

CLINICAL

A conservative restoration

Nishan Dixit describes a non-invasive composite restoration, using a multi-layer technique

A 67-year-old male patient presented with a lingual cusp fracture in his lower right first pre-molar, which had an old amalgam restoration. He was not experiencing any pain, but was aware of the rough edge. Since the fracture had occurred, the patient had also become more conscious about the discolouration of the tooth.

The treatment options were discussed with the patient. The tooth could either be restored with a direct composite or an indirect laboratory-manufactured restoration. The patient decided on the composite option, as this would provide a more immediate and less disruptive solution. I prefer to offer composite treatment, rather than more invasive procedures, when the clinical situation allows. This is more affordable for the patient and the durability of the material makes it a realistic long-term alternative.

Having been a provider of cosmetic dentistry for almost 20 years, I have observed a number of improvements in materials. Long-term studies have proved the reliability of modern composites. The latest developments have produced composites that are more resistant to wear with better colour stability, combined with reduced polymerisation shrinkage rates.



Nishan Dixit BDS (Lond) LDS RCS (Eng) is the principal dentist at Blue Court Dental, Harrow, and has a special interest in cosmetic dentistry. He particularly enjoys helping patients to enhance their smiles by improving their dental health, function and aesthetics. He has undertaken numerous courses in both the UK and abroad in this field.

Nishan is currently scientific director of the British Academy of Cosmetic Dentistry (BACD). He is also the joint London

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multi-layer technique, providing excellent colour adaptation and a natural finish. The material is easy to use, masks well and is highly sculptable and polishable.

Venus Pearl includes super-fine nano-hybrid filler particles. This provides even more natural light refraction and supreme aesthetic appearance, combined with a creamy application. The material employs the same tricyclodecane urethane dimethacrylate resin as Venus Diamond, which is unique to Heraeus. Compared with earlier technologies, the cured composite is more flexible under stress and more durable over time.

The new generation of Heraeus composites are also free from Bisphenol A, which is attracting increasing interest from patients. Scientists believe the compound mimics oestrogen activity in the body. The unique Heraeus resin formula provides the dental team with an unequivocal answer, if patients raise this issue.

Treatment and outcome

At the treatment appointment, local anaesthetic was administered, and the tooth was isolated with rubber dam and a clamp system. The old amalgam restoration was removed and the cavity was rendered caries free. The preparation margins were smoothed and the enamel margins bevelled. A matrix band was then adapted to the tooth. The prepared cavity was etched with 37% phosphoric acid using a total etch technique. The cavity was thoroughly washed, gently dried and primed. Then a bonding agent was placed and polymerised.

Venus Pearl OMC (Opaque Medium Chromatic) was applied to the cavity in 2mm increments. The composite was adapted to the cavity, using a microbrush in a 'patting' motion, then polymerised. Approximately 20% of the cavity was filled with OMC and the remaining 80% was filled with the Venus Pearl A3 shade. The build-up of the composite was done on a cusp-by-cusp basis, gradually creating the tooth shape and fissure pattern. During the incremental build-up a small amount of dark brown stain was applied in the fissure areas using an explorer.

Finally, the restoration was polished with Venus Supra discs and a silicone carbide brush. The outcome was a restoration with good aesthetics, achieved

with minimum loss of tooth substance and completed in one short visit. The patient was extremely pleased with the end result, leaving him feeling like he had a new, natural looking tooth. He had absolutely no post-operative sensitivity or pain. Subsequent recall appointments have shown this has continued to be the case. The result – a healthy tooth and a happy patient. **ID**

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Composite selection

For a number of years, I have used the Heraeus Venus range of composites exclusively, due to their handling properties and outstanding results. For this case, I chose to use Venus Pearl. It gives highly aesthetic outcomes using a