

Global Clinical Case Contest 2022-2023



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Introduction to the case

A 23-year-old male patient presented himself, asking for space closure in the front teeth (teeth 12 to 22). After completion of orthodontic therapy (years 2011-2014) and without a retention phase, the upper front teeth shifted within their original position. Orthodontic treatment, veneers and composite restorations were proposed and discussed as therapy options. Due to the minimal invasiveness, lower treatment costs and the lower treatment time required, the patient decided on the restoration using composite.



Initial situation before treatment



Composite restorations

Treatment steps



Color determination

Color determination, Ceram.x Spectra CLOUD-Color A1 (right color sample on both teeth) and A2 (left color sample on both teeth)



Application of the adhesive

Application of the adhesive (PrimeBond® XP) after conditioning the tooth with De Trey® Conditioner 36



Wax-up

Fitting of the silicone index of the wax-up



Proximal matrices for shaping

Proximal matrices for shaping, fixed by a light-curing filling material



Surface structure

Incorporation of microstructures with a coarse-grained diamond bur



Polishing

Finishing with polishing paste and a polishing cup (Prisma® Gloss™)



Composite restorations

Frontal view



Composite restorations

Lateral view

Material and Method

First, a silicone index of the diagnostic wax-up was taken for palatal shaping. Shade was then determined and the teeth were isolated using rubber dam. After etching with phosphoric acid (De Trey® Conditioner 36) and application of an adhesive (PrimeBond® XP), matrices for proximal shaping were fixed. Composite (Ceram.x Spectra CLOUD shades, Ceram.x Spectra ST Effects materials D1 and E1) was placed and polymerized. Macrostructures were achieved by diamond burs, polishing was performed using the Enhance® Finishing System. Microstructures were then imbedded with a coarse-grain diamond bur, followed by final polishing (Prisma® Gloss™ polishing system).

Discussion and Conclusion

Recontouring front teeth and closing diastemas to achieve an aesthetic rehabilitation is a demanding task. Orthodontic treatment is very time-consuming, while veneers are expensive and sometimes invasive. Finally, in consensus with the patient, several factors indicated an aesthetic build-up using composite. Composite restorations are a minimally invasive treatment option with excellent aesthetics at comparatively low costs. Modern composites enable uncomplicated application and excellent color matching to the natural tooth. Furthermore, composites also show excellent clinical long-term performance in recontouring anterior teeth.

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