

*****Handout*****
Etched Porcelain Veneers
By
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Tooth Preparation

Important!: The ultimate key to long-term success with etched porcelain veneers is to use **an intra-enamel preparation**. Research shows that bonds to enamel are far more predictable and durable than those to dentin. (Meiers JC and Young D. Two-year composite/dentin durability. *Amer J Dent* 2001; 14(3): 141-144 and Friedman MJ. A 15-year review of porcelain veneer failure: a clinician's observation. *Compend Cont Ed Dent* 1998; 19:625-636.).

Preparation Design:

- * Facial reduction is approximately 0.5-0.75 mm mid-facially, terminating at the gingival margin with a heavy chamfer and a reduction depth of 0.3-0.5mm (Figure 1). Incisal reduction is typically 1.0-1.5 mm.
- * Facial reduction is best achieved using a series of three horizontal "hemi-preps" so that reduction depths can be seen in cross-section.
- * An incisal lapping preparation is most frequently used (see Figure 1 below).

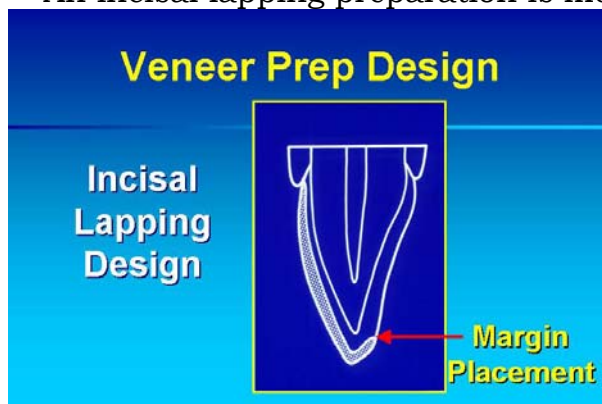


Figure 1

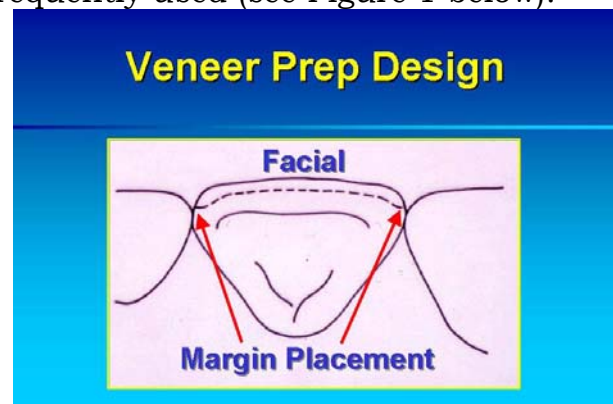


Figure 2

- * If interproximal tooth contact is present, the margins of the preparation are positioned just facial to the contact area to maintain an optimal contact relationship (Figure 2).
- * Interproximal contacts are not stripped or eliminated with this preparation design.
- * Gingival margins are maintained at the level of the crest of the gingival tissue if the discoloration or defects extend into the gingival one-third of the tooth. If the gingival one-third is free from defects, the gingival margin can be placed supra-gingival for optimal tissue health.

Impression

- * If gingival embrasures are wide open, block them out from the lingual to prevent interlocking of the impression material facio-lingually and tearing of the impression.
- * Leave small diameter retraction cords in place. Carefully remove from impression if they are attached.

Temporization

- * Most often, no temporaries are needed with intra-enamel preps.
- * If temporaries are needed, they can best be made using a clear polyvinyl impression material (Clearly Affinity from Clinician's Choice is super) for pre-op matrix and a bis-acryl temporary material attached by spot etching small area of prep. Alternatively, a new semi-viscous composite material for veneer temporization can be used (Intro by Clinician's Choice).
- * A very good alternative temporary technique using a similar clear polyvinyl matrix material is available from Cosmedent, called the RSVP (Rapid Simplified Veneer Provisionals) kit. Excellent for veneer temps and all materials needed are included in one kit.

