‘Semi indirect’ technique for a composite onlay

Today, the practitioner can use a large variety of materials to make an aesthetic restorations. Modern composite restoratives, like 3M™ Restorative Z100 MP, are very strong. The nature of the particles and colour matching ability of this product give very interesting aesthetic results. These good aesthetic and mechanical qualities allow the same product to be used in direct and indirect techniques. This clinical case illustrates a mix of the two techniques, with the advantages of both. An onlay is fabricated in the lab on a stone model. After bonding in the mouth, occlusal, marginal and proximal contours can be adjusted by the practitioner by removing or adding composite to the onlay.

1 View of the onlay preparation with no sharp angles and edges. The isthmus is large. All the undercuts can been removed. After the preparation an impression was taken with a vinyl polysiloxane and a stone model was fabricated.

2 The composite onlay will totally cover the mesio-lingual cusp and partially the mesio-buccal cusp. The cavity itself gives no retention.

3 The incisal shade is used to complete the onlay and give a nice translucency.

4 View of the finished onlay.

Separator is applied to the model and the composite onlay is created layer by layer. Each layer (maximum 2 mm thick) is light cured with the same light as used in a dental practice.

5 After trial fitting, the onlay is bonded with 3M Scotchbond Multi-Purpose Plus Adhesive and Scotchbond Resin Cement. If necessary the practitioner can remove or add 3M Restorative Z100 MP to improve the occlusion, a margin, or to modify the final shade of the restoration.

6 After modifications, the onlay is finished with SofLex Discs and polished using a special polishing paste for composite.

7 Using this “semi indirect” technique, it is easy to adjust the final results. After the composite onlay (indirect technique) has been bonded, direct addition of composite (direct technique) made it possible to increase the graduated shading of the buccal cusp.

Materials:
3M™ Scotchbond™ Multi-Purpose Plus Dental Adhesive System
3M™ Scotchbond™ Resin Cement.
3M™ Restorative Z100 MP
3M™ Sof-Lex™ Finishing and Polishing System

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