Protocol for Porcelain Veneer Temporization

Jordan Soll, DDS

ABSTRACT

All too often, the importance of porcelain veneer temporization is overlooked. For the clinician to have a satisfying outcome, there are steps in sequential fashion that must be followed. The meticulous completion of the porcelain veneer temporization stage is paramount to insure clinical success. The benefits are many, allowing for all involved to reduce errors, visualize the end results and make final appointments smoother. The following is a step by step system for a predictable porcelain veneer temporization technique.

PROCEDURE

Once the patient has accepted the case presentation and agreed to treatment, the preparations are carried out according to the dictates of the study models and the lab fabricated matrix guide (Figs. 1-7). Using an impression technique that is successful for the practioner, the final impression is gathered. In addition, occlusal registration, the recording of the horizon, stump shade and any additional intra operative information that will assist the dental technician is recorded prior to the temporization process. This sequence is critical because, unlike full crown coverage temporization, porcelain veneer temporization is completed directly to the tooth and is only removed at the subsequent insert appointment.

Satisfied that the above information is accurately recorded, the preparations are cleaned with sodium hypochlorite so that remnants of the impression material or smear layer are removed. The preparations are then spot etched with phosphoric acid at the centre of each tooth (Fig. 8). After 10-15 seconds the preparations are washed with copious amounts of water. A clear matrix stent, which is formed from an impression of the diagnostic wax up, is then used as the template for the veneer temporaries (Clearly Affinity, Clinicians Choice, London Ontario) (Fig. 9). Using the desired shade, the matrix is filled with a

FIGURE 1

FIGURE 2

FIGURE 3


FIGURE 4


FIGURE 5


FIGURE 6


FIGURE 7


FIGURE 8


FIGURE 9


FIGURE 10


FIGURE 11


FIGURE 12

flowable resin covering the buccal surfaces of all the prepared teeth and then set aside in a dark area (Intro, Clinicians Choice, London, Ontario) (Figs. 10 & 11). The etched preparations are treated with an unfilled bonding resin at the spot etched position and around the margins (All-Bond DE resin, Bisco Dental Products, Schaumburg, IL). Each tooth is then cured for 30 seconds. The placement of the unfilled bonding resin at the body of the tooth aids in retention while the coating of the margins assists in reducing intra operative sensitivity. It is imperative to note that only unfilled bonding resin can be used for this technique. If a filled resin is substituted at this stage, the subsequent removal of the temporary veneers will become difficult and may result in potential damage to the teeth.

Using the desired shade, the matrix is filled with a flowable resin

Once all teeth have been bonded, the stent containing the flowable resin is seated into position and cured from the buccal and the lingual for 30 seconds per side (Figs. 12 & 13). Once curing is complete the stent is removed and cured again (Fig. 14). The clinician may notice small voids either at the surface or just below. Using a small burr they can be accessed, bonded and filled with the same flowable resin.

To remove the excess resin a diamond tip esthetic trimming burr #DET3F.008 is employed (Brasseler, Savannah, Georgia). Very carefully the margin is identified, and the scalloped outline of the gingiva is followed separating the flash from the legitimate margin (Figs. 15-17). The procedure is done slowly by laying the tip of the burr almost parallel to the emergence profile as each margin is reduced. It is important to open


FIGURE 13


FIGURE 14


FIGURE 15


FIGURE 16


FIGURE 17


FIGURE 18


FIGURE 19


FIGURE 20


FIGURE 21

the gingival embrasures so that they do not impinge the papilla and be easily cleansed (Fig. 18). The body of the temporary veneer is developed and shaped. With the help of a football shaped diamond trimming burr #D379F.023, (Brasseler, Savannah, Georgia) the lingual surface is contoured and smoothed. Though the temporary veneers are fabricated in one piece, embrasures are simulated on both the buccal and lingual surfaces. To add additional characterization, the use of diamond impregnated strips (Lightning Strip, Miltex, York, Pennsylvania) are used to soften corners and create incisal embrasures (Fig. 19). Satisfied that the occlusal scheme is balanced in CR/CO and all excursions, the restorations are polished with Enamalize (Cosmedent Inc., Chicago, IL) polishing paste to add luster to the temporary veneers prior to dismissal. (Figs. 20-24).

Embrasures are simulated on both the buccal and lingual surfaces

At this time the patient is encouraged to do warm salt water rinses B.I.D., until the insertion appointment, to aid in gingival repair. The patient is also advised that, though the restorations are secure, they are placed with enough bond to hold them in place but not too much to prevent their easy removal at the permanent insertion appointment. As such, a soft diet is to be followed. In addition, because there is lack of a total seal at the margins, the patient may feel intra-treatment sensitivity (especially if the preparations encroach on dentin), which can be addressed by OTC anti-inflammatory/analgesics. An alginate impression of the temporaries is taken and included as diagnostic information for the technician. A second alginate impression can be taken and poured

FIGURE 22

FIGURE 23

FIGURE 24

FIGURE 25

FIGURE 26

with quick-set stone, fabrication of whitening trays and used as a provisional occlusal guard to protect the temporary veneers from possible grinding while sleeping.

REMOVAL

When the final restorations are ready for bonding, (approximately 10-14 days) the patient is anaesthetized in preparation for removal of the temporary veneers. Using a mosquito burr #D8392.016 (Brasseler, Savannah, Georgia), each temporary is sectioned through the embrasures being mindful not to damage the underlying preparations. Using a sickle scaler, the temporaries are flicked off (Figs. 25 & 26). Periodically, the retention causes a more aggressive approach. Consequently, using a 245 burr, a slice is made vertically along the buccal and over the incisal edge, again being mindful of the underlying preparation. Using a #EB 134 separating instrument (Brasseler, Savannah, Georgia) the two sides are separated. At this time the surface is buffed using a coarse disk to remove any resin tags and then scrubbed with the pumice and sodium hypochlorite paste. The abutments are now ready to receive the permanent restorations.

CONCLUSION

The placement of well contoured temporary porcelain veneers are an integral part of porcelain veneer treatment. Benefits for all involved include:

Each temporary is sectioned through the embrasures being mindful not to damage the underlying preparations

Intra-treatment protection of prepared dental tissue.

Ability for the patient to maintain their daily activity and continue with their social schedule.

Visualization of the final result allowing feed back from the patient so that customization of the final restoration can be addressed.

Ability for the clinician to assess occlusal stability and phonetics allowing for adjustments so they can be incorporated into the final restoration.

Photographs combined with intra-operative models allow the technician to better assess the needs of the case and communicate more effectively with the clinician, especially if they are separated by many miles.

An ideal marketing/practice building tool as the temporaries are a reflection of the final result. Consequently, the patient sees the progress in their treatment and looks forward to their completed veneers. Moreover, during the intra- treatment period, the clinician's work begins to be "show-cased" among peers and family generating good will for the practice.

By meticulously incorporating this technique routinely into your veneer system protocol, the out come of the final restoration will be a far more predictable event. OH

Dr. Jordan Soll is Cosmetic Consultant to Oral Health Journal and is principle of Aesthetics in Dentistry, Toronto.

Oral Health welcomes this original article.