



Intraoral Mock-Up

Using Composite for Anterior Aesthetics

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Over the last few years, clinicians have witnessed a significant increase in patient demand for aesthetic dentistry. One effective means of performing aesthetic enhancement is the use of porcelain veneers. Using an intraoral mock-up and a custom matrix allows practitioners to demonstrate their vision for the new smile; it lets clinician and patient see the intended results before treatment begins and permits evaluation of occlusion, phonetics, and aesthetics. This intraoral composite mock-up can eliminate the need for a laboratory fabricated diagnostic wax-up. Furthermore, it serves as a matrix for the provisional restorations.

Clinical Vignette

1. Pretreatment view of a female patient with notable wear of her dentition. Using the aforementioned approach, porcelain veneers would be used to improve aesthetics. An occlusal guard is fabricated for the patient upon completion of treatment.

2. Close-up pretreatment view revealing excessive wear present on this patient's maxillary anterior dentition. This patient presented with the chief complaint that her teeth were too short and dark.

3. A small-particle hybrid composite resin (ie, Venus, Heraeus Kulzer, Armonk, NY) is placed on the pre-treated teeth in order to build up worn or missing tooth structure. The composite is sculpted into position with a thin-bladed, titanium nitride-coated instrument.

FIGURE 1.



FIGURE 2.



FIGURE 3.

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(Continued)

4. A “half-smile” intraoral mock-up created just prior to tooth preparation in order to demonstrate the aesthetic possibilities to the patient. This allows the doctor and patient to see a “before” and “after” view simultaneously while portraying the changes that will occur in the final restorations.

5. Appearance of the completed intraoral composite mock-up. The operator receives immediate feedback from the patient concerning the general shape and length of the new dentition. Once aesthetics are agreed upon, this mock-up serves as the blueprint or prototype of the final smile.

6. Occlusion is determined and developed directly in the mouth. Right lateral excursion with canine-protected occlusion and posterior disclusion are established and verified. The lingual surfaces of the maxillary canines can be built up with the composite to set this occlusal scheme.

7. Left lateral excursion with canine-protected occlusion and posterior disclusion are established and verified. Lingual surfaces of the left maxillary canine can be built up with the composite to create canine-protected occlusion.



FIGURE 4.



FIGURE 5.



FIGURE 6.



FIGURE 7.



Intraoral Mock-up

Using Composite for Anterior Aesthetics (Continued)

8. Anterior guidance is established and verified. An additional benefit of this technique is that it develops one's expertise in the direct composite veneer. Since the longevity and success of composite veneers are related to balanced occlusion, mocking up with the composite intraorally reinforces this procedure.

9. A bite registration material is used to create a vinyl polysiloxane (VPS)-based custom matrix of the mocked-up dentition just prior to preparation of the teeth for porcelain veneers. Use of a triple tray ensures stability of placement when the matrix is replaced and then filled with the auto-cure temporary veneer composite material during provisional fabrication.

10. View of the provisional veneers created from loading the custom matrix with auto-cure temporary composite resin after the final impression was taken. Additional modification of these provisional restorations can be performed by applying flowable composite (ie, Venus, Heraeus Kulzer, Armonk, NY) as needed.

11. Postoperative view of the patient following placement of porcelain veneers. Note the improvement in tooth shape, color, proportion, and texture evident in the veneers. Significant aesthetic improvement has been achieved using the chairside intraoral mock-up technique approach described herein.



FIGURE 8.



FIGURE 9.



FIGURE 10.



FIGURE 11.