Sticks to the teeth – not the instruments

The direct restoration of multiple defects, in particular old restorations with secondary caries, places considerable demands on both the clinician and the materials.

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Compared with indirectly fabricated restorations, the effort is considerably less, as these generally require a temporary restoration as well as a second treatment session following conventional impression-taking. The fabrication of individual full ceramic restorations after optical scanning and subsequent automated fabrication is, of course, a single appointment alternative, does however, require investment in this technology. A prerequisite for the successful, direct preparation of restorations with purely light-curing composite materials in the layering technique, is avoiding leakage during volumetric shrinkage which occurs during polymerisation.

The adhesives and hybrid composites should be compatible with each other and offer good long-term performance. This is reflected both in vitro tests as well as in vivo long-term studies.

Sticks to the teeth and not the instruments. One of the requirements for state-of-the-art adhesives and composites is safe handling during the preparation of the restoration. This implies a good, uniform wetting layer when applying the adhesive and convenient modeling properties of the hybrid composite which allow the clinician safe adaptation to the bonded tooth.

Submicron hybrid composites offer an impressive rapid and consistent gloss. The high density and the morphology of the occlusal surface as the consistent material make anatomical customisation extremely easy. The thickness of the band in the area of the contact point can be minimised effectively by thinning. Fixation and basal sealing of the trimmed partial matrix is performed with a wooden wedge, and for lateral sealing the band edges are pressed to the occlusal surface using a clamping ring.

The design of the approximal surface (Fig. 7) with BRILLIANT EverGlow A3/D3 (Fig. 8) is very simple. The material makes anatomical customisation as well as the anatomical morphology of the occlusal surface due to the well sealed partial matrix and the clamping ring. The finishing effort required after thermocycling is minimal. Using the EVA file, the result is already very satisfactory (Fig. 10). An occlusal marginal ridge, which results from the approximal surface is gently flushed with an air blower.

After removing the matrix, the approximal surface is ground, polished and an easy to achieve gloss due to the surface treatment of the BRILLIANT EverGlow submicron filled hybrid composite in combination with the ONE COAT 7 UNIVERSAL adhesive delivers very good results. The S.F.E.C. 3 LED polymeriser lamp provides reliable curability of both restoration materials at high conversion.

Conclusion and comments regarding the initially demanded material properties.

Sticks the way it should, to the tooth and not the instrument. Due to the consistency setting of the dental restoration material such as BRILLIANT EverGlow, application is easy and results in anatomically correct outcomes.

Permanent protection against leakage in the marginal region is a prerequisite. The nonelastic properties of the material make anatomical customisation extremely easy. The thickness of the band in the area of the contact point can be minimised effectively by thinning. Fixation and basal sealing of the trimmed partial matrix is performed with a wooden wedge, and for lateral sealing the band edges are pressed to the occlusal surface using a clamping ring.

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