

# Global Clinical Case Contest 2020-2021

3.  
Place



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## Introduction to the case

A female patient, 56 years old, came to the university asking us to repair tooth 2.1, which was broken after a traumatism suffered at age of 14. The left central incisor was vital and without any symptoms. The fracture included  $\frac{3}{4}$  of the mesiodistal width, affecting as enamel as dentine. It should be noted the presence of a small white stain near the cervix, and also a fissure along the vestibular surface, that we maintained as the patient asked us to be as conservative as possible. The subtle mesiobuccal rotation was camouflaged with a correct macroanatomy.

### Before



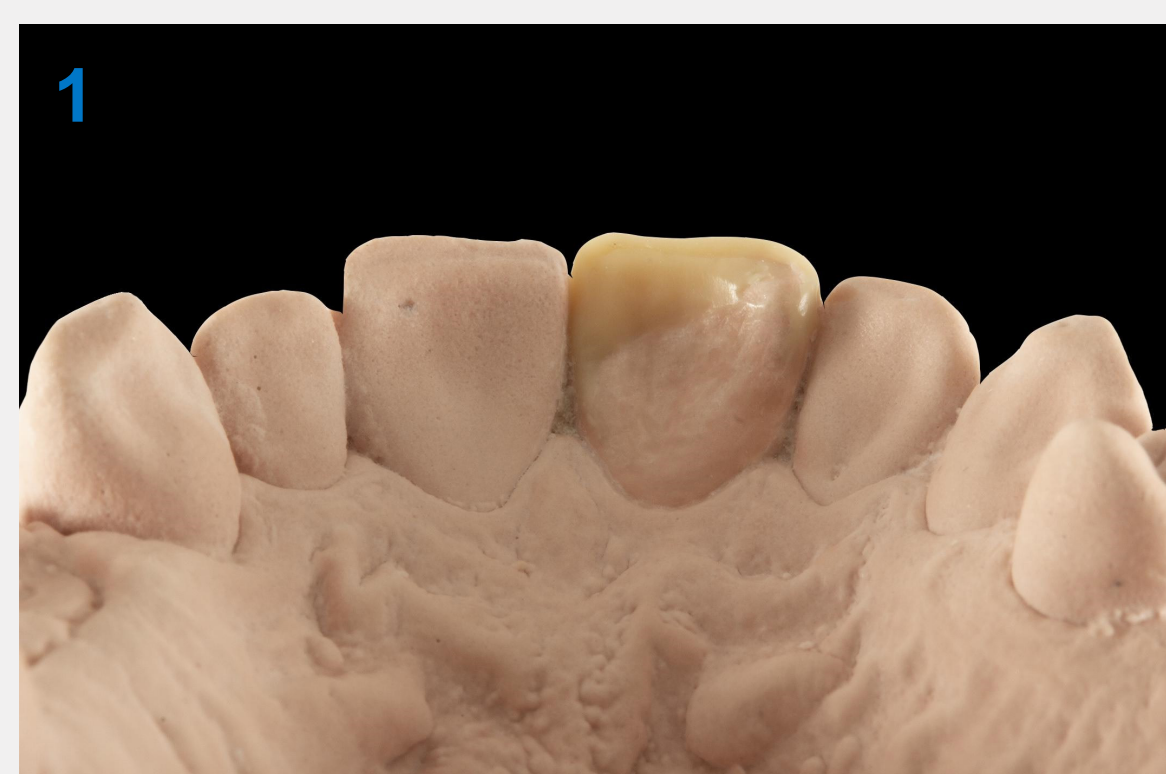
Fracture at the incisal edge of the upper left central incisor, compromising the mesial angle up to  $\frac{3}{4}$  of the mesiodistal width and  $\frac{1}{3}$  of the buccal height.

### After



Composite reconstruction of the upper left central incisor after 72h so the teeth gets rehydrated.

