

# Minimally invasive, economical restoration

**Nadeem Younis** describes a case where he repaired damaged central incisors with direct composite resin and tints



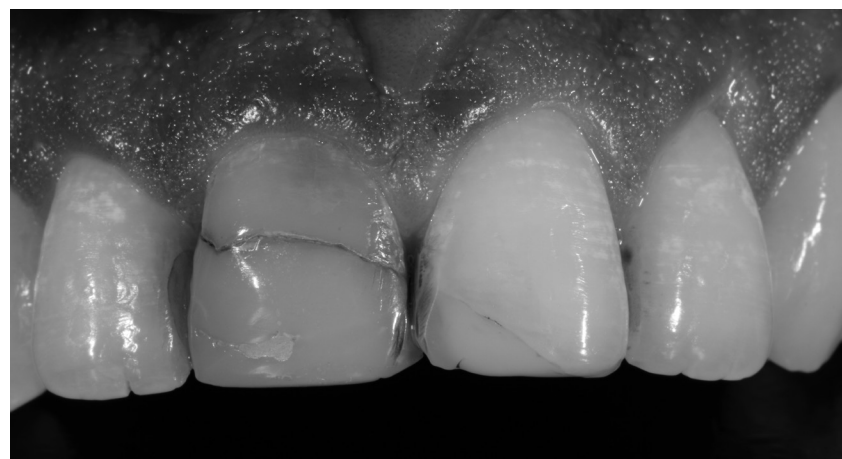
**Figure 1:** The patient was unhappy with the appearance of his upper central incisors



**Figures 2 and 3:** The current composite restorations were opaque with poor tooth morphology



**Figures 4 and 5:** The upper left central incisor also had a broad white banding effect, caused by fluorosis



## Nadeem Younis

President-elect of the British Academy of Aesthetic Dentistry (BAAD)



A male in his late 20s presented to Bridge Dental Practice because he was unhappy with the appearance of his upper central incisors (Figure 1).

The patient had damaged the teeth in a fall when he was younger.

The upper right central incisor had been root treated and was discoloured.

The current composite restorations were opaque with poor tooth morphology (Figures 2 and 3).

## Challenging aesthetics

A clinical examination, including radiographs, was undertaken. There was evidence of periapical radiolucency.

Several treatment methods were discussed, including ceramic crowns, veneers and direct composite restorations. The longevity and aesthetics of each were explained.

The patient opted for composite resin restorations because they would be less invasive and more cost-effective than ceramic alternatives.

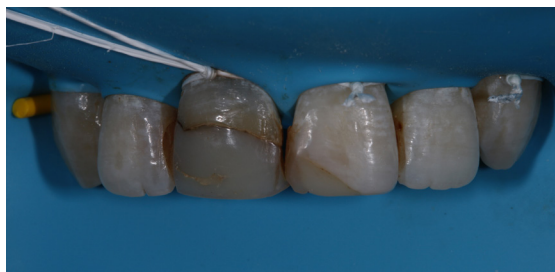
It was explained that further root canal treatment and tooth whitening would need to take place before composite restoration. The upper centrals were of a different value, so it would be quite a challenging case to treat with direct composite resin. The upper left central

incisor also had a broad white banding effect, caused by fluorosis, which would need to be reproduced in order to match the existing teeth (Figures 4 and 5).

## Tooth preparation

The teeth were isolated using rubber dam and floss ties (Figure 6). Root canal treatment on the upper right central incisor was carried out over two visits (Figure 7). The canal was obturated following confirmation of the resolution of the periapical radiolucency.

Kulzer Venus Pearl A1 shade was used to restore the tooth to full contour (Figure 8). The final restoration would also be completed with Venus Pearl composite; therefore, uniformity of materials would be required. The composite is easy to use and produces highly aesthetic results. ▶



**Figure 6:** The teeth were isolated using rubber dam and floss ties



**Figure 7:** Root canal treatment was carried out over two visits

Three weeks of night-time tooth whitening commenced, using Boutique Whitening 16% carbamide peroxide gel, until the desired shade was achieved. A three-week break post tooth whitening was advised, to allow the oxygen to dissipate from the enamel and dentine, which would otherwise interfere with the bonding and composite build-up. The temporary composite restorations were reduced to the palatal shell using a fine tapered bur (Figure 9). A bevel was placed on the labial enamel.

