

## About a Clinical Case Study ...

by Prof. Dr. Angelo Putignano, Ancona, Italy

The case relates to a 16 year old patient with a very deep carious lesion with obvious loss of biological width (Rx1—X-ray 1).



Rx1

For this reason, treatment began with elongation of the clinical crown with the flap repositioned apically in the same site, a rubber dam was positioned and definitive restoration work began.

Once the rubber dam (OptiDam™) was in place, with no bleeding, two pulp horns (photo 1) were exposed and the procedure continued with capping.



Photo 1

Pure calcium hydroxide with methylcellulose carrier was used first of all (photo 2) followed by self-curing calcium hydroxide (photo 3).

All the surrounding surface and the calcium hydroxide are covered with a layer of light-curing glass-ionomer cement (photo 4).



Photo 2



Photo 3



Photo 4

At this point, after having positioned the die and wedges (photo 5), acid etching was performed using the total etching technique for 15 seconds, avoiding etching the glass-ionomer (photo 6).



Photo 5



Photo 6

After thorough rinsing (30 seconds) 4 layers of OptiBond Solo™ Plus are applied over all dentin surfaces and left undisturbed for 30 seconds then cured once for 20 seconds using a L.E. Demetron II. Using A2 enamel (Premise™), in just two layers, all the interproximal walls are constructed with a very thin thickness, in order to reduce stress due to polymerisation shrinkage (photo 7).



Photo 7

At this point, after having covered the exposed dentin with a thin layer of A3 (Premise™ Flowable) in horizontal strata 1 mm thick, the deep dentin is reconstructed with A3 Dentine (Premise™) (photo 8).



Photo 8

The occlusal base is then outlined using A2 dentin (Premise™) using suitable modelling instruments, defining the prism, the vestibular areas and then the palatal areas (photo 9). Coverage using the dentin opacity is achieved by using shades no darker than A3; the definitive shade is dictated by the opacity and shade from the enamel composite.



Photo 9

Once the anatomy is defined, then appropriate characterization of the restoration takes place with resin tints, a little ochre around the fissure area and brown (Kolor Plus®) inside the pit & fissure area (photo 10).



Photo 10

At this point, all that's left is to complete the restoration using A2 enamel (Premise™), with the same technique as used for sculpting the dentin (photo 11).



Photo 11

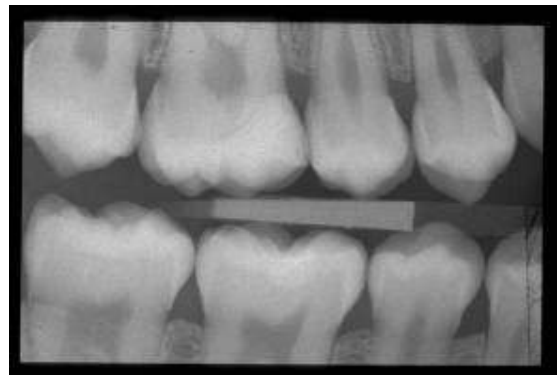
The dam is removed and the occlusion and bite is verified. Finishing and polishing (photo 12) is performed using a 40 micron diamond burr, diamond silicone points (HiLuster<sup>PLUS</sup> Dia) and cup Occlubrush®. The patient is recalled for a check-up (photo 13), removal of the stitches, and an X-ray. (Rx2 – X-ray 2)



Photo 12



Photo 13



Rx2

## Conclusions

When faced with difficult situations, as in this case, compromise is unlikely to produce results.

It is certainly preferable to spend some time using a set protocol to achieve reliable results, and to take into consideration the general dentition and the condition of the periodontal tissues.

## Contributors:



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