Anterior and posterior bridges using the Procera AllCeram bridge in conjunction with Procera crowns

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Procera crowns can be cemented conventionally. To see why this feature is so important, let's look at a real-life situation that occurs almost daily. A patient wants to have a couple of anterior crowns replaced because of the gray line now showing at the gumline. The dentist correctly decides that all-ceramic restorations would provide the patient with the esthetics that he or she desires.

When removing the old crowns, however, it is found that the margins are 2 mm subgingival, and the patient does not require any gingival recontouring. If the doctor chooses to provide all-ceramic restorations that need to be bonded into place rather than cemented, the result will be compromised by the inability to control moisture during the bonding steps on the subgingival margins. In fact, most dentists have seen bonded all-ceramic restorations that are failing and have the appearance of PFMs because the microleakage at the margins is a grayish-black color.

A Procera crown cemented conventionally with Rely-X Luting Cement (3M) resin-reinforced glass ionomer performs exceptionally well in subgingival situations. The ability to now fabricate three-unit bridges with the system fills a gap that has existed in esthetic treatment.

Following are step-by-step procedures for using an anterior and a posterior Procera AllCeram bridge, in addition to five adjacent single Procera crowns.

The patient is a 25-year-old male whose chief complaint was the replacement of two missing teeth, and the replacement of some less than esthetic anterior PFMs with visible metal margins. Tooth 3 and tooth 7 were both missing,

Fig. 1 Pre-operative view of maxillary arch with missing right lateral incisor and right first molar.

Fig. 2 Diagnostic wax-up used to help determine esthetic and functional requirements.

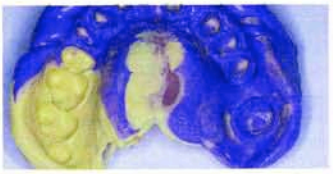

Fig. 3 A full-arch impression made from Capture ultra-hydrophilic impression material.

Fig. 4 Articulate master models using translucent bite registration material.

Fig. 5 Translucent material allows visual confirmation of correct centric positioning.

Fig. 6 Fabricate Biotemps provisional restorations using diagnostic wax-up as a blueprint.

and the patient was dissatisfied with wearing a stayplate. Teeth 10 and 11 were both in crossbite, and we chose to correct that situation as well. It was decided that we would place a Procera AllCeram bridge from 2 to 4, and from 6 to 8. Single-unit Procera crowns were placed on teeth 5, 9, 10, 11, and 12. The following steps were used to complete this case.

1. At the initial exam, evaluate the patient's pre-operative condition, in addition to the patient's esthetic requirements (Fig.1). *Note:* A study model with a single-unit crown and a three-unit bridge on it, adjacent to a single-unit PFM and a three-unit PFM bridge is useful for the patient to view the restorations and take them off the model to inspect the internal aspects.

2. For cases over three units, always use a diagnostic wax-up (Fig. 2 shows the wax-up provided for this case by Glidewell Laboratories). *Note:* Insist that the lab uses white wax for optimal esthetics; diagnostic wax-ups done with yellow wax fail to inspire patients, many of whom are turned off by the sight of yellow wax on a yellow model.

3. Prepare teeth via the standard methods used for PFM restorations. Preps for Procera restorations require 1.5 mm of reduction and a chamfer finish line. Use of a diamond kit specifically for Procera crowns, such as one from Brasseler or Axis, help to ensure optimal reduction, taper, and marginal shape. *Note:* A shoulder prep, which is a much more difficult margin to cut, is actually contraindicated for scanning purposes.

4. Place retraction materials and take an impression (Fig. 3) with Capture ultra-hydrophilic polyvinyl siloxane material (Glidewell Direct). *Note:* Because the restorations are all-ceramic and there are no dark collars or margins to hide, there is no need to place margins several millimeters subgingivally. In addition to being much kinder to the surrounding periodontium, this facilitates taking a very clean master impression with little or no bleeding.

5. In larger cases such as this one, verify that the centric bite is correct to avoid excessive occlusal adjustments at the

Fig. 7 Fabricate two 3-unit Procera bridges and four single-unit Procera crowns.

Fig. 8 Facial view of the final restorations on the model.

Fig. 9 Lateral view of the final restorations on the model.

cementation appointment. Use Capture clear bite registration material (Glidewell Direct) to check the patient's bite both intraorally and on the master models (Figs. 4 and 5).

6. Once the bite is confirmed, reline Biotemps lab fabricated provisional restorations (Glidewell Laboratories) with a methyl methacrylate to achieve optimum fit (Fig. 6). *Note:* The provisionals are designed from the diagnostic wax-up so that the patient and dentist can preview what the final result will look like. Any esthetic changes made to the provisionals are communicated to the laboratory for use in the final restorations.

Fig. 7 shows the final restorations as sent by the laboratory.

7. Try in the restorations on both the master model and the solid model to confirm fit.

8. Place the restorations in the mouth, first as individual units, to check the marginal fit of each of the restorations.

9. Try the units in collectively to verify contacts and occlusion (Figs. 8, 9, 10, 11, and 12). *Note:* The strength of Procera allows checking and adjusting the occlusion before cementing the restorations permanently. This allows all porcelain polishing to be done extraorally.

10. Clean up excess cement (Fig. 13).

Fig. 14 shows the post-operative view of the completed restorations. DPR

Fig. 10 Facial view of the final restorations at try-in.

Fig. 11 Lateral view of the final restorations at try-in.

Fig. 12 Occlusal view of the final restorations at try-in.

Fig. 13 Close-up view of cemented final restorations.

Fig. 14 Post-op view of the non-metal restorations.