## Treatment steps



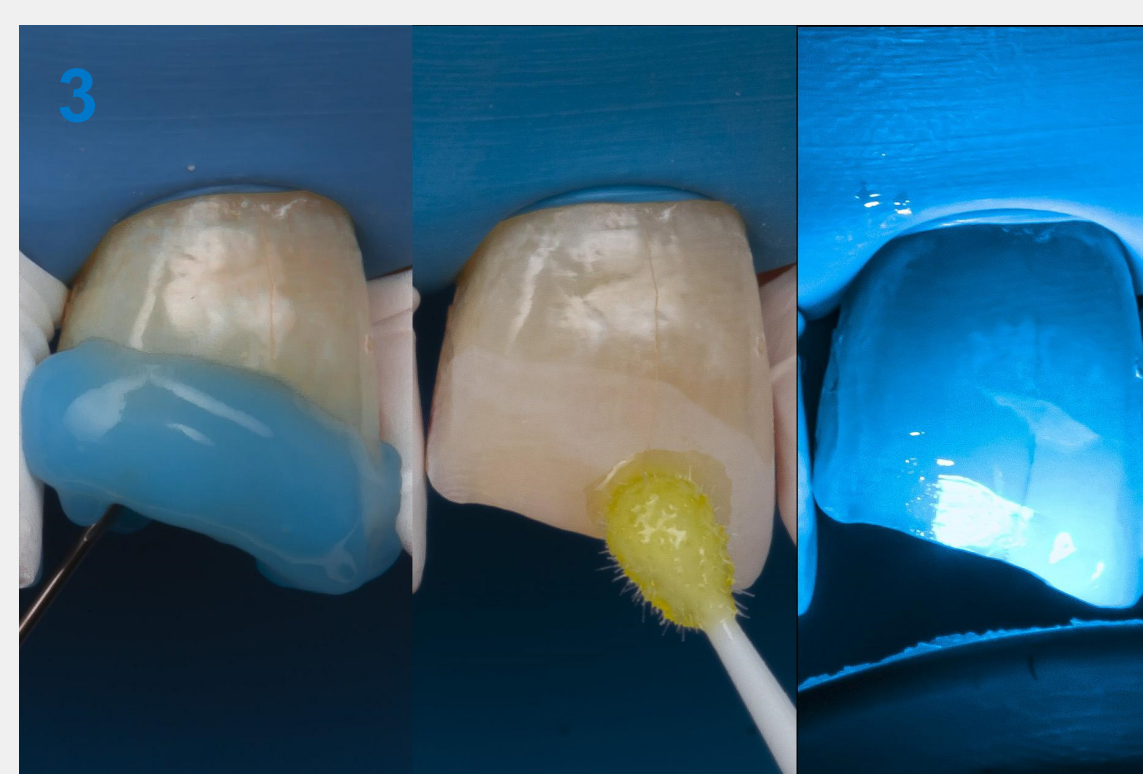
### Step 1 Wax-up

A diagnostic Wax-up was made to guide the layering of the palatal shell with a silicone key.



### Step 2 Color test

Color test was performed at the very start of the treatment to avoid mistakes once the tooth starts to dehydrate. Polarized and nonpolarized photographs were taken.



