The importance of the contact point in Class II restorations

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Clinical case

Class II restorations using composite resins present a number of technical problems, including the creation of a tight interproximal contact points.

A tight proximal contact will balance the mesial and distal forces and prevent food impaction.

For a while now, the use of preformed matrices and separator rings, in combination with wedges, has made it possible to obtain good restorations with satisfactory morphology. An even more efficient system has recently been introduced, which combines preformed matrices, innovatively designed wedges, and nickel-titanium rings providing optimum separation that remains consistent over time.

This clinical case demonstrates the procedure for conservative restoration of teeth 15 and 14 using this innovative system.

The radiograph (Figure 1) shows that the patient has a distal carious lesion of 14 and a mesial lesion of 15 (Figure 2). After isolating the operative field with a rubber dam (Figure 3), the cavity on 14 is prepared (Figures 4 and 5) through which the mesial lesion on 15 can be reached (Figure 6) and the tooth is restored (Figure 7). The Palodent® Plus matrix is then placed on tooth 14, with simultaneous placement of a wedge and ring (Figure 8). The unique design of the nickel-titanium ring means that the matrix fits perfectly around the tooth (Figure 9). Next comes the bonding phase; DETREY® Conditioner 36 (36% phosphoric acid) is applied first (Figure 10), followed by XP-Bond® adhesive (wet bonding method). The cavity is then partially filled with SDR® – Smart Dentin Replacement (Figure 11); after waiting a few seconds for the products to self-level perfectly inside the cavity, it is polymerised.

The distal wall is created with Ceram.X® mono+ composite, shade A2 (Figure 12). The matrix is removed, leaving minimal amounts of excess material to be removed (Figure 13). The restoration is then completed using Ceram.X® mono+ composite, and finished (Figure 14).

Conclusion

Composite restorations performed using techniques designed for amalgams (round matrices) do not create the correct anatomical contours. However, with the use of Palodent® Plus sectional matrices it is now possible to create a proximal contact that is elliptical in the buccolingual direction about 1 mm apical to the height of the marginal ridge. The interdental papilla fills the space apical to this contact and prevents lateral food impaction. The Palodent® Plus system makes it possible to create a good tooth contour adjacent to the papilla, which is necessary to reproduce the original shape.

The use of the innovative DENTSPLY sectional matrix in Class II restorations allows the dentist to produce more predictable and morphologically correct restorations.

Figure 1 *Distal carious lesion of 14 and mesial lesion of 15.*

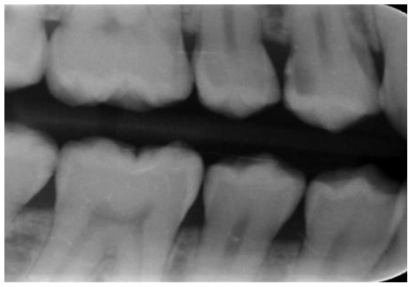

Figure 2 *Occlusal view.*

Figure 3 *Isolating the operative field with a rubber dam .*

Figure 4 *Accessing the carious lesion .*

Figure 5 *Finished cavity on 14.*

Figure 6 *Mesial lesion on 15.*

Figure 7 *Final restoration of 15.*

Figure 8 *Fitting the Palodent® Plus matrix to tooth 14, placement of wedge and ring .*

Figure 9 *Excellent adaptation of the matrix around 14 thanks to the ring design with V-shaped tines that accommodate the wedge perfectly .*

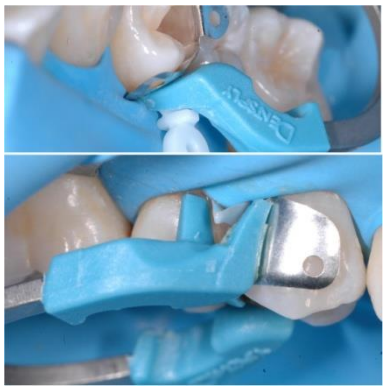

Figure 10 *Bonding phase: applying conditioner (DETREY® Conditioner 36).*

Figure 11 *Partial filling of the cavity with SDR® - Smart Dentin Replacement.*

Figure 12 *Creating the distal wall with Ceram-X®mono+ composite.*

Figure 13 *Applying a final layer of Ceram-X® mono+ shade A2 and removing the matrix. Note that there is minimal excess material to be removed during finishing.*

Figure 14 *Final restoration of tooth 14, perfect interproximal contacts and bite check.*