An alternative method for cementing laminate restorations with a micropulse toothbrush

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Because porcelain laminate veneers are fragile and thin, seating should be handled carefully, but complete seating is essential for a successful restoration. When a high-viscosity luting resin is chosen, high pressure will be needed to seat the veneer, which makes it possible to fracture the material with finger pressure. This technical report describes a straightforward and safe cementation technique for porcelain laminate veneers as well as for complete crown, inlay, and onlay restorations. (J Prosthet Dent 2014;112:1595-1596)

Adhesive cementation is an essential step for ceramic restorations. When indicated, porcelain laminate veneers offer excellent esthetics, especially on anterior teeth. Porcelain laminate veneers require adhesive cementation, which comes with many advantages, including sealing the margins of the restorations, reinforcing the ceramic structure, having good adhesion to tooth structure, and having the opportunity to modify the color of the definitive restoration. Because the laminates are fragile and thin, seating must be handled carefully. Excessive finger pressure may cause fracture of the ceramic, particularly when a high-viscosity resin luting agent is used. A low film thickness is necessary for successful adaptation to the tooth substrate.

Seating restorations with ultrasonic energy has been recommended. The vibrations, based on the oscillation principles of the ultrasonic device, are helpful in altering the viscosity of the cement, which settle the restoration into place, spreading the luting agent under the restoration, and minimizing any leakage. In 1 study, a dental scaler was used to obtain a vibration effect while cementing a restoration. Battery-powered toothbrushes with a micropulse feature that comprises an independent pivoting oscillation and a pulsing action are effective for removing plaque. In the present report, a micropulse action was used to provide vibrations while cementing a laminate restoration. This technique has been successfully used for more than 100 restorations over 3 years, including laminate veneers, complete crowns, inlays, and onlays.

TECHNIQUE

1. Prepare the tooth and restoration (IPS Empress Esthetic; Ivoclar Vivadent) for cementation with an appropriate luting resin (Variolink Veneer Kit; Ivoclar Vivadent) according to the manufacturer’s instructions (Fig. 1).
2. Open a new micropulse toothbrush (Oral-B Pulsar, PUL; Procter & Gamble).

Prepared and conditioned teeth.
Transferred with sticky tip.
3. Transfer the porcelain laminate veneer restoration with a sticky tip (Optrastick; Ivoclar Vivadent), and apply the resin luting agent to the restoration (Fig. 2).

4. Place the restoration on the tooth, remove the sticky tip, and apply the silicone-covered handle of the activated micropulse toothbrush to the middle third of the restoration surface. Hold the micropulse toothbrush perpendicular to the veneer surface to avoid displacement of the restoration for 15 seconds to allow excess resin to flow (Fig. 3A, B).

5. Remove excess luting agent from the interproximal areas with dental floss (Oral-B Complete Satin Floss; Procter & Gamble), followed by a microbrush (Round tip applicator; Henry Schein).

6. Light polymerize the restoration (Optilux 501; Kerr Corp) for 40 seconds from the mesial, distal, incisal, and cervical directions.

7. Remove excess cement from the margins with an explorer (Figs. 4, 5).

REFERENCES


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