COMMENTARY

NOVEL PORCELAIN LAMINATE PREPARATION APPROACH DRIVEN BY A DIAGNOSTIC MOCK-UP

Mark J. Friedman, DDS*

Drs. Magne and Belser have written an exceptional article on a modified clinical approach to improving the predictability and longevity of bonded porcelain veneer restorations. The patient in the clinical case example has substantial loss of natural enamel, possibly from attrition and abrasion. The novel technique involves the fabrication of a provisional acrylic mock-up of the final porcelain restorations prior to tooth preparation. Generated from a diagnostic wax-up, the provisional is temporarily bonded in place and serves as a preview for the dentist, the dental technician, and the patient. It also serves as a valuable reference during tooth preparation. Using diamonds of known dimension, the dentist can prepare through the acrylic template to a prescribed depth, thereby reducing the risk of excessive axial reduction and further loss of enamel substrate on which to bond. Without the mock-up, tooth preparation is likely to be performed in reference to existing axial contours instead of the final restorative volume predicted by the wax-up.

Consistent with their attention to detail and precision, and with their clinical excellence, Magne and Belser present a well-organized technique designed for "time efficiency, enamel preservation, subsequent improvement of adhesion and mechanics, and utmost respect of the pulp." Nonetheless, relative to the specific example discussed and illustrated, there is an issue that bears further discussion.

Some authors have expressed concern that the bonded porcelain veneer restoration has been transformed from a highly conservative operative procedure to a much more aggressive one.[1,2] If preserving existing enamel is a worthy goal, then orthodontic movement prior to tooth preparation should always be considered. I have found that even minor retraction and rotation of anterior teeth can have a profound impact on enamel preservation (Figures 1–3). The left lateral incisor in Figure 1A of Magne and Belser's article demonstrates an uninterrupted enamel substrate owing to its lingual position *prior* to tooth preparation. Could further enamel have been preserved if orthodontic retraction of the anterior teeth was achieved? What if no tooth preparation is initiated other than a subtle peripheral finish line? That practice was commonplace when porcelain veneer restorations were first introduced over 20 years ago, and this author has observed excellent longevity with the technique.[3] Are bonded porcelain veneer restorations really doomed to failure if they do not meet certain minimum requirements of uniform thickness?

Figure 1. A 37-year-old male undergoes orthodontic treatment to retract the anterior teeth in preparation for porcelain veneer restorations.

Figure 2. The maxillary central incisors have been retracted into a position to allow for minimal tooth preparation, maximum enamel preservation, and proper anatomic contours of the final restorations.

Figure 3. The final porcelain veneer restorations are retained on an intact substrate of enamel and exhibit both acceptable esthetics and proper axial contours.

With this article, Magne and Belser have added another excellent conservative restorative technique to the literature. Hopefully, they will continue to help stem the increasing tide of practitioners who casually prepare teeth for traditional crown restorations, and refer to them as "veneer restorations," with no regard whatsoever for enamel preservation.

REFERENCES

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2. Friedman MJ. Porcelain veneer restorations: a clinician's opinion about a disturbing trend. J Esthet Restor Dent 2001; 13:318–327.
3. Friedman MJ. A 15-year review of porcelain veneer failure: a clinician's observations. Compend Contin Educ Dent 1998; 19:625–628, 630, 632.

*Private practice, Encino, CA; and professor, Clinical Dentistry, University of Southern California School of Dentistry, Los Angeles, CA, USA.