Both teeth were individually etched with 37% phosphoric acid gel, washed, dried and bonded. Kulzer Ibond Universal was the adhesive of choice, due to its high bond strength.

Ibond has the ability to bond to any substrate, because it contains the active ingredient 10-methacryloyloxydecyl-dihydrogen-phosphate (10 MDP).

### Strong, durable restorations

The teeth were restored incrementally with Kulzer Venus Pearl Opaque Light Chromatic (OLC) and B1

### The composite resin provided an aesthetic, minimally-invasive and cost-effective restoration

shade (Figure 10). The dentine range contains the least translucent of the Venus Pearl shades. They mask any unwanted discolouration that may show through to compromise the final aesthetic outcome.

Venus Pearl composites are long lasting and durable with minimal chipping and fracture. The presence of tricyclodecane urethane dimethacrylate (TCD-UDMA) and a high monomer to polymer conversion rate renders the material strong in thin sections, making it ideal for class IV restorations. The new generation of Kulzer composites are also totally free from bisphenol A, which scientists believe mimics oestrogen activity in the body.

Venus Color White Tints were used in order to modify the value of the restorations and reproduce the white broad lines of fluorosis on the upper central incisors (Figure 11). A final layer of Kulzer Durafill VS was placed on the labial surface. Durafill is a light-curing microfiller composite for aesthetic anterior restoration. It has excellent shade match and lustre. A glossy finish was achieved with minimal effort using a simple two-step regime with the Kulzer Venus Supra polishing kit, and Sof-Lex discs (Figure 12).

The patient was extremely pleased with the final result (Figure 13). The composite resin provided an aesthetic, minimally-invasive and cost-effective restoration. The appropriate use of Venus Color tints created the finishing touches, to replicate the patient's natural smile. **D**



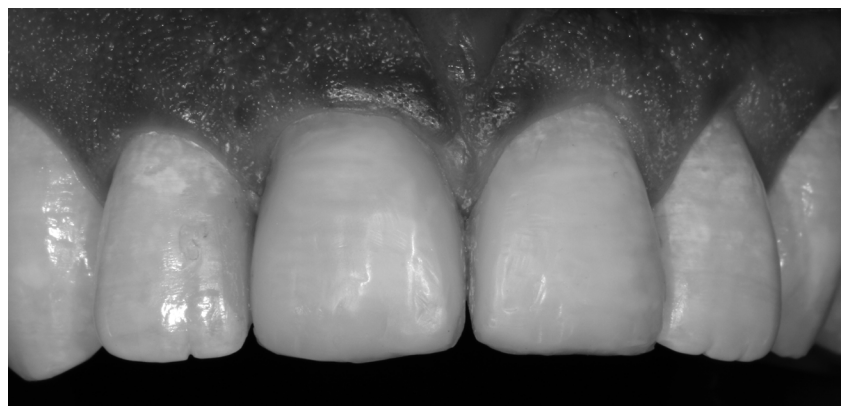
**Figure 8:** Kulzer Venus Pearl A1 shade was used to restore the tooth to full contour



**Figure 9:** The temporary composite restorations were reduced to the palatal shell



**Figure 10:** The teeth were restored incrementally with Kulzer Venus Pearl Opaque Light Chromatic and B1 shade



**Figure 11:** Venus Color White Tints were used in order to modify the value of the restorations and reproduce the white broad line of fluorosis on the upper central incisors

**Figure 12:** A glossy finish was achieved with the Kulzer Venus Supra polishing kit, and Sof-Lex discs



**Figure 13:** The patient was extremely pleased with the final result

