.

Delivery appointment

STEP07 The final model veneers were checked prior to staining and glazing. The patient was anesthetized and had her temporaries removed.

STEP08 The restorations were tried in with NX3 Try-In Gel (Kerr Corp.). This allowed the patient to approve the restorations prior to cementation. Once she approved, the restorations were removed and the gel was rinsed off both the restorations and the teeth.

STEP09 The internal surface of the restoration was etched with 5% Hydrofluoric Acid IPS Ceramic Etching Gel (Ivoclar Vivadent Inc.) for 20 seconds and then rinsed off. Monobond Plus (Ivoclar Vivadent Inc.) was applied for 60 seconds. From the inside surface, all liquid was dried off.

STEP10 As for the prepared tooth area, it was etched with 35% Phosphoric Acid (Ultra-Etch, Ultradent Products Inc.) for 15-20 seconds (Total Etch Technique). Her teeth were then thoroughly rinsed off with a copious amount of water.

STEP11 With the tissue properly isolated and no bleeding present, Prime&Bond Elect (DENTSPLY Caulk) Adhesive was placed onto the preparations and agitated with microbrush for 30 seconds. The adhesive was then cured for 10 seconds.

STEP12 While curing, the restorations were loaded with NX3 Dual-Cure Resin Cement (Kerr Corp.) and once it was loaded, the veneers were placed back onto her tooth, from midline back to distal. The centrals were cured, then laterals until all her teeth were tacked into place. All excess

cement from the buccal and lingual area was cleared before a final 20 seconds of curing was made to the restoration surface.

STEP13 Once the veneers were seated, a final check was made to make sure that all excess cement and/or bonding agent was removed from all surfaces, including the gingival areas around the teeth.

According to an individual doctor's preference, final occlusal adjustments could be finished at this point. Facial picture of the patient before, note her laterals (Fig. 8) and final facial picture (Fig. 9). The patient's final picture shows that the change in lateral size has created a more mature look for the patient (Fig. 10). Patient was very happy to have the procedure completed.

Closing thought

The best part of digital image impressions and in-office milling is the simple idea that if a restoration were to not fit, someone on the dental team could re-mill the restoration right in-office. There would be no need for the patient to come back to go through the procedure again. In the case that the veneer did not fit, it could be easily corrected chairside or with the model that was completed on the day of preparation. As demonstrated by this case, this technology proved to have great precision and contributed to overall productivity. This also saved both time and money for the patient to not have to take off work again to come into the office for another appointment. ●

ABOUT THE AUTHOR

Dr. Mike Moroni was raised in Northern California. He attended California State University at Hayward where he received his B.S. in Biology. In 1997, he graduated with his doctorate in dentistry from Case Western Reserve University in Cleveland, Ohio. Dr. Moroni then went on to complete his dental residency at the world famous Cleveland Clinic. After a few years of immersing himself in the dental world, he decided to take his experience to Colorado where he opened his private practice. Dr. Moroni originally started using CAD/CAM technology in 2007. He has placed more than 4,000 CAD/CAM restorations. Dr. Moroni belongs to many professional affiliations.