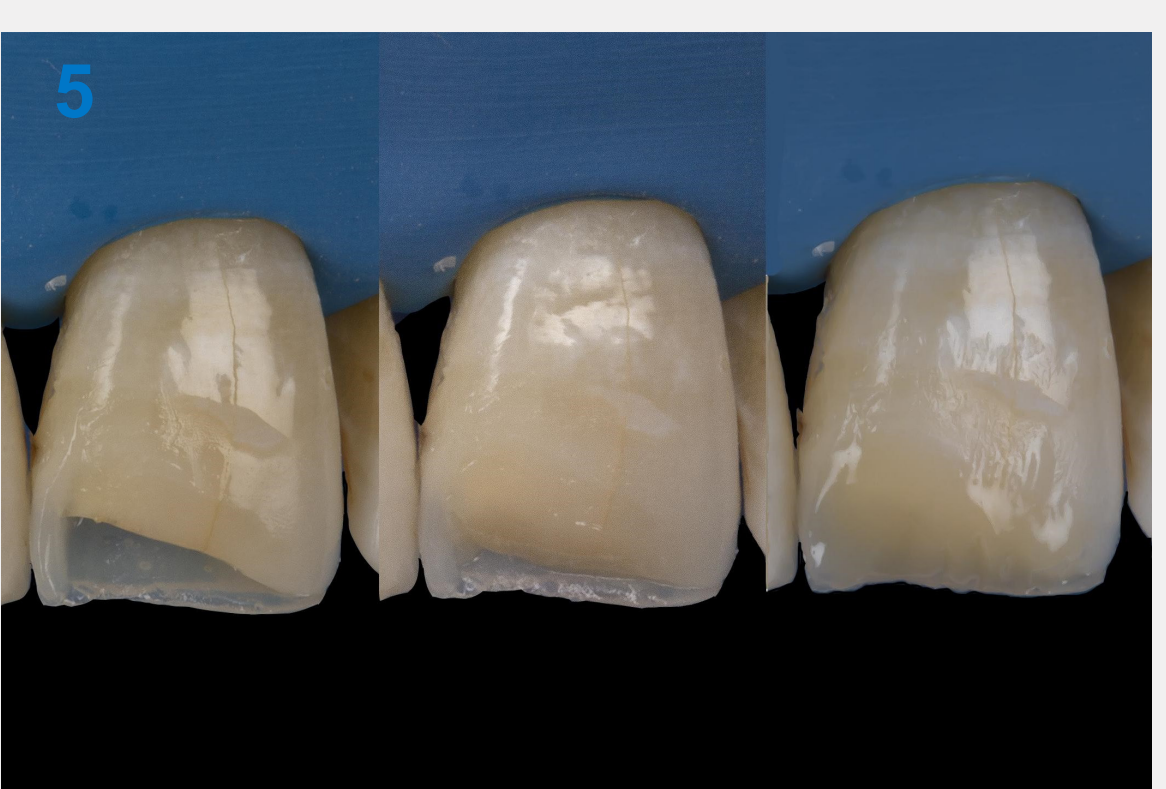
### Step 3 Adhesive sequence

After rubber dam isolation, we used **Detrey Conditioner®** (30 sec at enamel and 15 sec at dentine) followed by **Prime&Bond Active®** to prepare the surface for an optimal adhesion.



### Step 4 Palatine conformation

A silicon key was made with **Aquasil Soft Putty®** from the wax-up to guide our work. We conform the palatal and mesial faces with **E1** from the **Ceram.X Effects Intro Kit®**.



### Step 5 Layering of the restoration

Layering of the restoration, following the chromaticity gradient selected at the color test: **D3** from the **Ceram.X Effects Intro Kit®**, **A3** from the **Ceram.X Spectra Universal Intro Kit®**, and **E1** from the **Ceram.X Effects Intro Kit**.



### Step 6 Micro and macroanatomy

We performed the micro and macroanatomy, reproducing the transitional lines of the adjacent tooth, and continuing the fissure of 2.1 with a scalpel.



### Step 7 Rough polish

We used **Pogo complete Intro kit®** for finishing and polishing the restoration.



### Step 8 Fine polish and rehydration

After 48h hours, we reevaluated the colour and matching of the final restoration and we performed the final polishing and shine with **Prisma-gloss®**

## Material and Method

A class IV composite restoration was made in 2.1. The tooth was isolated using a rubber dam. After performing a 2mm bevel, we prepared the dental surface for adhesion with **Detrey Conditioner®** and **Prime&Bond Active®**. The palatal shell was made with **E1** from the **Ceram.X Effects Intro Kit®**, guided by a silicon key made from the wax-up. We layered the dentin using **D3** from the **Ceram.X Effects Intro Kit®** for masking the transition between tooth and restoration, and **A3** from the **Ceram.X Spectra Universal Intro Kit®** for making the incisal characterization. We finished the layering with **E1** from the **Ceram.X Effects Intro Kit®**. The final anatomy and polishing was performed with **Pogo complete Intro kit®** and **Prisma-gloss®**

## Discussion and Conclusion

Currently, the evolution of composite resins allows us to perform minimal invasive restorations, as we can preserve the sound dental tissues. It enables us to reproduce anatomy, chromacity and mechanical properties, with high esthetics, long lasting and cheap restorations. Understanding the different properties of the materials we have is key to perform a correct layering and matching of the restorations with the patient teeth.



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