

Mimicking nature in gingival recession management

Allan Matthews explains how an aesthetic result can be accomplished for treatment of gingival recession, with appropriate selection of materials and technique

Allan Matthews

Dentist at Integrated Dentalcare



When a patient presents with a recession defect, there can be a number of ways to approach the case. Surgical techniques offer options to graft gingival tissue, though this is not desired by every patient.

This leaves us with the options of doing nothing, masking the tooth root surface with tooth-coloured composite, or masking the root surface with gum-coloured composite.

A 67-year-old female patient came to see me who had historically elected to have a gum-coloured composite added to the upper canines (Figure 1).

Her gum recession was likely due to a thin gingival biotype combined with an inappropriate and traumatic toothbrushing technique. The restorations were unaesthetic and the upper right canine (UR3) had suffered marginal failure.

The treatment options included doing nothing, removing the existing restoration and replacing it, or removing the restoration and carrying out a surgical grafting procedure.

The patient chose to have the existing composite on the UR3 removed and replaced with a more anatomical composite restoration. At this time, the patient opted to leave the UL3 untreated.

Anatomical feature creation

Creation of realistic anatomical features requires careful planning. When mimicking an anatomical feature, the normal principles of composite bonding need to be applied. However, shaping is an important consideration and requires a slightly different approach.

A conventional feathered edge of composite adapted to the tooth will result in an unnatural appearance, which does not mimic nature. In this case, my aim was to mimic the rounded edge of a gum margin and create the appearance of stippled gingivae.

The historic composite had suffered marginal failure and very dark staining was present (Figure 2). The original build-up lacked the necessary thickness, and the translucency of the composite had resulted in excessive shine-through from the underlying tooth and compromised the aesthetic effect.

Her gum recession was likely due to a thin gingival biotype combined with an inappropriate and traumatic toothbrushing technique. The restorations were unaesthetic and the upper right canine (UR3) had suffered marginal failure



Figure 1: The patient presented with unaesthetic pink composite restorations on the upper canines



Figure 2: The historic composite on the UR3 had suffered from marginal failure and very dark staining was present

Non-impregnated gingival retraction cord was then placed into the sulcus. Placement of dry cord ensures that the composite is not contaminated by haemostatic solutions

The restoration was removed to expose the abrasion lesion and root surface. Non-impregnated gingival retraction cord was then placed into the sulcus. Placement of dry cord ensures that the composite is not contaminated by haemostatic solutions.

This may have been a primary causative factor in the dark margins of the former restoration. The surface was air-abraded with 27 micron aluminium oxide and then etched.

A primer and bonding agent was applied and



Figure 3: The patient's immediate postoperative smile revealed a more natural effect at the UR3



Figure 4: The use of modelling resin to shape the composite and the application of the oxygen blocking agent should mean the new restoration is more resilient

Kulzer Venus Pearl Gum shade was placed in a single increment. The gum shade was developed for reconstruction of the gingiva in recession cases. It delivers the same reliable, superior handling and aesthetic benefits as other materials in the Venus Pearl range

light-cured in accordance with the manufacturer's instructions.

Reconstruction of gingiva

Kulzer Venus Pearl Gum shade was placed in a single increment. The gum shade was developed for reconstruction of the gingiva in recession cases. It delivers the same reliable, superior handling and aesthetic benefits as other materials in the Venus Pearl range.

I aimed to achieve a thickness which would be adequate to reduce the translucency and create an ideal aesthetic effect.

The composite was shaped using a light touch of Kulzer Signum liquid modelling resin to aid with creation of a more natural gingival emergence.

A probe was used to introduce a little stippling to mimic the microscopic elevations and depressions of the gingival surface, though I believe less is more in such instances.

Once the material was shaped and set with a glycerin oxygen blocking agent, the retraction cord was removed

and the composite shaped gently at the true gingival margin using a fine, flame-ended bur.

Figure 3 shows the UR3 immediately following treatment, when a more obvious true margin was evident due to light postoperative bleeding.

As the margin is very smooth, excessive plaque accumulation which could threaten the gum is unlikely. However, the patient has been advised not to brush too vigorously, in view of their tendency towards trauma-induced recession.

The outcome of this case was a much more anatomical and aesthetically pleasing result and the patient's smile now reveals a more natural effect at the UR3.

The use of modelling resin to shape the composite and the application of the oxygen blocking agent should mean that the new restoration is more resilient to the issues previously suffered (Figure 4).

The restoration will be monitored in the long term for any signs of such failure. **D**

Venus® Pearl

"...no marginal breakdown or wear..."



Day of placement



Follow-up, seven years later



“ Seven years on and no marginal breakdown or wear of the material. I have been using Venus Pearl since it was first released in 2012, it has been my go-to composite for posterior composites ever since.

Great strength, adaptability and the non-slump properties of the material make it ideal for predictable long term successful restorations.

Gurvinder Bhirth BDS, MCLinDent (Pros)

