

Direct repair of crown and bridge veneers

In the concluding part of his article series, **Markus Firla** discusses the intraoral repair of chipped ceramic or composite veneers covering fixed crowns and/or bridges

Figures 1-8 are copyright Dr Markus Firla and Wecommed Consulting & Services GmbH



Figure 1



Figure 2

Figures 1 and 2: Before and after. The disto-incisal edge of the ceramic veneer of this crown on tooth UR1 was intraorally repaired, and the aesthetically insufficient mesio-buccal composite restoration in tooth UR2 was replaced. Thanks to the biomimetic shade and translucency characteristics of Beautifil II LS, the procedure was quick and easy, and the final result was excellent. Only one composite shade (Beautifil II LS A3) was needed to restore these two defects. And one composite increment each was sufficient to achieve the desired result

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This article – the last in a trilogy of user reports – aims to discuss an application of direct adhesive composites that falls outside of everyday dental practice.

When the need arises, however, these applications are all the more urgent and challenging – occurring as they do in an unexpected emergency case, such as the intraoral repair of chipped ceramic or composite veneers covering fixed crowns and/or bridges.

For this indication, a composite restorative combining the light-optical aesthetic properties of enamel and dentine will prove useful, eg the product described in this series of articles: Beautifil II LS (Shofu).

Chipping or flaking, which may affect both the ceramic or composite veneers of crowns with metal frameworks and the surfaces of all-ceramic crowns, is an unpleasant surprise, and not only for patients. And the newer the restoration, the more annoying the damage.

Material failure

Apart from mechanical or traumatic causes, such as fall or punch injuries or biting on an unexpectedly hard object during eating, the main reason for material failure is excessive accumulation of stresses at the site affected.

Parafunctions in dynamic occlusion (grinding, pressing, bruxing and so on) unnoticed before or during the final seating of the restoration, and/or subtle premature contacts in static occlusion, or habitually traumatic intercuspation, may be the underlying causes of these latent overloads, which often occur only at certain points.

In extreme cases, even a trained eye will not immediately detect such a risk, or not early enough before the damage is done. Restorations may be provisionally cemented so that patients can try them for some time (usually about three months), but this will not reliably prevent the problem, either.

Laboratory costs?

It may not be desirable (nor possible) to completely replace the damaged restoration, as the resulting dental laboratory costs would be uneconomical or inappropriate. Since



Figure 3: The fractured ceramic surface and areas adjacent to the defect zone were carefully roughened with a coarse diamond bur

Figure 4: Bonding systems were applied to the areas to be restored, ie the fractured ceramic surface in tooth UR1 and the cavity surface in tooth UR2. Beautifil II LS is compatible with all common adhesive and ceramic/composite repair systems. The small metal surface exposed at the disto-incisal edge of the damaged crown was masked with dentine-coloured Beautifil Opaquer (UO)



