

# Confident happy patient

**Nadeem Younis** describes a minimally invasive technique using direct resin composite restorations.

The demand for aesthetic dentistry is increasing as patients become more aware of the range of techniques available. Minimally invasive treatment should be the preferred choice where possible, taking the long term prognosis of the restoration into consideration.

Significant advances in resin composites have been made in recent years. Due to the improved physical and optical properties of these materials it is possible to provide restorations for large defects which are both aesthetic and mechanically stable. This case report describes the use of direct veneers to improve a patient's confidence by enhancing her smile.

## Initial diagnosis and treatment planning

A female patient in her late thirties presented to Bridge Dental Practice as she was unhappy with the appearance of her teeth (fig 1). Her main issue was a large midline diastema, with disproportionate crown width-to-length ratios for her central incisors (fig 2a). She also had a missing upper right lateral incisor and a diminutive upper left lateral incisor (fig 2b).

The patient wanted a 'quick fix' solution. Comprehensive or short term orthodontics followed by restorative dentistry would take too long. She preferred the option of minimally



**Nadeem Younis**

is a full member of the British Academy of Aesthetic Dentistry and partner in Bridge Dental Practice, Burnley.



Fig 1: A female patient was unhappy with the appearance of her teeth.



Fig 2a: Her main issue was a large midline diastema, with disproportionate crown width-to-length ratios for her central incisors.



Fig 2b: She had a missing upper right lateral incisor and a diminutive upper left lateral incisor.



Fig 3: Appropriate shades were selected by placing 1mm increments of various enamel and dentine shades on the tooth surface.

invasive treatment using composites to improve the shape of her upper anterior teeth. A wax-up was made to show the patient the projected outcome and she was happy to go ahead.

## Composite and shade selection

I chose Heraeus Kulzer Venus Pearl for this case as the material can be



Fig 4: iBond Total Etch adhesive was applied and light cured.



Fig 5: A silicone indexed of the wax-up was utilised to build the palatal walls of the central incisors with 0.5mm increments of A1 enamel shade.



Fig 6: The approximal walls of the central incisors were formed with clear matrix strips.



Fig 7: The shape of the upper left lateral incisor was adapted by adding A1 enamel.

used in a multi-layering technique to create a natural-looking restoration. The translucency of the adjacent teeth can be mimicked by applying a thick, opaque dentine layer in conjunction with a thin coat of an enamel shade at the incisal edges. Venus Pearl is a nano-hybrid, based



Fig 8: The transitional line angles were marked on the anterior teeth and the primary anatomy was modified with fine diamond burs.



Fig 9a: The final lustre was achieved using the Venus Supra polishing kit.



Fig 9b: The colour of the restorations integrated well with the adjacent teeth and the compatibility of Venus Pearl to the cervical gingiva was very favourable.



Fig 10: The patient was incredibly pleased with the aesthetic outcome and her new smile has considerably improved her confidence.

On a tricyclodecane-urethane monomer. Consequently, it has low polymerisation shrinkage and its polishability is excellent.

Appropriate shades were selected by using small temporary composite additions; 1 mm increments of various enamel and dentine shades were placed on the tooth surface and light cured (fig 3). The composite and the tooth were then allowed to rehydrate for a couple of minutes. Opaque Light Chromatic (OLC) and A1 shades were chosen.

#### Simplified incremental layering technique

A coarse diamond bur was used to roughen the enamel mesially and to remove the aprismatic enamel layer. This was then etched for 15-20 seconds, to allow for a homogeneous etch pattern. iBond Total Etch adhesive was applied and light cured (fig 4).

A silicone index of the wax-up was utilised to build the palatal walls of the central incisors with 0.5mm increments of A1 enamel shade (fig 5). A double retraction cord technique was employed to push the gingiva away from the teeth and compress it mesially. This created a natural emergence profile and enabled the composite to adapt well to the cervical tooth surface. The approximal walls of the central incisors were formed with clear matrix strips (fig 6).

Once the boundaries of the restoration had been identified OLC resin composite was used to build the bulk of the dentine and to define the

incisal edge patterns. This was overlaid with a 0.5mm layer of translucent A1 enamel.

The upper right canine was converted into a lateral incisor by adding a mesial transitional line angle with OLC and A1 composites. The shape of the upper left lateral incisor was adapted by adding A1 enamel (fig 7).

#### Finishing and polishing

The transitional line angles were marked on the anterior teeth and the primary anatomy was modified with fine diamond burs (fig 8). The approximal surfaces were adjusted and polished with EpiteX tape. Excess 'flash' of composite or the bonding agent was removed with a number 12 scalpel around the mesial gingival embrasures of the central incisors. The final lustre was achieved using the Venus Supra polishing kit (fig 9a).

The patient was recalled after two weeks for final adjustments. This was to ensure that the diastema closure did not impinge on the labial fraenum, which could result in inflammation of the soft tissues.

#### Biocompatibility and aesthetic outcome

The colour of the restorations integrated well with the adjacent teeth and the compatibility of Venus Pearl to the cervical gingiva was very favourable (fig 9b). The patient was incredibly pleased with the aesthetic outcome and her new smile has considerably improved her confidence (fig 10).