

## Class V Restoration

### Introduction

Millions of restorations have been made with compomer restorative materials in the last 10 years, and Dentsply DeTrey is the leading company worldwide with the brand Dyract®. Compomers are often the material of choice in the daily surgery for patients who need extra care (children, elderly or disabled person) or for reimbursed treatment types. Compomers exhibit also many clinical advantages and are therefore very suitable for many types of restorations.

### Dentsply products shown in this film:

- Dyract® eXtra, THE Evidence-Based Restorative
- Nupro® Prophylaxis Paste
- Xeno®III Single Step Self Etching Adhesive
- POGO™ One Step Diamond Micro-Polisher

### Original Clinical Situation

This case presents a quite common clinical situation amongst our patients - free cervical margins due to abrasion, and gingival recession. These cervical abrasions have caused enough substance loss to justify class V fillings. Dyract® eXtra is the material of choice for thus in this type of filling.

### Cavity preparation:

#### 1 Cleaning:

The first stage consists of very carefully cleaning all the surfaces to which the adhesive will be applied. We are using the well-known prophylaxis paste Nupro®, that is very effective to remove any unsightly discolouration.

#### 2 Enamel bevelling

We bevel the enamel on all teeth to be treated using a red ring ovoid-diamond bur. The bur is held at 45° and the ovoid shape gives a good view of the preparation limit, but also a sufficiently instrumented surface that ensures good adhesion and avoids secondary discoloration.

#### 3 Placement of retraction cords

To complete these 3 fillings, we chose not to use a rubber dam but, instead, use a retraction cord that is inserted around each preparation, so that we avoid any leakage of gingival fluid. It will also prevent the adhesive to going into the sulcus. The cord is not impregnated to avoid any interaction with the adhesive materials and is

simply inserted into the labial margin. Here is the last preparation, on the most mesial tooth – the canine – using our cord that we must insert carefully to avoid any bleeding.

#### 4 Shade selection

The shade is selected and, by looking at the natural teeth, we can see that the canine is more pigmented than the premolars. We select a shade with reference number A3.5 for the canine and A3 for the premolars of the Dyract® eXtra material.

#### Placement of adhesive: Xeno®III

The adhesive system used here, XENO®III, is a single step self-etching material. This feature is particularly beneficial in this type of situation where we have dentine that is not very permeable and rather sclerotic. It also ensures that the adhesive system penetrates well into the enamel to seal it properly.

The adhesive is applied very carefully and we reinforce its penetration by rubbing the surfaces gently with the applicator tips provided by the manufacturer – and we do not rinse. We evaporate the solvent immediately by a gently air blow thus avoiding any contamination of the dental surfaces.

The adhesive is carefully polymerised tooth by tooth, before dispensing the filling material.

#### Placement of Dyract® eXtra, THE Evidence-Based Restorative (premolars)

We start by filling the premolars and we select the shade A3: the first layer allows us to sensitively rebuild the second premolar. The material is applied under steady pressure to avoid any air inclusion within the resin. Each increment is light cured: there will be excess material at this stage that can be removed with finishing burs. It is important to ensure that we place enough material in the cervical area, since this will affect the cosmetic appearance.

A spatula is used for all these operations. You can note how easy it is to apply the material and that it does not stick to the instrument. We are here working here without any matrix system. In certain indications this would be particularly beneficial when having to place several layers with several shades on one tooth.

On tooth 24, we proceed in the same way placing material with pressure, and because of the thin nature of the marginal gingiva, we take care to avoid any excess here to avoid creating retention zones that would be irritating to the soft tissue.

After curing the first layer, we continue in the same way. You should note the importance of this stage to avoid gingival fluid that could cause cohesion deficiency between the layers of material.

You can already appreciate the appearance of the shades on the two premolars that perfectly match the shade of the crowns. You see that we remain slightly below the cervical margin.

A final layer enables us to slightly accentuate the cervical convexity to allow better and non-traumatic brushing, and therefore avoiding further root surface abrasion. A final cure completes the work on tooth 24.

### Placement of the Compomer Filling material (canine)

Shade A3.5 is now selected to reconstruct the canine. The technique used is the same. By the first increment, you already notice the shade difference between the A3 on the premolar and the A3.5 on the canine that matches well with the residual dental structure.

Again, the absence of voids is due to the fact that we place the material, whether composite resins or compomers, with a steady pressure. It is vital to avoid spreading these resin materials since this would inevitably cause air inclusion within the structure of the filling materials that could then appear during the polishing stage. A final layer completes the filling of this canine: Gross excess can, of course, be removed later with finishing burs. It is always important, for the anatomy of this type of filling, to reconstruct the convexity in both mesio-vestibular and occluso-cervical directions.

The retraction cords are then removed and you can see that some excessive adhesive is eliminated at the same time. Some gingival bleeding occurs when the cords are taken away.

### Finishing steps

We use a red ring gingival removal bur for the finishing, especially for the cervical area to obtain a perfect transition between the dental surface and the filling. In this type of filling, it is important to use a bur mounted on a red ring contra-angled hand piece in order to have better control of the instrument when we use it under the soft tissue. The use of a turbine here would not give us enough precision because of the speed and the weak pressure exerted on the instrument. In the same way, we eliminate the excess but still preserve the labial convexity on this canine.

Using a 17 probe, we will now feel some undercuts in the cervical area: we eliminate them immediately with a bur held at 45° to the crown to re-establish the cervical curvature.

With a periodontal curette we now eliminate remaining excess of material and check the final adaptation of the filling to the cavity.

We then polish with a PoGo™, used here with a water spray. We can decide whether or not to use spray with this polishing system – but we want to stress that with just ONE PoGo™ instrument, we obtain a very satisfactory shine of the restorations.

### Conclusion:

Dyract® eXtra allows in a simple procedure to make wonderful restorations. The shade match is excellent and the application of the restorative material out of the Compute®Tip is very user- friendly. The smooth and non sticky consistency of this material makes it very easy to adapt to the anatomical situation. Together with the Xeno®III we were able to realized these 3 restorations in a fast procedure.

A fortnight later, we reassessed the restoration: here is a view of all the fillings with a healed periodontium and a completely satisfactory cosmetic result on all 3 fillings.