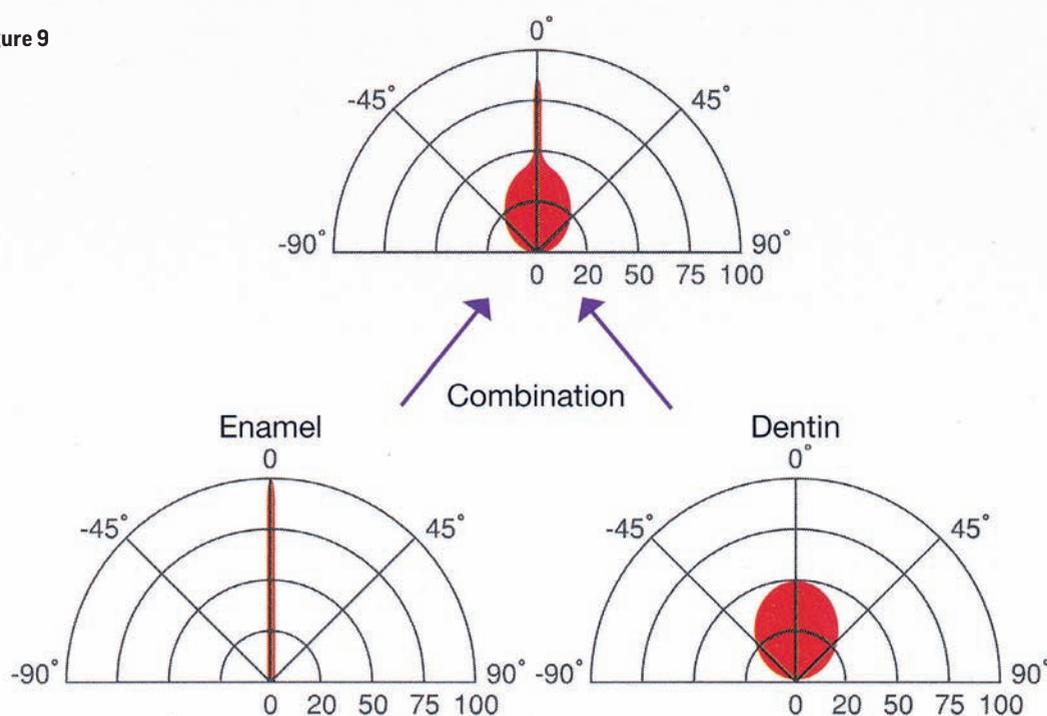


Figure 5: Both the small cavity and the large defect were restored using one monochromatic composite increment each (shade A3)



Figures 6-8: The direct restoration and the reconstructed disto-incisal edge of the ceramic veneer were successively contoured, finished, and polished to a high gloss, using carbide finishers, disposable silicone polishers with alumina (One-Gloss, Shofu) and a disposable felt disk impregnated with alumina polishing paste (Super-Snap Superbuff, Shofu)

Figure 9



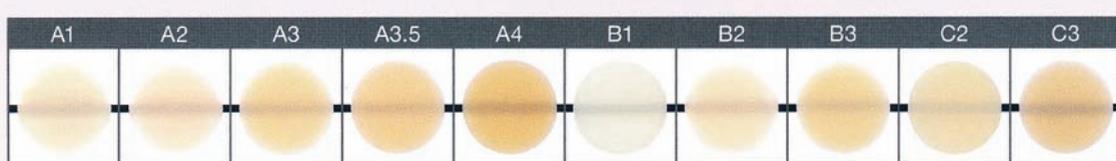
removing the restoration for extraoral repair or complete replacement would do more harm than good to the abutments or the periodontium, then the damage can be remedied only by direct intraoral repair with the aid of suitable bonding systems and adhesive composite restoratives.

With some practice and the right materials, such as the universal composite Beautiful II LS, this kind of reconstruction is actually not that difficult. The clinical case illustrated here will demonstrate this (Figures 1-10). **D**

FOR FURTHER DETAILS, contact the Shofu office 01732 783580 or sales@shofu.co.uk.



FIRST PUBLISHED IN DZW - Die Zahnarzt Woche, issue 28/2017. Email julian@dentistry.co.uk for references.



The shades A1-C3 correspond to the VITA® Classical Shades.

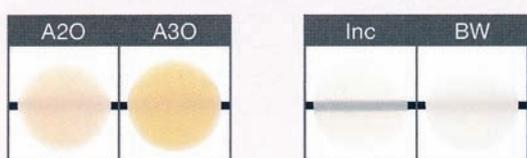


Figure 10

Figures 9 and 10: The outstanding physical properties and biomimetic light-optical characteristics of Beautiful II LS are based on the sophisticated design and distribution of the Giomer filler particles made with the aid of Shofu's proprietary S-PRG technology. It is particularly these aesthetic characteristics - in addition to all the mechanical and technical benefits of course - that make Shofu's new universal composite the material of choice for the intraoral repair of crown and bridge veneers. Beautiful II LS largely combines the light transmission and reflection of enamel and dentine in one composite restorative, although these optical characteristics are quite different (Figure 9); this leads to remarkably useful and convenient features in clinical use. Additional aesthetic benefits of the shade range of this new universal composite (Figure 10) include high shade and light-transmission stability before and after polymerisation. Literally in the light of these facts, it should not go unmentioned that composite layer thickness does not influence the biomimetic light-optical characteristics of Beautiful II LS. This means that thin restorations will show the same shade and light effects as restorations several millimetres in thickness (photos courtesy of Shofu Dental GmbH)