

# Performance and practicality with a light-cure, resin cement

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Since 1983 PANA VIA™ by Kuraray Noritake Dental Inc. has been the gold standard for dental cements throughout the world. Their latest cement, PANA VIA™ Veneer LC, sets a new standard for porcelain veneer cements through incredible performance and ease of use. The following clinical case demonstrates the use of PANA VIA™ Veneer LC.

## Case report

A 31-year-old female (Fig 1) was referred for porcelain veneers to replace lost tooth structure and to improve aesthetics. The patient exhibited moderate attrition of her anterior and bicuspid teeth (Fig 2), the result of nocturnal bruxism and a tendency to an edge-to-edge occlusion. She had a Class I malocclusion on a Skeletal Class I tending III base with the right maxillary canine in cross-bite. The treatment plan included orthodontic treatment, porcelain veneers, and an occlusal splint.

Orthodontic treatment (by Dr Nour Tarraf) included full-fixed appliances with TADs and IPR of mandibular anteriors, and arch retractions to reduce protrusion (Fig 3, post-orthodontic treatment). A preliminary digital design (Fig 4) was performed to guide the diagnostic wax-up and a digital mock-up (Fig 5) was utilised to verify the diagnostic wax-up prior to carrying out the intra-oral mock-up. The patient was unable to afford the restoration of the maxillary bicuspids until a later stage so the restoration was limited to the maxillary anterior teeth.

Using the diagnostic wax-up, silicone keys were fabricated to guide tooth preparations. Orthodontic treatment allowed prosthetic treatment to be additive in design which meant that tooth preparations could be conservative.

Labial reductions were limited to 0.3mm and incisal reductions were performed only where needed to create an incisal butt joint for the veneer (Fig 6). Minimal preparations allowed the veneers to be bonded almost entirely to enamel, which is important for the long-term survival of porcelain veneers.<sup>1</sup> There was no need to significantly mask the



Fig. 1



Fig. 2

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Fig. 3



Fig. 4



Fig. 5

colour of the cervical region of the tooth and non-carious cervical lesions were absent, so fine chamfer margins were prepared at equi-gingival level.

Splinted provisional veneers (Fig 7) were fabricated using bisacryl ensuring sufficient interdental space to allow hygiene access for small interdental brushes. The labial surface of the provisional veneers were glazed with an unfilled resin and cemented using the spot-etch technique, ensuring all excess flowable composite was removed prior to curing (Fig 8). Twice daily interdental cleaning of the provisional veneers and thorough brushing of labial margins during the provisional phase maintained soft tissue health, important for the try-in and cementation of the definitive veneers.

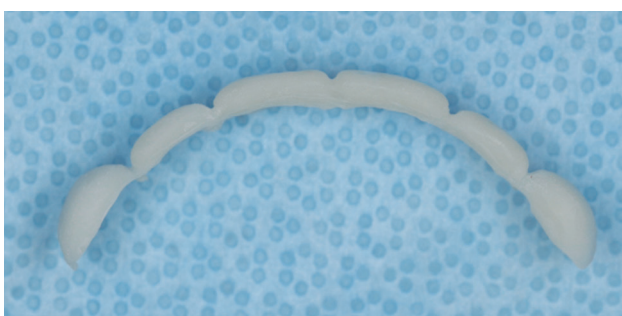


Fig. 7



Fig. 6



Fig. 8

A dry try-in of the definitive veneers was performed to check the fit of the veneers and a wet try-in was performed using try-in paste to assess aesthetics. The PANAVIA™ Try-in pastes accurately mimic the cement shades. Four useful shades are available (Fig 9). The White and Brown shades are useful to correct small discrepancies in shade requiring subtle increases or decreases in shade value respectively. Conveniently the try-in pastes are the same as the PANAVIA™ V5 range of try-in pastes (excluding opaque). Following the try-in procedure the teeth were isolated using rubber dam and the floss ligature technique. KATANA™ Cleaner (Fig 10) was used to clean the veneers prior to silanating with CLEARFIL™ CERAMIC PRIMER PLUS (Fig 11). Veneers that have not been pre-etched should be etched with hydrofluoric acid prior to silanization. The use

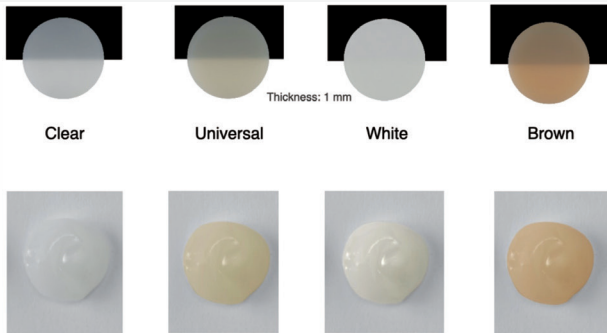


Fig. 9



Fig. 10

of the ProsMate™ Baton allows the cleaning, etching and silanization of all veneers simultaneously (Fig 12). The veneers are arranged systematically on the ProsMate™ Tray ready for the cementation procedure (Fig 13). Tooth surfaces were pre-treated with phosphoric acid (K-ETCHANT Syringe and PANAVIA™V5 Tooth Primer (Fig 14).