Veneer Fabrication

- * Incrementally built veneers from feldspathic porcelain are recommended, because they can be fabricated in a thinner dimension.
- * Castable or pressed ceramics require greater reduction depth and are not recommended.

Try-In and Cementation

- * Try in veneers to assess marginal fit and relationship to one another mesially and distally. Minor adjustment to proximal margins can be made atraumatically with a coarse Soflex Disc (3M ESPE).
- * To assess shade, try in a central incisor veneer wetted to tooth surface with water. Select value of veneer cement based on try-in with water. I use translucent shade of veneer cement 95% of the time unless dark staining of tooth exists.
- * After try-in, dry veneer thoroughly before proceeding with bonding. Apply silane to tooth side of veneer.
- * Turn down operatory light prior to bonding. Bond the two central incisor veneers first. Apply resin bonding agent to etched veneer and etched enamel surfaces, and load veneer with uniform thickness of veneer bonding cement. Seat veneer prior to light curing any of the resin components. Use a light-cured resin cement, NOT a dual-cured resin cement. Light-cured resin cements are far more color-stable over time.

Finishing and Polishing

- * Use a #12 blade (not 12-B!) in a Bard-Parker surgical handle to remove most of the marginal excess of cured cement. Be sure to use a good finger rest!
- * Using a diamond instrument (flame for facial, oval for lingual), "dress" any marginal areas of the veneer where overhangs, bulbous areas or rough spots

Finishing and Polishing (continued)

exist. Margins should be smooth and confluent with surrounding tooth contours. Adjust the occlusion with an oval diamond instrument.

* Use a 30-fluted carbide finishing bur to smooth any areas dressed with the diamond to plane the porcelain surfaces and to remove any residual striations from produced by the diamond.

* Use porcelain polishing cups and points (Dialite system from Brasseler USA is great) to polish any areas that have been adjusted.

* Caution patient to avoid hard foods or objects to prevent chipping of veneers.

Recommended Instruments and Materials

Tooth preparation: Brasseler USA #856 016 diamond is recommended for the veneer preparation.

Retraction cord: Size O, Ultra-Pak by Ultradent.

Veneer temporaries: Clearly Affinity with Intro veneer temp material by Clinician's Choice or the RSVP (Rapid Simplified Veneer Provisionals) kit by Cosmedent.

Veneer Bonding Cements

-Rely-X Veneer Cement by 3M ESPE

-Nexus by Kerr

-Calibra by Caulk Dentsply

-Ensure by Cosmedent

Veneer finishing and polishing:

-Soflex Discs by 3M ESPE (coarse) for proximal adjustment prior to cementation if needed.

-Fine diamonds by Brasseler USA for dressing margins: flame- #8862 for facial areas; oval- #7379 for lingual areas; ultra-thin flame- 8889 for interproximal areas and incisal embrasures.

-30-fluted finishing bur (#H133UF- Brasseler USA or #9803- Midwest division of Kerr) to plane surfaces contoured by diamond.

-Dialite Porcelain Polishing points and cups by Brasseler USA for final polishing.

Lab Information

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Manufacturer Information

Brasseler USA
TEL: (800) 841-4522

Caulk Dentsply
TEL: (800) 532-2885 Ext. 794

Clinician's Choice Dental Products
TEL: (519) 641 3066

Cosmedent
TEL: (800) 621-6729

Kerr Corporation
TEL: (734) 946-7800

3M ESPE
TEL.: (800) 634-2249

Ultradent Products, Inc.
TEL: (801) 553-4178

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DISCLOSURE

Dr. Heymann has no financial interest in any of the companies whose products are mentioned in this handout, but is an unpaid consultant for Clinician's Choice Dental Co., and his son is an employee of Sybron Kerr. Dr. Heymann is the paid Editor-in-Chief of the *Journal of Esthetic and Restorative Dentistry*.

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