The newly designed cement applicator tip reduces air bubbles and the wide 16-gauge tip (Fig 15) allows light and easy control of cement extrusion while also providing efficient wide coverage during application. PANAVIA™

Veneer LC has excellent handling because of its ideal paste consistency. It is non-sticky and its viscosity prevents the cement from flowing beyond the veneer margins until the veneer is seated. It is not runny or stringy. Furthermore its thixotropic properties results in lower film thickness during seating of the veneer. These excellent handling properties are due to the development of new filler technology which consists of spherical silica and nano cluster fillers (Fig 16). The “touch-cure” mechanism of PANAVIA™ V5 Tooth Primer importantly seals the bonding interface while the extended



Fig. 11

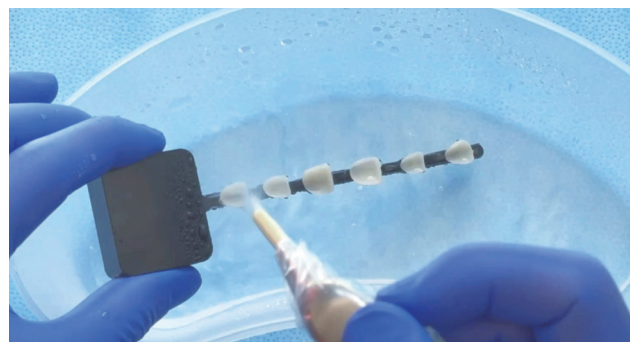


Fig. 12



Fig. 13



Fig. 14

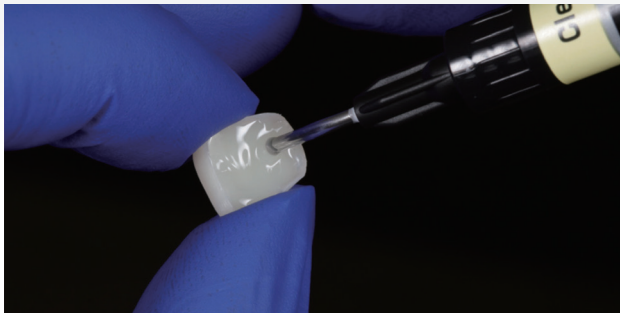


Fig. 15

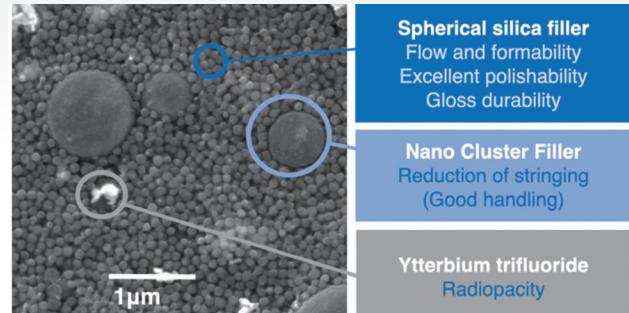


Fig. 16



Fig. 17

working time and stability of the cement under ambient light allows the simultaneous cementation of multiple veneers. In this case all six lithium disilicate veneers (technical work by Yugo Hatai) were cemented simultaneously with PANAVIA™ Veneer LC Paste (Clear).

Tack-curing each veneer for one second allowed smooth and easy bulk removal of excess cement with an explorer (Fig 17). Remaining excess uncured paste was removed with brushes. Final curing was performed by light curing lingual and labial surfaces.

Following removal of the rubber dam residual cured cement was removed with a sickle scaler, number 12 scalpel blade, serrated ribbon, interproximal polishing strip, floss, interdental brush and a rotary brush.

The optical characteristics of PANAVIA™ Veneer LC, use of fine chamfer margins, and well-fitting translucent restorations produces a gradual and smooth transition of colour from tooth to veneer where margins disappear and soft tissues respond in a healthy way (Fig 18). The color stability, excellent abrasion resistance and high gloss durability of PANAVIA™ Veneer LC preserves integrity and aesthetics at the margins over the long term. The extraordinary bond strength of PANAVIA™ products, so familiar to our profession over the last 20 years, is still second to none (Fig 19).

**References**

1. Layton DM, Walton TR. The up to 21-year clinical outcome and survival of feldspathic porcelain veneers: accounting for clustering. *Int J Prosthodont.* 2012 Nov-Dec;25(6):604-12. PMID: 23101040.



Fig. 18



Fig. 19